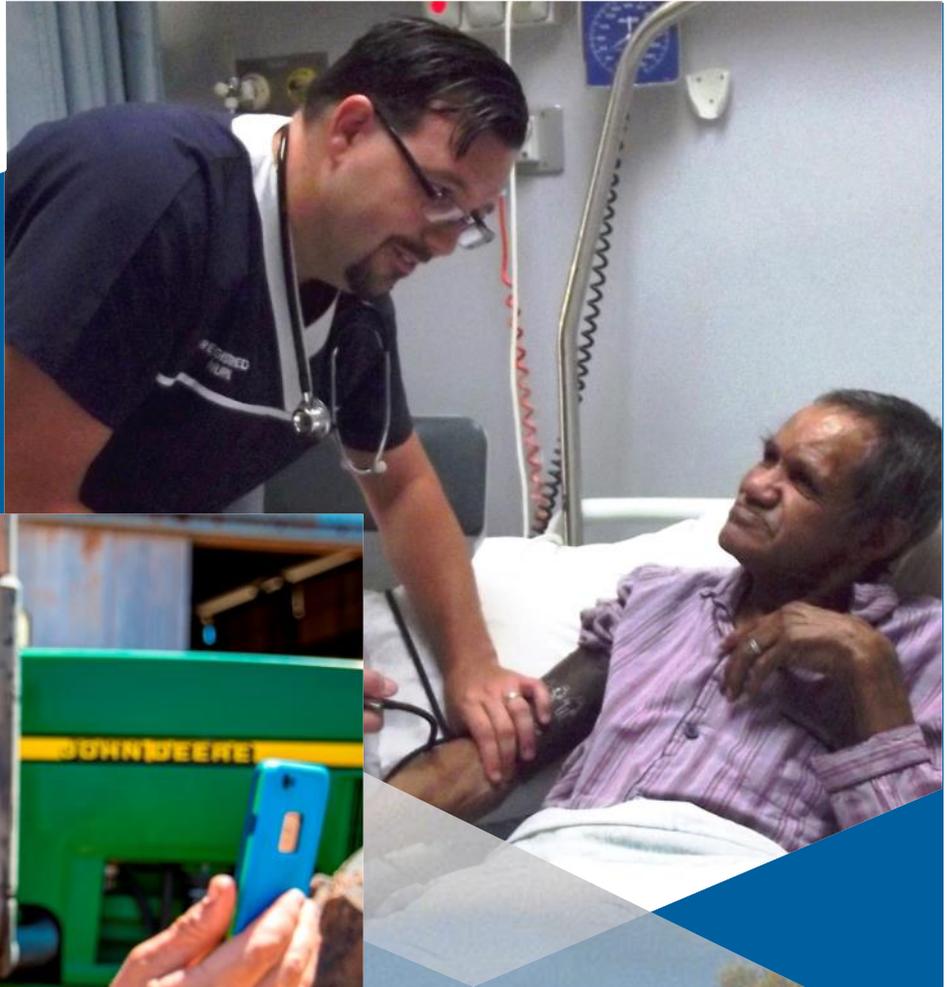




Government of Western Australia  
WA Country Health Service



December 2018

WA Country  
Health Service

Southern Inland Health Initiative  
Final Evaluation Report

### **Acknowledgements**

The WA Country Health Service acknowledges the Aboriginal people of the many traditional lands and language groups of Western Australia. It acknowledges the wisdom of Aboriginal Elders both past and present and pays respect to Aboriginal communities of today.

### **Using the term—Aboriginal**

Within Western Australia (WA), the term Aboriginal is used in preference to Aboriginal and Torres Strait Islander, in recognition that Aboriginal people are the original inhabitants of Western Australia. Aboriginal and Torres Strait Islander may be referred to in the national context and Indigenous may be referred to in the international context. No disrespect is intended to our Torres Strait Islander colleagues and community.

### **Using the term—on country**

For the purposes of this document, on country represents a term used by Aboriginal people referring to the land to which they belong and their place of Dreaming.

### **Definition of cultural security**

Cultural security is the provision of programs and services offered by the health system that will not compromise the legitimate cultural rights, values and expectations of Aboriginal people. To be culturally secure, programs and services need to:

- identify and respond to the cultural needs of Aboriginal people
- work within a holistic framework that recognises the importance of connection to country, culture, spirituality, family and community
- recognise and reflect on how these factors affect health and wellbeing.

**Please note: Aboriginal people should be aware that this publication may contain images or names of deceased persons in photographs or printed material.**

# Executive Summary

## The Southern Inland Health Initiative (SIHI) was a complex and innovative strategy to transform healthcare and enhance health outcomes for communities in Western Australia's southern inland region.

Developed by the WA Country Health Service (WACHS), the half a billion dollar SIHI was introduced as part of the 2011–12 State Government Budget. Funding for SIHI included more than \$250 million to reform emergency, acute care and primary health services in southern inland parts of country WA, expand the telehealth network and the range of services delivered by telehealth, as well as \$300 million for capital works upgrades.

This investment enabled a range of innovative service improvements, including the implementation of an internationally recognised emergency telehealth service supporting country clinicians to save lives and improve health outcomes for people in country WA. It improved safety and quality of emergency care in hospitals in the southern inland region through increased emergency roster coverage by local clinicians and a focus on recruitment strategies that helped to keep more GPs in country towns for longer. It funded the infrastructure and service support that now enables around 36,000 occasions of service via telehealth a year, helping more country people to access specialist care closer to home and on country.

The introduction of SIHI represented the single biggest investment in regional public healthcare in Western Australia's history. It changed WA's regional health landscape; challenging the way health services were designed, focused and delivered to regional communities. The strategic outcomes of the program were:

- sustainable, safe, high quality emergency and acute services
- primary health care services that integrated with and reduced reliance on emergency and hospital care
- increased services closer to home using telehealth as the modality
- health related infrastructure improvements that supported contemporary clinical and support services.

A preliminary evaluation of SIHI was completed in March 2016 and key findings demonstrated the many benefits and achievements of SIHI based on analyses of quantitative and qualitative information [*SIHI: Program Evaluation: Preliminary Key Findings, March 2016*].

SIHI reached its seven-year mark at the end of June 2018. Building on the preliminary evaluation, a comprehensive evaluation was completed, examining the extent to which the suite of SIHI initiatives, services and projects achieved the four intended strategic outcomes of SIHI.



## The key achievements of SIHI:

- Significant improvements in emergency medical care in southern inland WA, which provided country consumers with equitable access to safe, contemporary, reliable and sustainable emergency and acute care in hospitals and health services across the SIHI region; similar to that available in urban communities.
- Increased GP recruitment and retention in the SIHI region, which enabled safe and consistent emergency roster cover in SIHI hospitals.
- More GPs supported to live and work in the country also provided regional people with increased access to primary care services in the community.
- The combination of strong clinical leadership, a boosted SIHI clinical workforce, the introduction of the Emergency Telehealth Service (ETS) and new service models drastically improved the safety and quality of health and emergency care in SIHI hospitals, significantly reducing the number of serious clinical incidents and harm to patients in WACHS's care.
- Establishment of the award-winning and internationally recognised ETS, which provides specialist support to local country clinicians via high-definition videoconference, helping them to save lives and improve patient outcomes as well as supporting regional clinician education and retention.
- An expansive network of WACHS hospitals and health services were strengthened to provide around-the-clock emergency care across the SIHI region, linking the smaller hospitals to the larger regional health campuses and metropolitan emergency services. The network provided health service access more consistent with benchmarks set by the WA Clinical Services Framework (CSF) and the WACHS Emergency Care Capability Framework (ECCF).
- A range of targeted, community-based health services were trialled and established sustainably, bringing care closer to home, helping people better manage their chronic health issues and providing better follow-up care after a hospital stay.
- Expanded telehealth infrastructure, service design and development supporting key clinical service improvements such as the ETS, stroke, outpatient, cancer, palliative care, diabetes and chronic condition management.
- \$300 million worth of capital improvements that are upgrading infrastructure in 37 towns across the Wheatbelt, Great Southern, Midwest and South West regions, enhancing facilities to meet the contemporary health needs of SIHI communities.
- Contemporary patient information management systems and other support systems were implemented that contributed to improved performance and patient safety in health facilities across the SIHI region.

The report also identifies recommendations to maintain and build on the improvements made under SIHI, to sustain and continue to deliver the established acute and emergency services model and to address the identified challenges and areas for further improvement.

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# Section A: Overview

## Southern Inland Health Initiative

# Introduction

## Delivering effective healthcare services across Western Australia's large and diverse regional and remote geographical area presents the WA Country Health Service with many challenges.

In WA's southern inland region, these challenges include a dispersed and low density ageing population with high-levels of socioeconomic disadvantage and a poorer health status compared to other areas. There is also the well documented, ongoing challenge of attracting a sustainable GP and clinical workforce to live and work in these country communities, limiting health service access for many people living in the region.

Over the past generation, health service demand has shifted in rural WA from acute medical admissions to servicing the needs of an ageing population carrying an increasing burden of chronic disease. Many of WA's ageing small country hospitals were experiencing diminishing activity, often with facilities that were no longer fit for purpose, resulting in an inability to provide contemporary community and hospital-based clinical care to regional communities.

An innovative program was required to address these complex issues. WACHS had long been acknowledged for its effective response to the challenges of delivering healthcare services across WA. The organisation acknowledged that a major overhaul was required to address these challenges.

The solution needed to address significant issues to improve access to healthcare for people living in the southern inland region of the State including:

- service safety
- workforce shortages
- outdated infrastructure and clinical information systems
- clinical governance and models of care issues
- innovative ways to utilise telehealth technology.

In May 2011, the State Government invested more than \$500 million to transform health service design and delivery to enhance the health outcomes of people in the Wheatbelt, Midwest, South West, Great Southern and Goldfields regions. SIHI was a blueprint to effect change

and drive clinical and service reform. It would be no quick fix, requiring the successful implementation of multiple initiatives and creative solutions to achieve its outcomes.

SIHI's approach combined increasing access to emergency care, acute clinical services and delivery of targeted primary health care services in the community setting as well as investment in a robust capital infrastructure program. Access to more GPs and more health services in the community would ultimately result in reduced inpatient admissions to hospital because people were getting the appropriate care they needed without burdening the hospital system.

The improvements achieved through SIHI were significant and included improved workforce supply, new models of safe, contemporary service and innovative technology initiatives that increased access to health services for country people.

## Evaluation report purpose

SIHI reached its seven-year mark at the end of June 2018, when the program ceased. An interim key findings report for the first four years was published in March 2016 and a robust economic analysis was conducted in November 2016. The final evaluation report builds on the March 2016 key findings report and includes activity data to 30 June 2018 where possible.

The purpose of the SIHI evaluation was to determine the progress towards achieving the four intended outcomes of the SIHI program through evaluation of the collective impacts of the SIHI initiatives.

The **SIHI Program Evaluation Final Report (December 2018)** examines the level of clinical care improvement, equitable access to services, workforce strategies and the innovative use of telehealth and technology. This evaluation does not include the \$300 million capital investment, which will be addressed in a separate report.

# Overview of the Southern Inland Health Initiative

SIHI aimed to improve healthcare services and health infrastructure in communities across the SIHI catchment area.

SIHI provided more equitable access to robust and sustainable medical care, management of chronic illnesses, mental health support, allied health and nursing specialists and aged care clinicians for all communities through the use of both eHealth technology such as telehealth and on-site face-to-face services where required.

## Strategic outcomes

The strategic outcomes of SIHI aligned with State Government strategy as follows:

- Sustainable, safe, high quality emergency and acute service for the communities in the southern inland area.
- Primary health care services that integrated with and reduced the reliance on emergency and hospital care.
- Increased telehealth enabled services closer to home.
- Health-related infrastructure that supported contemporary clinical and support services.



## SIHI's six work streams

SIHI was implemented through six work streams to deliver on the SIHI strategic outcomes:

**Stream 1: District Medical Workforce Investment Program** – aimed to significantly boost medical resources and 24 hour emergency response across the SIHI region. The aim was to address issues with doctor shortages and a resulting lack of access to GPs and health services by:

- offering improved attraction and retention incentives to GPs
- implementing responsive rostering solutions for GPs providing services to local hospitals
- establishing the Emergency Telehealth Service to provide emergency specialist support to local regional clinicians, improving clinical support services
- delivering new integrated, contemporary service models enabled through the use of technology and eHealth such as patient administration systems, community health information systems, and business intelligence systems.

**Stream 2: District Hospitals and Health Services Investment Program** – Stream 2 aimed to provide major capital upgrades to support clinical services and contemporary service delivery models. Improvements included new integrated outpatient areas, expanded and refurbished emergency departments and treatment areas at larger hospitals in Northam, Narrogin, Merredin, Collie and Katanning and a new hospital for Manjimup (Warren Hospital) (also known as Stream 2A). This stream delivered key integrated primary health care services to the western, eastern and southern Wheatbelt regions and the central Great Southern under Stream 2B, enabling more effective care in the community and achieving better linkages between community and hospital care. (Note: Stream 2A is not included in this evaluation report as it will be covered under a separate evaluation report).

**Stream 3: Primary Health Care Demonstration Program** – establishment of two sites in the Wheatbelt to demonstrate the State Government's health service reform model, redeveloping small acute care hospitals into comprehensive primary health care centres. These innovative centres provide access to 24/7 emergency care and increased multidisciplinary primary care services that match the needs of the community. In the Midwest region, two existing health services are also being transformed into contemporary health centres. (Note: this stream is not included in this evaluation report as it will be covered under a separate evaluation report).

**Stream 4: Small Hospital and Nursing Post Refurbishment Program** – modernised 26 hospitals and nursing posts across the Wheatbelt and Great Southern to support the delivery of healthcare services tailored to the needs of their communities with a focus on innovative clinical reform and infrastructure compliance. (Note: this stream is not included in this evaluation report as it will be covered under a separate evaluation report).

**Stream 5: Telehealth Investment Program** – expanded the WA Statewide Telehealth Service to support emergency, outpatient and primary health care service delivery, improving access to specialist and acute care for people in regional communities, reducing the need for travel and time away from home and improving the patient and carer health journey.

**Stream 6: Residential Aged Care and Dementia Investment Program** – aimed to improve aged care and dementia care services and attract private investments for innovative solutions. (Note: this stream is not included in this evaluation report as it will be covered under a separate evaluation report).

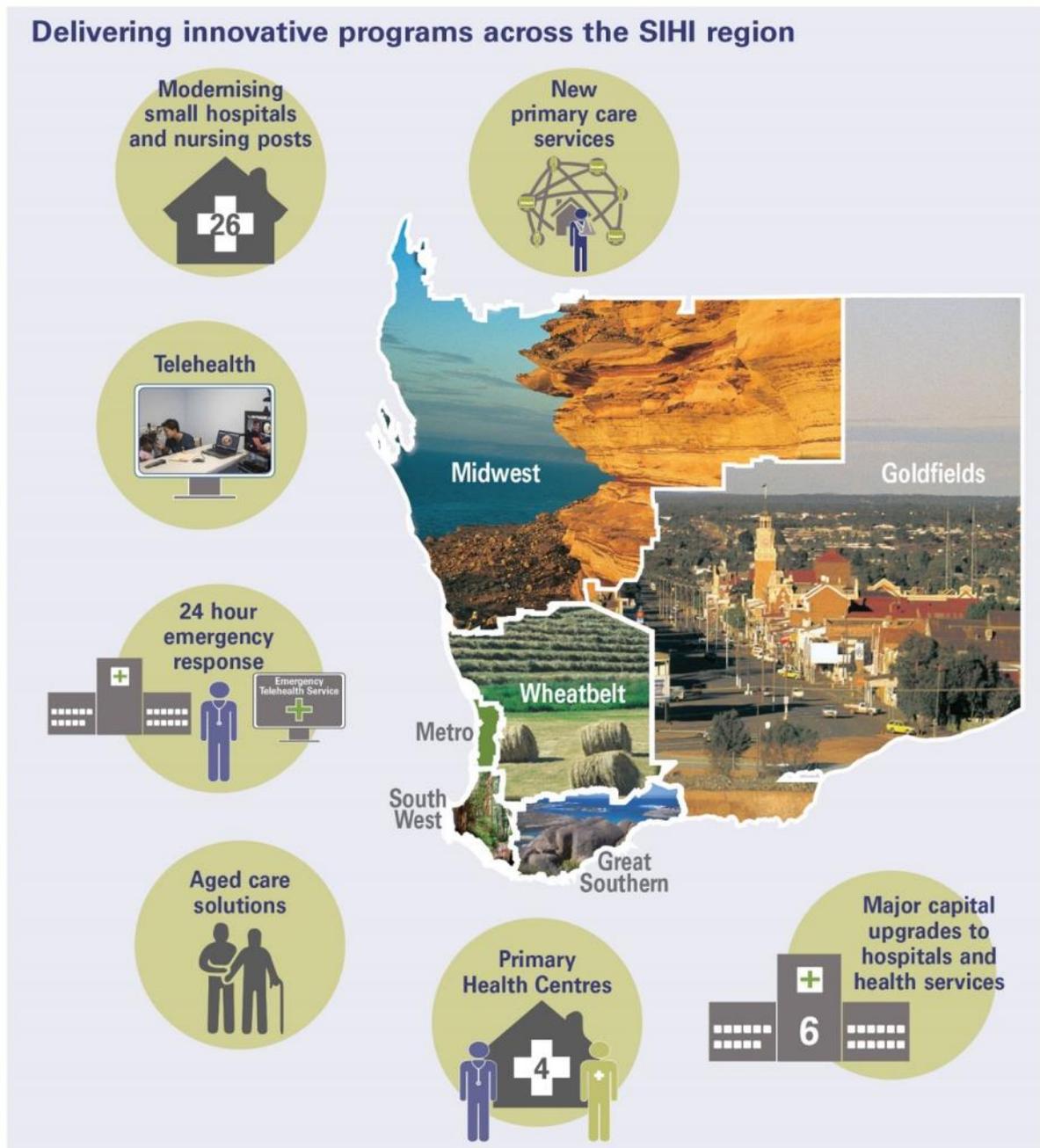
## SIHI region and investment strategy

The SIHI region included localities to the north and south-east of the metropolitan area and stretched from Kalbarri and Meekatharra in the north, to Laverton in the east, down to Esperance in the south-east, excluding regional centres.

The catchments for the six work streams of SIHI varied based on identified health service need, project design and linkage to SIHI-intended reforms, in particular focussing on disadvantaged groups. Regional communities benefitted from a statewide service delivery

investment approach for services such as the ETS and other telehealth initiatives. The expansion of these services outside the SIHI region was an additional benefit of the introduction of SIHI.

The SIHI investment strategy ensured delivery of safe, efficient and cost-effective health services to meet local and future need, targeting those communities where historically there had been demonstrable barriers to securing medical services.



# Evaluation design and methodology

A number of SIHI evaluations have assessed the impact of various SIHI initiatives and programs against the strategic outcomes from baseline year 2010–11 to 2017–18.

An initial service metrics report was delivered in February 2016 which informed the interim ***Southern Inland Health Initiative Program Evaluation - Preliminary Key Findings*** report of March 2016, alongside an economic evaluation undertaken by Price Waterhouse Coopers (PwC) and an overview of the capital program status. A gap analysis was undertaken and a comprehensive evaluation was conducted by PwC in November 2016. Key performance metrics were subsequently updated to enable a final report to be completed in November 2018.

Data collection sources included the official data sets in the WACHS Business Intelligence Data Warehouse and internal SIHI databases that recorded data from contracted providers. Various surveys, published reports and business cases were also reviewed, themed and analysed to collate data regarding service impacts for communities, clients and clinicians alongside literature reviews.

A mixed-methods approach was used, employing quantitative, qualitative, financial and economic outcome measures to determine the impact of SIHI. Quantitative analyses included assessing whether there had been a statistically significant change in activity patterns since the introduction of SIHI as well as forecasting what may have occurred in the activity data had SIHI not been introduced, and comparing it with actual data after the introduction of SIHI. Where additional years of data were available, trends before and after SIHI investments were also analysed.

Program audit information was obtained with an assessment of medical rosters and incentive payments. In addition, an analysis of the publicly available Medicare Benefits Schedule data, which records information on primary care visits, was undertaken. Cost-benefit and economic analyses were undertaken independently by PwC including literature reviews and use of the official WACHS Data Warehouse data and service metric analyses. Clinical review of the overall findings was undertaken to confirm their validity and data interpretation.

Qualitative approaches enabled an assessment and validation of processes and better interpretation of quantitative findings. The

qualitative evaluation approaches used included patient testimonials, community and shire representative interviews, surveys of primary care services, primary care nurse practitioner services and ETS surveys to review attitudes and perceptions of process and impacts of some of the SIHI initiatives. In addition, clinical audits of patient records were conducted with the aim of providing greater insight into the initial findings related to emergency department activity trends.

An independent review of the SIHI evaluation process and the November 2016 key findings was undertaken by Curtin University's Health Systems and Health Economics Group in September to November 2016 to ensure transparency and confirm the robustness of the methodology and findings.

## Geographic inclusions and exclusions

Most SIHI inpatient and emergency data analyses excluded the four regional hospitals in the South West (Bunbury), Great Southern (Albany), Goldfields (Kalgoorlie) and Midwest (Geraldton) regions and also Busselton Health Campus in the South West.

The localities around these hospitals had adequate access to general practitioners when SIHI was first conceived and continue to have adequate access to primary care. Since the Busselton redevelopment in early 2015, the Busselton emergency service is also led by WACHS-funded emergency medical specialists, providing appropriate emergency coverage for that area.

It should also be noted that nursing posts and some health centres do not have overnight beds so are not reflected in inpatient evaluation analyses. However, all provide some level of emergency response and their emergency activity is captured in WACHS's emergency data systems and therefore in the SIHI evaluation metrics related to emergency activity.

Additionally, the cohort receiving the primary health service initiatives (Stream 2B) was relatively small, targeting areas of need and specific disadvantaged groups. The programs were delivered in very defined geographical areas.



## Section B: Key findings

## Key finding 1

# SIHI transformed regional emergency and acute care

From 2011–12 to 2017–18 (the SIHI period), SIHI drove the transformation of emergency and acute care delivery throughout the southern inland region of WA.

With a 58 per cent increase in the number of doctors living and working in the SIHI region and the innovative use of technology to provide specialist emergency support, people in SIHI communities were more consistently able to access high quality, highly effective emergency and acute care, similar to that available in the metropolitan area.

SIHI brought about changes including:

- the way doctors across different towns worked together to provide safe, quality and consistent emergency coverage
- a strengthened, expansive network of WACHS hospitals to provide around-the-clock emergency care across the SIHI region, linking the smaller hospitals to the larger regional health campuses and metropolitan emergency services
- combining strong clinical leadership with a boosted SIHI clinical workforce, introducing the ETS and new service models.

These initiatives drastically improved the safety and quality of health and emergency care in country towns.

More doctors available to provide emergency care resulted in a higher proportion of patients being seen by a doctor when attending emergency departments (EDs) in SIHI hospitals, either in person or via videoconference with specialist emergency clinicians through the ETS.

To fully appreciate the significance of the impact SIHI had on transforming regional emergency and acute care throughout the southern inland region of WA, it is necessary to understand what the medical service landscape was like before SIHI.



## Prior to SIHI

The WA Country Health Service has specific challenges assuring the availability and quality of medical services in its rural areas. A shortage of qualified and experienced GPs and other clinicians willing to live and work in rural locations contributed to the lack of a skilled, stable clinical workforce available to work in local regional hospitals. This resulted in unacceptable levels of clinical risk to patients and emergency and acute service failures that were inconsistent with reasonable expectations of safe, accessible care.

Other challenges included:

- Low numbers of country GPs resulted in **variable emergency hospital roster coverage**. Often at larger hospital sites, the provision of emergency care relied on the availability of doctors to be called in to the ED as and when required, with less than 10 per cent of formal on-site shifts being paid for a doctor to be available.
- **Medical and nursing staff turnover** and a challenging **medical governance** environment led to inconsistent emergency service provision and isolated clinicians.
- In small regional communities, GPs often provide both community and hospital care. **Long waitlists at GP surgeries and a lack of confidence** that a doctor would be on-site at the hospital meant country people were often resigned to not seeking medical advice.
- While many of the available GPs were doing their very best to provide ED medical cover, there was an **over-reliance on GPs who were constantly on-call** to attend the ED at the larger hospitals. It was reported that prior to the introduction of SIHI, many GPs were leaving town due to constantly being on-call and suffering 'burnout' [WACHS SIHI Community Survey, February 2016]. This is supported by the Rural Health West *Finding My Place Report* (2015).
- Inadequate GP access and high GP turnover in country towns meant patients with non-urgent medical conditions, who would normally be treated by a GP, were increasingly attending local hospital EDs, **creating increased demand on existing resources**.
- **The lack of on-site emergency medical care availability** in the smaller regional hospital sites meant telephone support was heavily relied upon by local clinical staff treating critical or acute patients.
- **Clinical information systems were inadequate** and failed to provide the support required in contemporary clinical service delivery.

Under the model prior to SIHI, with a diminishing GP and clinical workforce in the southern inland region, the trend was for emergency coverage to deteriorate, with people who experience poorer health outcomes continuing to be disadvantaged.

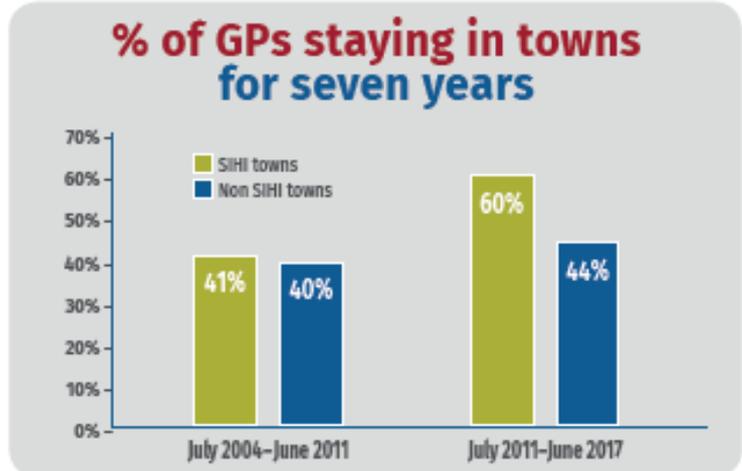
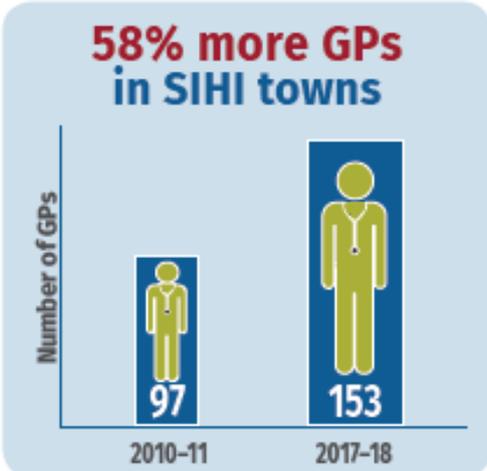
# SIHI transformed regional emergency and acute care

- ✓ More GPs in SIHI country towns
- ✓ Improved emergency and acute roster coverage in SIHI EDs
- ✓ Establishment of the Emergency Telehealth Service
- ✓ Medical and nursing clinical leaders employed
- ✓ ED nurse practitioners in five SIHI hospitals
- ✓ SIHI Medical Lead introduced
- ✓ Emergency medicine education via videoconference
- ✓ Rigorous medical and nurse practitioner credentialing system
- ✓ New information technology systems
- ✓ Expansion of telehealth videoconferencing

**30%**  
in serious clinical incidents in SIHI hospitals.

**24%**  
in ED presentations seen by a doctor at larger sites compared to pre-SIHI.

Equivalent to **26,500** additional patients seen.



**>97%**  
Paid ED rosters in place and filled for on-site attendance at large hospitals.

**Pre-SIHI <10%**



**232**  
Number of ED patients seen by a doctor per day across all SIHI sites.

**Pre-SIHI 187 per day**



## SIHI provided high quality, safe emergency and acute care for country patients

### Highlights

- **58 per cent increase** in the number of GPs in SIHI country towns
- **Greater than 97 per cent coverage** of GP rosters in the larger SIHI hospital EDs
- **24 per cent improvement in the number** of people being seen by a doctor at the larger SIHI hospital EDs
- Establishment of the **Emergency Telehealth Service**
- **A reduction in adverse events** that cause serious harm or death

The introduction of SIHI significantly improved medical resources and 24 hour emergency response across the southern inland region. The emergency and acute service model of care introduced substantially addressed the service gaps present before SIHI and ensured improved standards of emergency and clinical care for patients that met national and State guidelines.

There was a major focus to improve emergency care standards across the SIHI region by increasing the level of professional support, supervision, education and training available to clinical staff, and that of contracted health providers, so they could continue to provide safe, quality care to their patients in regional areas.

Incentives introduced under SIHI encouraged GPs to work in SIHI towns, resulting in a 58 per cent increase in GP numbers, from 97 GPs prior to SIHI to 153 in SIHI towns in 2017–18.

More GPs available in SIHI towns to cover ED rosters, appointments of medical and nursing clinical leaders, access to the ETS, ED nurse practitioners, improved clinical governance and access to contemporary patient management systems, significantly improved the safety and quality of emergency and acute services in the SIHI region, as outlined below:

- **More stable medical emergency and acute roster coverage across the SIHI region**, particularly in the larger hospital sites where the proportion of formal, documented on-site paid shifts worked by GPs increased from less than 10 per cent prior to SIHI to **greater than 97 per cent** by June 2018. As a result, **24 per cent** more people were seen by a doctor in emergency departments than was forecast to be seen pre-SIHI. The change in the pre-SIHI forecast versus actual numbers of people seen by a doctor in ED amounts to an estimated 26,500 additional people seen in 2017–18.

- Establishment of the **ETS** provided regional clinical staff with support from emergency medicine specialists via videoconference in 79 country hospital EDs and nursing posts (44 ETS sites were in the SIHI region), seven days a week. In 2017–18, over 18,000 country patients were seen by the ETS.
- Employment of **medical and nursing clinical leaders**, including part-time emergency medicine specialists in Northam, provided an on-site presence to enable local upskilling, support and governance to clinical staff. These senior doctors were further supported centrally by specialist clinician leaders.



- Introducing **ED nurse practitioners** provided enhanced emergency coordination at the larger SIHI hospitals (Collie, Narrogin, Merredin, Northam, Esperance and Manjimup). ED nurse practitioners also played a key role in mentoring regional nurses, junior doctors and other clinicians, increasing their knowledge, confidence and skills in emergency care.
- On-the-job training and a **specifically planned emergency medicine curriculum** was delivered to regional clinicians via the ETS. This was supplemented by specialist emergency doctors also mentoring doctors and nurses across the regions via outreach education programs delivered in person in country towns.
- A rigorous **medical and nurse practitioner credentialing system** was implemented statewide, especially for doctors and nurse practitioners working in the regional emergency setting, ensuring practitioners were equipped with the clinical skills required to work in a sometimes challenging environment.
- **Information technology systems** funded by SIHI and installed in regional hospitals and health services provided health staff and providers with easily accessible patient information. Whether a patient visited an emergency department in Dalwallinu, Dumbleyung, Katanning or Esperance, clinical staff could use the system to make better decisions about care.
- **Increased access to telehealth videoconferencing** enabled training and upskilling of clinical staff quickly and easily, even though they were spread across the whole of the State. A dedicated series of 140 different types of emergency clinical learning and development programs were introduced by ETS from 2014–15, with a total of 5854 attendances to 30 June 2018.

These targeted initiatives resulted in significant improvements to the quality and safety of WACHS acute care across the SIHI region, and in the case of the ETS, across the whole of regional WA.

'The whole area of emergency services in rural WA has...changed dramatically...the introduction of the Emergency Telehealth Service has improved the support and back-up available for nurses and doctors alike in treating or stabilising patients attending country emergency departments. When combined with the introduction of the Southern Inland Health Initiative, medical cover and emergency service cover is now more stable, safe and effective.'

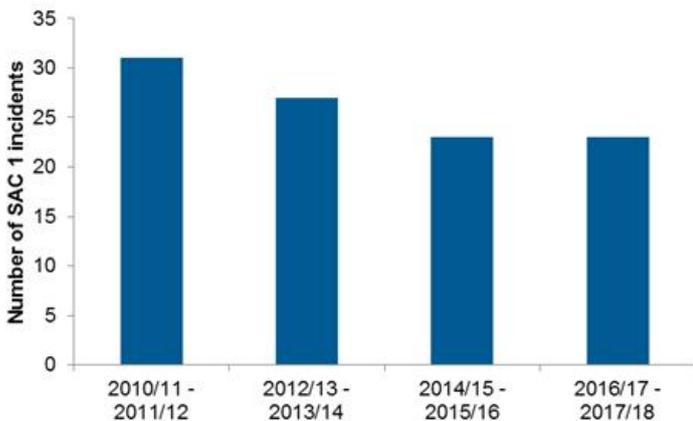
*[Maintaining an Effective Procedural Workforce in Rural Western Australia, K Snowball, September 2016]*



Under SIHI, more appropriate and timely emergency care was provided by experienced and specialised clinicians, greatly improving patient safety and quality as outlined below:

- There were **fewer adverse (serious) clinical incidents** e.g. between the baseline 2011–12 and 2017–18 (19 to 14 respectively, a 26 per cent decrease) (see Figure 1.1).

Figure 1.1: Serious adverse clinical incidents

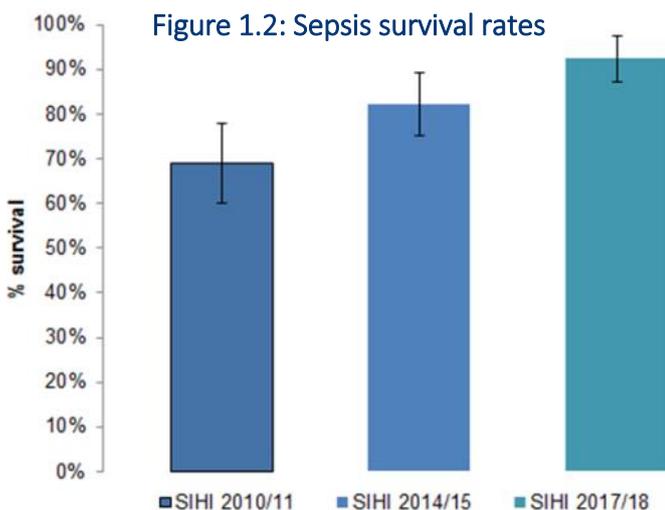


- A **26 per cent average reduction in the number of people re-presenting to emergency** within 48 hours than was forecast for 2017–18. This equated to approximately 820 fewer cases per month over the SIHI period. There were also 10,200 fewer emergency re-presentations between two and seven days. These are national and international indicators of quality of care for emergency and acute cases. SIHI’s strengthened emergency model resulted in people presenting to country EDs being appropriately treated on their first presentation, resulting in thousands of people across the SIHI region not having to return to the emergency department once discharged.
- A reduction in the **average length of stay** in inpatient care in SIHI hospitals, equivalent to 19,000 bed days saved for the whole SIHI period. This indicated people were getting back on their feet more quickly and being discharged from hospital into the community sooner, where they had better access to GPs and support services. The impact on length of stay for patients transferred to non-SIHI hospitals is a possible area for future analysis and research.

The strengthened SIHI emergency model, including the availability of ETS, significantly improved the clinical care of emergency patients with serious and potentially life-threatening conditions.

## Sepsis

Figure 1.2: Sepsis survival rates



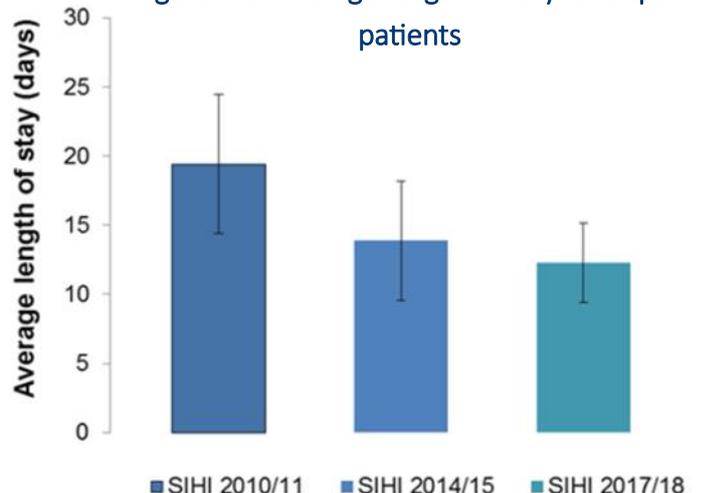
A key indicator for safe, best practice emergency care is the survival rates for Sepsis, as it can be readily misdiagnosed.

The Sepsis survival rates for patients transferred from SIHI hospitals increased significantly from **69 per cent in 2010–11 to 92 per cent in 2017–18** (see Figure 1.2). This statistic alone was a strong indicator of improvements to safety, quality and patient outcomes as

a result of the SIHI investment. Survival has increased for non-SIHI sites from 91 per cent in 2010–11 to 95 per cent in 2017–18.

The average length of stay for Sepsis patients transferred from SIHI regions reduced over the SIHI period (see Figure 1.3) and by 2017–18, was **lower than the rate for non-SIHI regions**.

Figure 1.3: Average length of stay for Sepsis patients



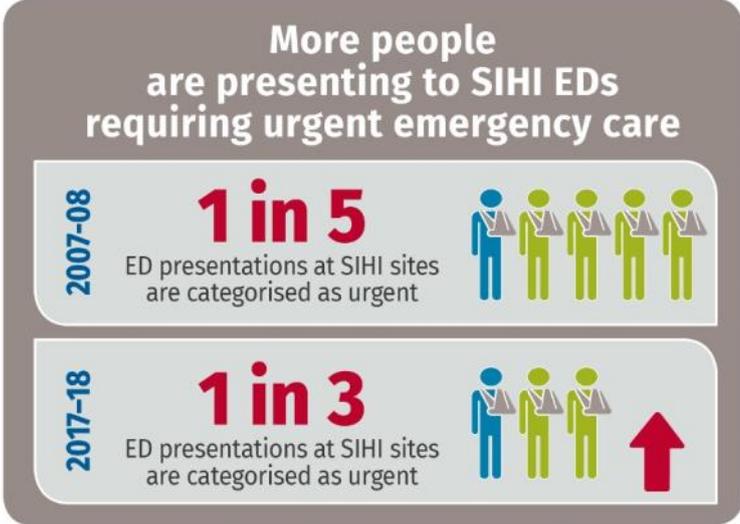
# SIHI improved ED outcomes for country patients



More people received appropriate medical care in SIHI hospitals and the transfer rate to Perth decreased

**↓**

**Confidence in the quality of care in the community**



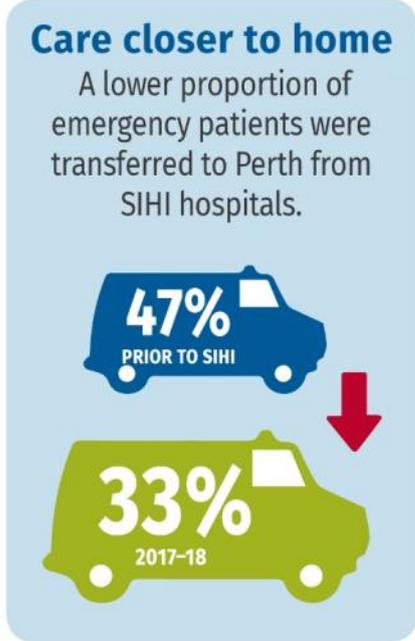
### Improved patient outcomes

Non-urgent ED attendances at SIHI hospitals

**↓ 32%**

People returning EDs for further treatment within 48 hours

**↓ 26%**



**There was a 58 per cent increase in the number of GPs in the SIHI area from 97 in July 2011 to 152 as at 30 June 2018.**

## SIHI improved access to emergency care for country patients

### Highlights

- **58 per cent increase in number of GPs working in the SIHI region**
- **More GPs stayed longer in SIHI towns: seven-year retention rate increased to 60 per cent**
- **Six ED nurse practitioner positions were established at Esperance, Northam, Collie, Merredin, Warren (Manjimup) and Narrogin hospitals**
- **ETS provided an average of 360 consultations per week in 2017-18 across the State**

SIHI provided a significantly improved approach to delivering emergency care to regional patients that was highly effective, appropriate, safe and cost-efficient. This occurred in an environment of high demand, where an increasing population that was also ageing meant more people with urgent and potentially life-threatening (high acuity) conditions were accessing emergency services in the SIHI region.

Compared to trends measured prior to SIHI, the proportion of high acuity (Australasian Triage Scale (ATS) 1–3 categories) ED presentations continued to increase throughout the SIHI period, with a corresponding decrease in lower acuity presentations (ATS 4-5 categories). The higher acuity presentations required access to specialised medical review including via the ETS.

In 2007–08, higher acuity ED presentations represented one-fifth of all ED presentations at SIHI sites. By 2017–18, the proportion had increased to one in three ED presentations. Prior to the introduction of SIHI, these higher acuity patients would have been transferred straight to Perth, rather than to the larger regional hospitals as was often the case under SIHI.

### Access to more GPs

Funding incentives under SIHI substantially increased the number of GPs working in the SIHI region and improved access to a pool of local doctors who could participate in emergency care rosters at SIHI sites, when credentialed to do so. The SIHI incentives complemented some local government GP attraction packages, including benefits such as provision of housing.

SIHI was instrumental in attracting new doctors to towns across the SIHI region, with a 58 per cent increase in the number of GPs providing medical services both in the community and at the local emergency department.

Improvements in attraction and retention of GPs resulted in greater access to medical practitioners in SIHI hospital emergency rooms.



“The local GPs who are now working regularly in the ED are a reassuring sight to the patients. The GPs gain a better understanding of their patient’s journey through the healthcare system and are better able to guide them. A willingness to communicate between GPs and the hospital has been fostered by GPs working in the department. I am sure this will provide a better transfer of care from ED to GP.” *Wheatbelt Senior Medical Practitioner*

“It was reassuring to know that when you do present to hospital with potentially serious symptoms, there is a doctor available to order tests and monitor results instantly, rather than having to wait for a doctor to be called in over the weekend, which may delay life-saving treatment. We returned home with peace of mind that my husband had been thoroughly assessed and treated.” *Testimonial from the wife of a patient who attended Northam Hospital ED.*

At the larger hospital sites prior to SIHI, the provision of emergency care relied on the availability of doctors to be called in as and when required, with less than 10 per cent of formal on-site shifts operating with a paid doctor.

Under SIHI, this substantially increased, where formal and funded emergency roster coverage became available in the larger SIHI hospitals more than 97 per cent of the time. In most cases, any gaps in roster coverage were able to be covered by the ETS. This meant people living in the SIHI region received more equitable, safe emergency and acute care in line with the WA Health CSF and the WACHS ECCF.

GPs living in SIHI towns also stayed for longer. According to Rural Health West analysis, prior to SIHI the seven-year retention rate (July 2004 to June 2011) for GPs in SIHI towns was 41.3 per cent, similar to the GP rate of retention outside the SIHI region. However, by June 2017, the seven-year retention rate for GPs in SIHI towns had increased to 59.8 per cent. This is particularly significant when compared to the seven-year retention rate for GPs in non-SIHI towns, which had only increased to 44.1 per cent.

Also significant was the Rural Health West analysis of the numbers of GPs who commenced a new practice prior to and during the SIHI period. Prior to SIHI, the number of new GPs who remained practicing in a location (2004–2011) in the SIHI region was around 51 per cent. For non-SIHI regions, that rate was around 58 per cent during the same period. From 2011 to 2018, the rate in SIHI regions had increased to 64 per cent of new GPs who had commenced practicing during the preceding seven years. This rate was higher than the rate for non-SIHI towns of 61 per cent, indicating more GPs were practicing and staying longer in SIHI towns compared with non-SIHI towns.

SIHI brought renewed confidence in the health service with people in the SIHI region more able to get help when needed. Community members were more likely to receive the care they needed at their local hospital than having to travel to another location.

Attracting more GPs and keeping them for longer gave the community a better choice of doctors and people could more easily get a doctor's appointment. Anecdotal comments from a sample of community members and shire CEOs in the SIHI region were positive regarding the SIHI investment and the impacts on their communities.

“Community members are more likely to receive the care they need at the hospital rather than having to travel to another location.” *CEO, Merredin Shire*

“Attracting more GPs has given the community a better choice of doctors and people can easily get a doctor's appointment.”

“People have renewed confidence in the health service now .... More confident to be able to get help when needed.”

“Nearly every hospital in our region has a doctor.”

*SIHI community survey February 2016*



Photo courtesy of Rural Health West

**WA's ETS is a unique, award-winning service that has gained national and international recognition as a leader in the provision of emergency medicine support in regional and remote hospitals and nursing posts.**

## The Emergency Telehealth Service revolutionised access to specialist emergency care in country WA

The ETS was developed under SIHI to provide specialist emergency support to doctors and nurses in small rural hospitals, significantly improving patient safety and quality of care.

The ETS links clinical staff treating critically ill and injured patients in small regional hospital EDs to a specialist emergency medicine workforce, supported by specialist nursing and generalist GPs, via high-definition videoconferencing technology. This ensures patients have access to emergency medicine specialists who support and direct the care provided by local doctors and nurses.

The ETS commenced in August 2012 in eight hospital EDs in the Wheatbelt region. During the SIHI period, the ETS transitioned from a weekend and public holiday service to 24-hour, seven day-a-week statewide availability. At 30 June 2018, the ETS was available at 79 hospitals, health centres and nursing posts, with 44 of those sites in the SIHI region.

In 2017–18, the ETS provided an average of 1550 consultations per month across the State. Since inception, the ETS has provided more than 67,800 virtual consults to country doctors and nurses treating ED patients, supporting them to save lives and significantly improving patient outcomes.

The ETS works in collaboration with metropolitan health service providers when delivering trauma and stroke care, ensuring coordination of emergency country patient care is of the highest standard.

There is a marked increase in ETS activity when local GPs are away from their country practices, on weekends or holiday periods. For example, during the Christmas/New Year 2017-18 period, the number of ETS consultations doubled to an average of 91 per day, compared with the usual average of 43 daily consults.

The ETS was established as a specialist emergency care service so rural and remote patients had access to the skills and knowledge of the specialist emergency medicine workforce, which was predominantly only available to metropolitan ED patients.

As SIHI progressed, it became apparent that the availability, reliability and effective service delivery model provided by the ETS ultimately provided access to a doctor for a number of patients who, although lower acuity, were unable to access their local doctor and thus presented to the local ED. The ETS played an important role as a back

-stop when local GPs were unavailable in their country towns, either on weekends or after hours, providing peace-of-mind for doctors and nurses at WACHS sites and a seamless, high quality medical service for people living in or near small country towns.

These presentation patterns have been taken into account in the planning of new services, including the Inpatient Telehealth Service (ITS) currently being trialled in a number of regional sites. The ITS provides clinical support via videoconference to admitted patients within WACHS facilities, if the local GP is temporarily unavailable.

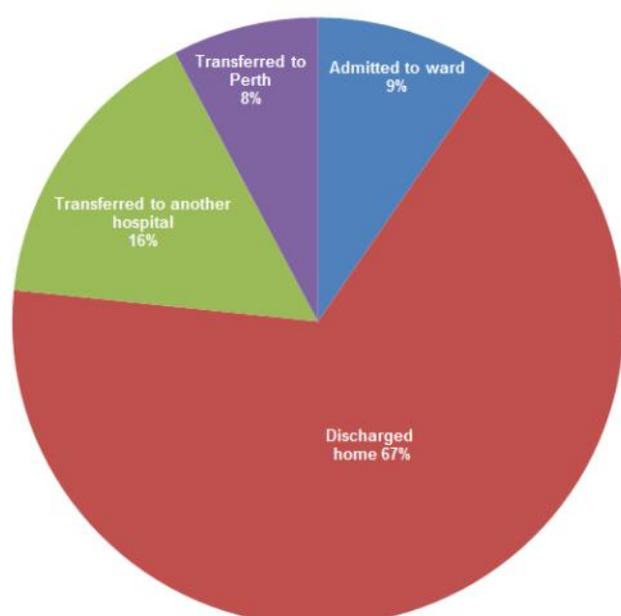
WACHS works closely with metropolitan health service providers in delivering access to specialist services for patients via telehealth. This collaboration has been crucial in the successful implementation of the statewide telehealth service.

The ETS modernised the way healthcare was provided in country WA and led to systemic improvements including consistent policy application, governance, integration, education and service redesign. A key current priority for WACHS is the creation and further development of emergency and inpatient telehealth services within a Command Centre model, delivering 24/7 support services to WACHS facilities through the provision of a digitally enabled, flexible, innovative and dedicated specialist medical workforce accessible through a single point of entry.



ETS continued to keep patients closer to home with 67 per cent of patients in 2017–18 seen and receiving all their treatment at their presenting hospital ED, then discharged home. Only eight per cent of ETS patients were transferred to Perth and 16 per cent transferred to another hospital in the same region. This correlated with emergency transfer patterns across all emergency activity within WACHS SIHI sites.

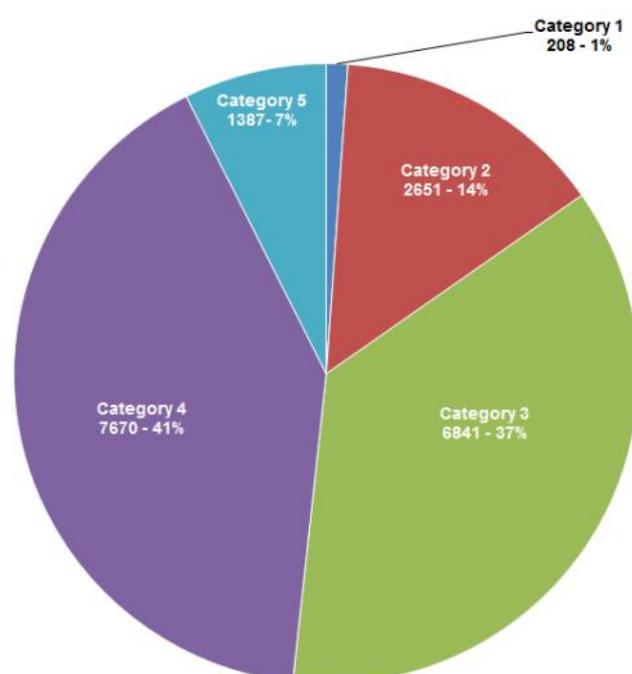
### ETS transfers 2017–18



Data source: WACHS MMEX and webEOC. Data accessed 27/11/2018

The high percentage of people seen and treated where they initially presented correlated with the high proportion of ATS 3–5 categories (semi or non-urgent) of presentations seen by the ETS specialists. ETS ensured timely availability of medical support so patients didn't have to travel distances to access medical input into their care and management plans.

### ETS occasions of service by ATS category in 2017–18



Data source: WACHS MMEX and webEOC. Data accessed 27/11/2018

### Number of ETS consultations in WACHS sites

Year	District Hospital	Nursing Post	Small Hospital	Other	Grand Total
2012-13	123	162	2289	56	2630
2013-14	38	408	4853	17	5316
2014-15	99	679	7936	5	8719
2015-16	352	2455	13636	63	16506
2016-17	296	2428	13371	121	16216
2017-18	494	2660	15310	145	18609

“ETS makes our lives so much easier and we feel so much more supported. Having the ETS doctor on the screen while we are treating patients means we feel more comfortable performing certain procedures, so we don't have to transfer patients to larger hospitals as often.” *Nurse manager, Dongara Health Centre.*

## Case study

### Baby Ava still bouncing thanks to local team and ETS

**You wouldn't know it to look at cheeky Ava Fuge, but not long ago her life hung in the balance – saved through a combination of care from local nurses, “the telly doctor” and Royal Flying Doctor Service.**

Suffering from a seizure one evening in April, her parents raced the 17-month-old to their local hospital at Pemberton.

Despite no doctor being rostered on at that hour, the nurses in charge were able to dial up the Emergency Telehealth Service (ETS) based 300km kilometres away in Perth and call on the back-up of emergency specialist doctor Mlungisi “Lungi” Mahlangu.

Dr Mahlangu used the ETS camera in the hospital's ED suite to zoom in on Ava to confirm the nurses' assessment, and then get extra details by speaking to them over the videoconference.

He then guided the nurses through a course of treatment to stabilise young Ava by inserting an intra-osseous drip into bone in one of Ava's legs – a difficult task in such a small child.

While the nurses worked to insert the drip, Dr Mahlangu was able to call up the RFDS to arrange an emergency transfer by plane.

The RFDS flight arrived within a couple of hours with Dr Hakan Yaman – who also works at the ETS – who inserted a tube in Ava's throat to help her breathe before departing for Princess Margaret Hospital where she spent almost a week receiving further treatment and recuperating.

Little Ava has bounced back and her mum is convinced the support the ETS was able to give local nursing staff made the difference between life and death for her daughter.

“If we didn't have this service, I think I might have lost my baby,” she said.

“The doctor talked the nurses through the procedures as calm as could be. He was able to direct them exactly what to do over the video.

“Without the telly doctor she would have been in seizure for more than 20 minutes.”



“We now have access to the Emergency Telehealth Service at Wongan Hills Hospital which works incredibly well, and the local people and staff really rave about it. It makes such a difference having specialist medical care just a video call away.” *Wongan Hills resident.*

## Regional clinician survey

A survey of regional clinicians who used ETS was undertaken in September 2018 to:

- assess the effectiveness of current service delivery
- better understand the requirements for emergency telehealth services
- collaborate with local clinicians
- improve timeliness of care
- improve the patient experience determine their perceptions and satisfaction with ETS and the educational component of the service.

There were 283 respondents including country GPs, district medical officers, visiting medical officers, nurse managers, nurse practitioners and registered and enrolled nurses.

Ninety two per cent of respondents agreed the ETS improved access to timely medical care for ED patients/consumers. Eighty seven per cent of respondents agreed the ETS supported rural clinicians to provide the right care, at the right time and where possible closer to home for rural patients/consumers.

## Case study

### ETS a life-saver for Lancelin tourist

**Perth resident Michael Murphy and his family were holidaying at Lancelin when Mr Murphy started experiencing severe chest pains. He was taken to the nearby Silver Chain Health Centre, where the attending nurse treating Michael immediately linked with the Emergency Telehealth Service via videoconference.**

Mr Murphy (below) was having a heart attack. Under the guidance of an emergency medicine specialist based in Perth and visible on the video screen at Lancelin, the Silver Chain nurse was able to initiate emergency treatment, administering medication under the doctor's orders to re-establish blood circulation to the heart.

The ETS doctor then organised for Mr Murphy to be airlifted via helicopter to Sir Charles Gairdner Hospital where he was fast-tracked to the cardiac catheter laboratory.

“After heart surgery in Perth, I'm now on the road to recovery. If it wasn't for ETS, everything could be very different though. I'm sure I would have made it to hospital but the damage to my heart could have been much greater,” Mr Murphy said.



## Access to specialised emergency care nurse practitioners

Country people presenting to a number of SIHI hospital EDs benefitted from the expertise of nurse practitioners, who provided specialised, high-level care across the spectrum of emergency presentations with advanced clinical skills and knowledge.

Nurse practitioners diagnose, treat and prescribe medications to certain types of patients within a prescribed and credentialed scope of practice. They independently treat patients with less serious conditions, assisting to reduce waiting times, length of stay and patient flows through emergency departments.

The emergency care nurse practitioners provided between 4,500 and 5,500 emergency occasions of service per year over the SIHI period (between 87 and 105 occasions of service per week across the five SIHI sites).

Most of the types of ED patients seen by ED nurse practitioners were in the ATS 3-5 categories (urgent, semi-urgent and non-urgent).

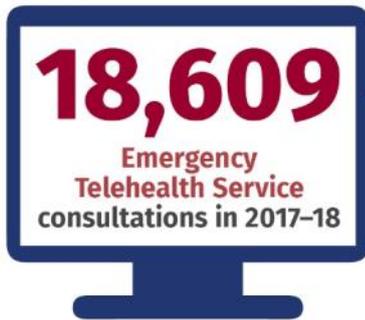
In addition to direct patient care, the ED nurse practitioners provided nursing leadership ensuring strong clinical governance alongside the medical leadership of emergency care services. This included:

- building capacity through mentoring, training and educating nurses, junior doctors and other clinicians
- monitoring and improving standards of care through clinical safety and quality initiatives
- implementing best practice, evidence-based treatment pathways and continual improvement methods
- monitoring and reviewing emergency and admitted patients when a doctor was not on site
- providing a consultancy role.



“The ED nurse practitioner role has been warmly received by the public, the hospital staff and the local GPs. The nursing staff enjoy working with an ED nurse practitioner because as a team, we can initiate treatment immediately and there is no longer a queue of people in the waiting room.” *South West ED nurse practitioner.*

# SIHI revolutionised ED medical support in country WA



More than **67,500** ETS consults since inception

**360** ETS consults a week



ETS operates **24 hours a day, 7 days a week**

## Care closer to home

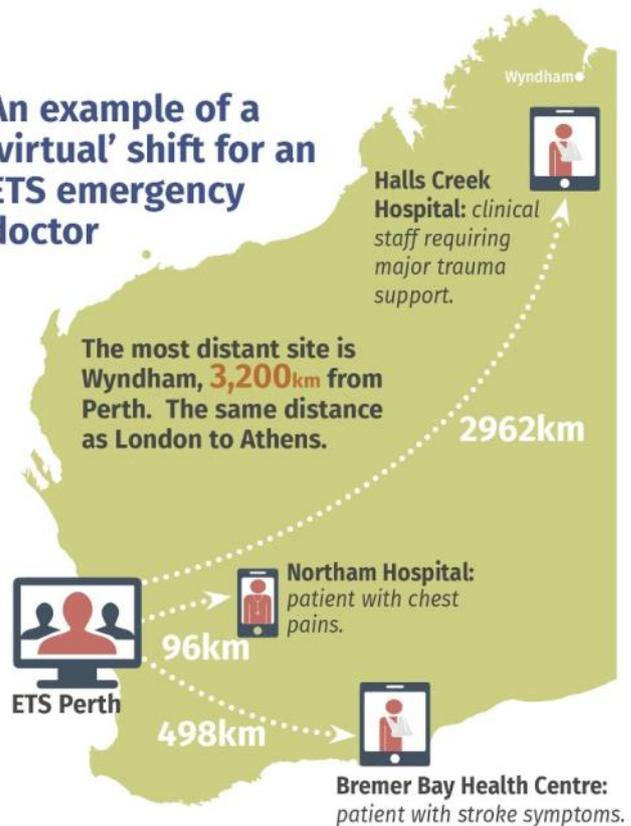


Percentage of ETS patients who are discharged from their local hospital without needing to be transferred elsewhere for treatment

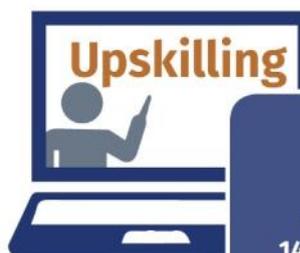
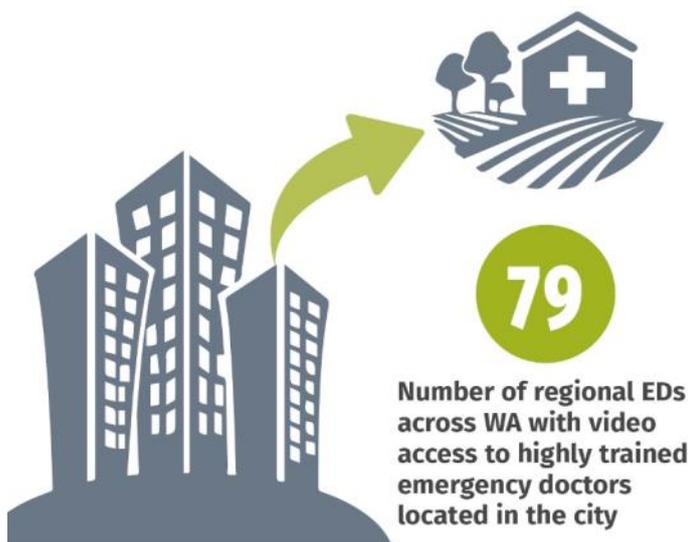


Number of ETS emergency doctors

## An example of a 'virtual' shift for an ETS emergency doctor



ED nurse practitioners introduced at Katanning, Merredin, Collie, Warren, Margaret River and Northam hospitals.



More than **5850** regional staff attended 140 ETS education sessions via telehealth to 30 June 2018

Under SIHI, patients were provided appropriate care in the right place in line with the WA Clinical Services Framework 2014–2024

## Patients benefitted from more efficient emergency and acute care

### Highlights

- **1,600 per month reduction** in ED attendances at SIHI hospitals than forecast
- **Reductions in average length of stay** of inpatients resulted in **19,000 bed days saved** over the whole SIHI period
- **Fewer SIHI ED patients** required **transfers to Perth**
- **More regional patients were treated locally**, closer to home

The significant improvements derived from the SIHI emergency service model also brought improvements in service efficiencies that positively impacted on patient care. Better access to more GPs and other primary care providers in the community had a flow-on effect for system-wide efficiencies as outlined below:

### Impact of SIHI on emergency activity

A key finding that impacted on emergency service access and efficiency was the overall reduction in emergency activity in the SIHI region since SIHI was introduced, despite the population continuing to grow in the inland SIHI region (i.e. excluding the districts where the regional centres are located) by an average of 1.1 per cent per year.

Emergency activity is generally influenced by population growth and demand, however there was an overall downward trend in emergency activity from 2010–11 across the SIHI region (excluding regional health campuses and Busselton). Thus, it was assumed other factors contributed to the decline in emergency activity in the SIHI hospitals.

Immediately prior to the implementation of SIHI, EDs in SIHI hospitals experienced a daily average of 430 patients. By 2017–18, this had reduced to an average of 363 patients per day, a reduction of around 15 per cent. In contrast, growth in emergency activity plateaued but did not decline in the non-SIHI regional hospitals and grew substantially in Busselton after 2011–12.

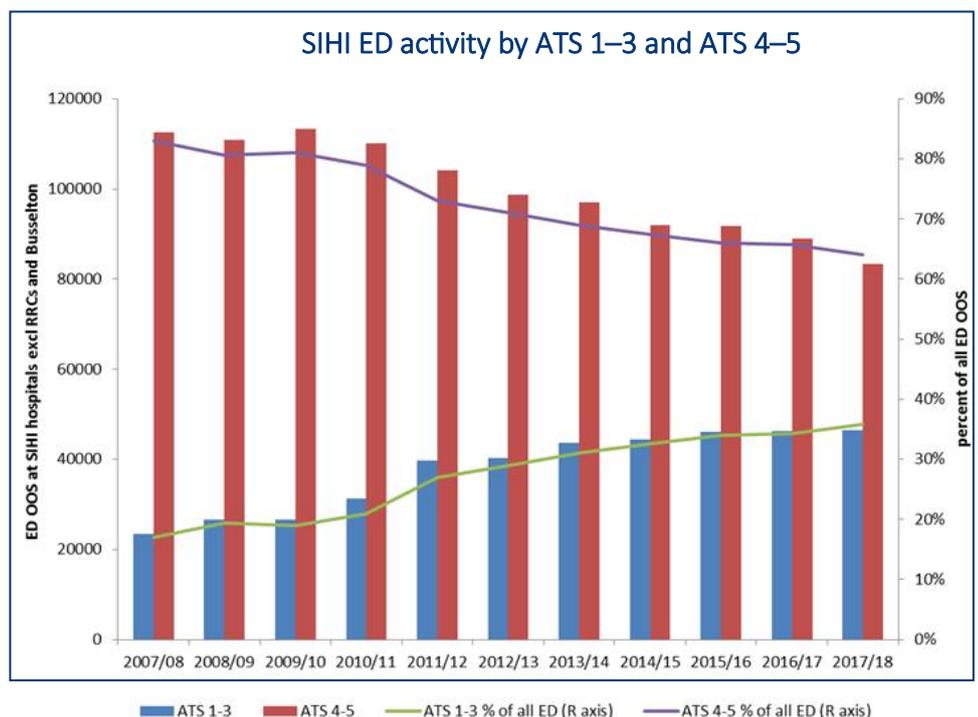
Review of the data showed the decline was due to the reduction in volumes of lower acuity ATS 4s and 5s (non-urgent) presentations. In 2007–08, lower acuity ED presentation at SIHI sites represented 83 per cent of total presentations. By 2017–18, this

had reduced to 64 per cent of all ED presentations.

Emergency department numbers forecast pre-SIHI for 2017–18 indicated an average of approximately 15,400 presentations per month. Actual ED presentations were 10,800 per month. It can therefore be surmised there were around 55,000 fewer presentations to EDs in 2017–18 than forecast pre-SIHI.

There appears to be a reasonable and plausible link between increased numbers of GPs and primary health services in the SIHI area and the substantial reduction in ED visits, given the population was still slowly increasing and ageing.

The reduction in low acuity (non-urgent) emergency activity under SIHI assisted with easing the pressure on ED resources while ensuring that those with the most acute needs were seen by a specialist, either in person or via the ETS.



## Reduction in the length of stay of admitted patients

Average length of stay (ALOS) for inpatients is an indicator of service quality, access and efficiency. The length of stay for inpatients across the SIHI region reduced, saving 19,000 bed days for the whole SIHI period.

Reasons for the reduction in length of stay in hospital are many and include increased patient transfers to regional sites and Perth for inpatient care. This may have been an indication of better and safer emergency care in the SIHI region, as well as higher volumes of more urgent and complex patients seen in inland sites and who required transfer out.

## Patient transfers

Under WA's CSF, it is expected that patients who require more complex care will transfer from smaller hospitals to larger regional sites, unless it is so urgent or complex that the patient needs to be transferred to Perth.

Prior to the introduction of SIHI, the lack of available GPs meant most of these urgent cases were transferred straight to Perth, bypassing the larger regional hospitals.

Emergency and inter-hospital patient transfers to Perth as a ratio of all transfers from SIHI sites decreased from an average of 47 per cent pre-SIHI to 33 per cent since the introduction of SIHI. This reduction

represents some 1,900 patients who were not required to be transferred to Perth and were able to be treated closer to home, minimising personal disruption and hardship to the patients and their families, and reducing costs to the system.

However, it is important to note that maintaining an appropriate level of transfer out is necessary to ensure that emergency and acute patients receive specialist care when needed in accordance with the WA CSF.

Although the numbers of emergency and inter-hospital transfers have increased, the proportion of the transfers going to Perth has decreased by three per cent (from 35.8 per cent in 2010–11 to 32.7 per cent in 2017–18). High acuity emergency patient transfers from smaller SIHI EDs to larger sites, both intra-regionally and to Perth, continued to increase. The increased expertise in SIHI emergency departments is leading to more appropriate transfers for complex patients.

There was a clear reduction in the ratio of metro to intra-regional transfers from pre-SIHI to post-SIHI, from 5:8 down to a stable 1:2 respectively. This reflects the larger WACHS regional hospitals were better able to manage care locally in line with their increasing CSF role delineations in some core service areas, keeping country patients closer to home. Determining the appropriateness of the patient transfers and outcomes from SIHI hospitals is a potential area for future research.



## Conclusion

The SIHI model of care demonstrated the value of a networked, integrated approach to delivering emergency care. Through a combination of on-site and virtual clinical resources, the SIHI model delivered highly effective, appropriate, safe and efficient health services.

Furthermore, the delivery of emergency and acute services via telehealth proved to be very effective in supporting safe, contemporary care and built capacity through education and support that not only saved lives, but reduced workforce stress and staff turnover.

Country residents had certainty they could access high quality, safe emergency care similar to that available in the metropolitan area and had more access to a doctor, including specialist emergency doctors through ETS, when they did attend an ED.

There was also greater efficiency apparent in inpatient care demonstrated by reductions in inpatient average lengths of stay.

While some improvement trends became apparent pre-SIHI, the SIHI investment allowed these improvements to continue and, in some cases, achieve statistically significant improvements, rather than plateau or deteriorate.

More acute care was delivered appropriately and more efficiently closer to home with increased intra-regional transfers. A reduction in patients being transferred from their initial point of care in regional WA to Perth minimised personal disruption and hardship to patients and their families, and reduced costs to the system. However, maintaining a level of transfer out when appropriate ensured patients were receiving specialist care when needed.

Significantly, the overall robustness and stability of emergency service coverage in the SIHI region delivered increased service safety and greater equity of access to specialist emergency services for country WA communities, through an innovative, regionally-appropriate model.

## Challenges and opportunities for acute and emergency services

- WACHS continues to review and refine the district clinical workforce model as part of the funding extension of SIHI from 1 July 2017 to 30 June 2022.
- To ensure emergency and acute models of care remain contemporary, the medical incentives and payments program will be reviewed, programs and services will be refined - including greater use of telehealth enabled services - and adherence to appropriate program performance monitoring frameworks will continue.
- Workforce challenges will continue to be addressed. External factors including changes to Commonwealth credentialing policy for International Medical Graduates and an ageing workforce will most likely affect the number of available GPs over the coming years.
- Access to GP proceduralists is an ongoing challenge. As at 30 June 2018 there were 16 GP anaesthetists, 12 GP obstetricians and seven GP surgeons across the SIHI region.
- Through the use of appropriate technologies, investment in senior clinical nursing expertise e.g. nurse practitioners, and new models of inpatient support, the numbers of inpatient clinical incidents resulting in serious harm or death should continue to decrease in the smaller regional facilities.
- While access to emergency care by older country people at inland country hospitals is increasing at a greater rate than population growth, the rates of access by Aboriginal people are diminishing as they seem to be more readily accessing regional hospitals.
- Engagement with consumers and communities will continue to inform and strengthen ongoing quality improvements.



## Key finding 2

# Innovative services that brought healthcare closer to home

In addition to significantly increasing the number of GPs in southern inland towns, SIHI boosted primary health services, enabling country people to access more services in the community closer to home and avoid hospitalisation.

In partnership with non-government and community organisations, SIHI built a more sustainable rural health system. Primary care services such as maternal health, chronic disease management, mental health, speech therapy, aged care and clinical services, delivered face-to-face and via telehealth, became available in more SIHI communities.

### Prior to SIHI

Before the introduction of SIHI, residents in the SIHI region had limited options to access primary health care locally. There were many challenges:

- Few and reducing numbers of GPs in country towns and limited community based clinical care options meant people were unable to access local GPs or nursing and allied health clinicians for non-urgent health care. Instead, they would present to the local hospital emergency department at a time when there was inadequate medical cover in hospitals.
- People had to travel to larger regional or metropolitan centres to access primary health services that were not available close to home (e.g. antenatal classes, postnatal care and diabetes education) or were simply unable to access services to meet their general health needs.
- People often waited up to a week for a GP appointment and travel was usually required to access allied health practitioners such as physiotherapists and occupational therapists. This may have affected the high levels of re-presentations to emergency departments at country hospitals within seven days, as there was limited capacity for follow-up care in the community once people had initially presented at an emergency department.
- Services were available often by coincidence, rather than as a result of planning and design. The skill sets of the individual locally based clinicians and GPs, and the visiting specialists, dictated the quality, breadth and ability to access the available services to address general and specialist health needs.

- In some regional locations primary health care and GP services were either absent, or unable to meet the full range of local needs. There were no primary care nurse practitioners available to support consumers and complement the GP primary care services and limited other non-government health providers to partner with WACHS.
- From the perspective of individual country clients and their carers, there was a lack of awareness and confusion in relation to available services close to home combined with poor access to local services, which may have required travel to larger regional centres or Perth.
- Insufficient collaboration and integration led to some health service providers acting in isolation without capacity to share information or coordinate care across multiple health services.
- A lack of coordination between country and metropolitan health services and sometimes between services operating in the same town hindered health service delivery to country clients.



## Ninety per cent of healthcare occurs in the community through GPs and other primary health care services.

*(New Zealand Health, 2011; NHS England, 2013)*

### SIHI introduced more primary health services in the community

#### Highlights

- **More GPs and nurse practitioners** in SIHI towns reduced reliance on country hospital EDs for non-urgent cases
- **32% decrease in non-urgent admissions** in SIHI hospital EDs in 2017–18 than forecast pre-SIHI, equivalent to 37,700 fewer presentations
- **11 innovative primary care services trialed** under SIHI to keep people healthy and out of hospital

International evidence suggests health systems that are strongly orientated towards primary health care report a positive effect on population health outcomes as well as overall health system cost efficiencies.

Timely access to primary care can prevent health issues from escalating to the extent that people require emergency care or hospital admissions. The aims of the SIHI primary health initiatives were to provide better access to coordinated care within the local community in preference to admission to hospital or attending an ED, and reducing the need to travel long distances to receive care.

As discussed in the previous chapter, there was a significant increase in the numbers of GPs living and working in SIHI towns as well as ED nurse practitioners introduced in the southern inland area as a direct result of SIHI. There were also four community-based primary health nurse practitioners located across the Wheatbelt and Central Great Southern, delivering services to surrounding towns.

Evidence suggests there was a plausible link between increased access to GPs and nurse practitioners in SIHI towns and reduced reliance on emergency and hospital care. Non-urgent emergency presentations (ATS 4s and 5s) at SIHI hospitals reduced by one third following the introduction of SIHI, a reduction of almost 37,700 cases in 2017–18 compared with the pre-SIHI level.

This links with evidence of an increased uptake of the Commonwealth Medicare Benefits Schedule (MBS) within the SIHI region of more than \$28 million between 2012–13 and 2015–16. (Note: As of 2015–16 the Commonwealth no longer produces reports at Medicare Local level).

Health service planning and community consultation between 2010 and 2012 identified local health needs, resulting in SIHI establishing a number of innovative services and workforce roles that were previously unavailable in the Wheatbelt and Central Great Southern.

A number of trial primary health service innovations were also developed, many in partnership with non-government organisations (NGOs) targeting those with complex or chronic conditions. These

trials provided local communities with access to a range of primary care services covering the life span, from pregnancy through to aged care.

All of the trial services were developed in response to determined community need and improved equitable access for the targeted communities to local GP and primary health services, in some cases via the use of telehealth (e.g. diabetes education, chronic disease management and social work services).

Capacity-building initiatives for both WACHS and NGOs, including staff training, education, developing partnerships and delivering integrated services, were key aspects of some of these services and roles.

Qualitative consumer feedback, patient testimonials and vignettes indicated the provision of a greater array of services, consumer health education and skill development targeted to the needs of local communities, increasing consumer access to services.

Consumers and their carers gained greater awareness of, and capacity to navigate the health system, as well as increased capacity for self-management of their health issues. When people required hospital care, SIHI improved access to follow-up and support when returning to their local community via more GPs, primary care nurse practitioners and other trial primary health services, particularly for those with chronic health conditions.

Analysis of the Patient Assisted Travel Scheme (PATS) activity shows that the number of trips plateaued between 2013–14 and 2015–16, and the proportion of PATS trips to metropolitan services reduced while intra-regional trips increased, which demonstrates increased care closer to home. Analysis of PATS activity and expenditure continues to be monitored across all WACHS regions.

The SIHI funding for most of these primary care initiatives ceased in December 2017, with a number of programs embedded into WACHS operational business or transitioned to NGOs to ensure continued coordination, access and equity for consumers across country WA with complex chronic conditions.

## SIHI primary health service initiatives and providers

Service/Initiative	Location	Service Provider	Commenced	Funding continued or transitioned post SIHI
1. Primary Health Integration Coordinators	Wheatbelt and Central Great Southern	WACHS	Jan 2012	
<b>Services focused on chronic conditions</b>				
2. Health Navigator service – self management and care coordination	Wheatbelt and Great Southern	Silver Chain Group	Jan 2014	Transitioned to WA Primary Health Alliance (WAPHA)
3. Diabetes Capacity Building Services (including Diabetes Telehealth)	Wheatbelt and Central Great Southern	Silver Chain Group/ Amity Health/ Diabetes WA/ private providers	Jan 2014	Transitioned to WAPHA
<b>Services focused on complex care and chronic conditions</b>				
4. Primary Health Nurse Practitioners	Wheatbelt and Central Great Southern	Silver Chain Group	Aug 2012	Funding for 2 NPs transitioned to WAPHA
<b>Maternal, early years and school age</b>				
5. Maternal and Newborn Health Program including the Community Midwifery Service	Wheatbelt and Central Great Southern	WACHS	July 2015	Continued by WACHS
6. Wheatbelt Midwifery Group Practice	Wheatbelt	WACHS	Nov 2017	Continued by WACHS
7. Kindergarten Oral Language Program	Central Great Southern	YMCA	Feb 2013	Continued by WACHS
8. Kids Health Link and Social Work services	Eastern Wheatbelt (Merredin)	Amity Health	Aug 2013	Continued by WACHS
<b>Older age</b>				
9. Aged care improvement initiatives (including senior aged care clinician in Eastern Wheatbelt)	Wheatbelt and Central Great Southern	WACHS	Mid 2013	Continued by WACHS
10. Katanning ED Older Patients' Risk Assessment	Central Great Southern	WACHS/Silver Chain Group	April 2014	Continued by WACHS
<b>Services focused on mental health</b>				
11. Narrogin Social Work Service	Southern Wheatbelt	Amity Health	July 2014	Continued by WACHS
12. Mental Health Recovery Capacity Building Project	Western and Eastern Wheatbelt	WACHS	July 2013	Reforms embedded into practice

“I was that nervous at the start of my first telehealth session at the local hospital, but my diabetes educator, Amanda, made me feel so comfortable. By my second appointment I was looking forward to it so I could ask more questions. I used to drink four bottles of Coke a day – but not now. Even my kids have changed because they know what sugar does now.” *Diabetes Telehealth Service client from*

## Diabetes Telehealth Service

SIHI invested more than \$2 million to provide services and programs in regional WA to tackle the increasing incidence of diabetes.

One of these services, Diabetes Telehealth, provided diabetes education to regional clients via videoconferencing with health service professionals, reducing the need for patients to travel long distances to seek support. WACHS partnered with Diabetes WA, who delivered the Diabetes Telehealth Service.

SIHI funding of the Diabetes Telehealth Service ceased 30 June 2017 with transition to the WA Primary Health Alliance (WAPHA) for sustainability funding and service continuance during the 2017–18 period.

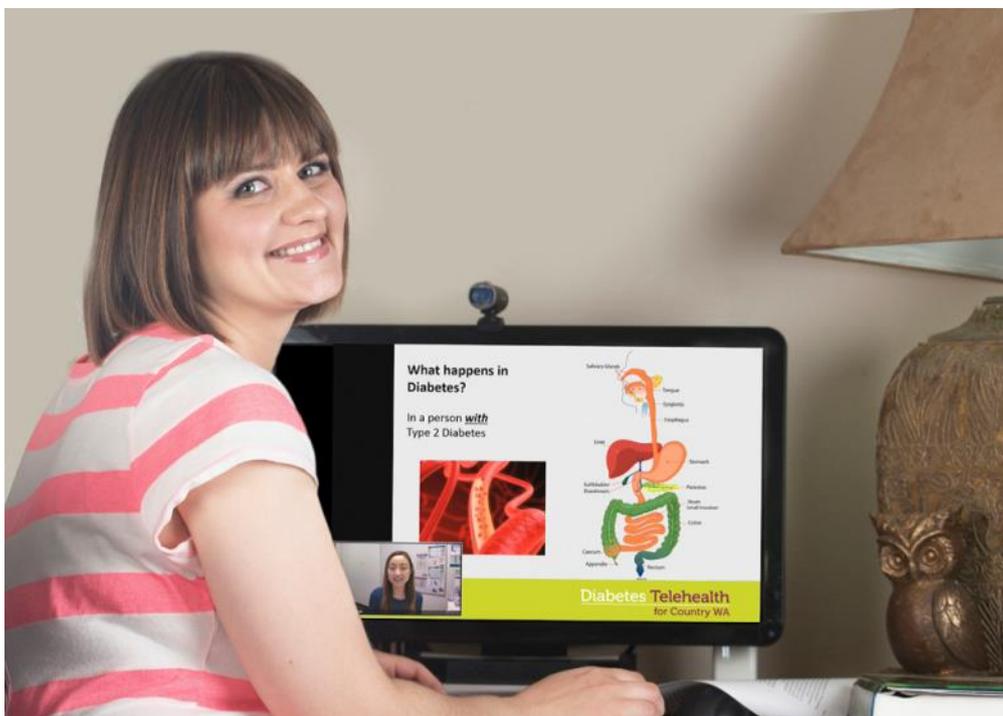
The Diabetes Telehealth Service operates across all WACHS regions. From inception in 2014 to 30 June 2018, the Diabetes Telehealth Service had:

- received 1082 regional service referrals and 2397 occasions of service
- conducted over 49 hours of professional development training sessions facilitated by regional and remote clinicians and healthcare workers to 1105 attendees.

Diabetes WA expanded the service to include appointments with a specialist endocrinologist via telehealth, and with Better Health Improvement Program (BeHIP) funding, WACHS commissioned the expansion of the service to improve the relevance and uptake of the service for Aboriginal and Culturally and Linguistically Diverse populations.

The latter has resulted in Diabetes WA exploring new technologies and innovative workforce strategies to enable more flexible and opportunistic appointments for Aboriginal people in country WA.

The Diabetes WA Telehealth Service was the recipient of two WA Health Excellence Awards including the Director General’s Award in 2017 and was a finalist in Google.org Impact Challenge with a project to combat diabetes in remote Aboriginal communities through telehealth technology and cultural co-design.



## Case study

### Diabetes telehealth helps mum stay healthy in town

**Cowaramup mum Claire Hubbard said telehealth saved her a lot of stress during her recent pregnancy.**

Claire considered herself quite healthy and had not thought too much about what she ate, until she was diagnosed with gestational diabetes.

She was able to cope with her new way of life through weekly telehealth sessions with a diabetes educator in Perth at Diabetes WA (DWA), using videoconferencing on her home computer.

The Diabetes Telehealth service is delivered by Diabetes WA in partnership with the WA Country Health Service and the WA Primary Health Alliance.

Instead of traveling to see a specialist, Claire was able to record her daily blood glucose levels on a chart and, using her mobile phone, sent a photo of the chart to her DWA educator each week so she could track Claire's diabetes.

Claire said the advice from the educator, June Lee, was essential.

"I had to cut sweet food and had to learn how to swap high GI carbohydrates like Arborio rice, to low GI food, such as basmati rice," she said.

"Being able to speak to June every week was a massive confidence boost," she said. "I could call her any time and ask anything, and she would put my mind at ease."

June said Claire's gestational diabetes was so well managed she was able to give birth at her local regional hospital rather than having to come to Perth. Without telehealth, Claire would not have had access to regular diabetes support and information and may have needed to birth away from home



## Reduced reliance on emergency and hospital care in SIHI communities

### Highlights

- Evidence suggested the SIHI primary health services **contributed to keeping people out of hospital**
- **Non-urgent ED presentations at SIHI sites** for 2017–18 were forecast pre-SIHI to average 327 per day, actual presentations in 2017–18 **reduced to an average of 289 per day**
- Country people **returned home from hospital sooner**

As a result of the SIHI investment, it was anticipated that greater access to GP and primary health services in the community would lead to a decrease in attendances at SIHI hospital EDs for less urgent conditions.

Statistics show this was the outcome. There were 32 per cent fewer non-admitted, semi-urgent and non-urgent (ATS 4s and 5s) cases in SIHI hospital EDs in the 2017–18 financial year compared with the 2017–18 forecast pre-SIHI. Average presentations per day reduced from a forecast 327 prior to SIHI to an actual 289 per day in 2017–18.

People also returned home from hospital earlier as evidenced by a gradual reduction in multi-day average length of stay, decreasing from a median monthly ALOS of 4.2 days in 2007–08 to 3.72 days in 2017–18. This was indicative of more GPs available in the community to provide ongoing care as well as access to other primary health services.

Research suggests potentially preventable hospitalisation benefits can be achieved for some chronic conditions through timely access to appropriate primary health services. A number of the trial services introduced under SIHI showed early indications of improvements in acute health service interactions in a small consumer sample.

A Chronic Conditions Dashboard is being developed with WACHS Business Improvement to further analyse the impact of Health Navigator and Diabetes Telehealth on acute health service interactions.

It was anticipated that the initiatives introduced under SIHI, including increased access to GPs, nurse practitioners and primary health services for people living in the SIHI region, would lead to better maintenance of good health and improved long-term health condition management.



Photo courtesy of Rural Health West

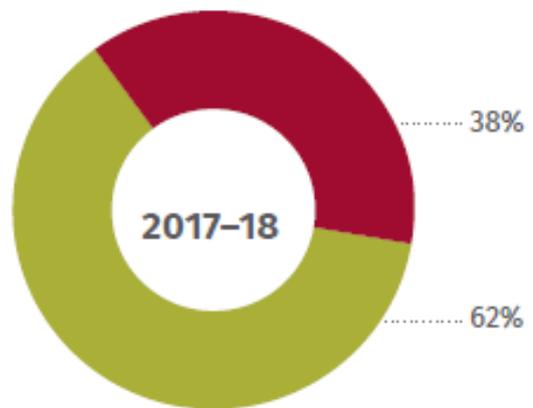
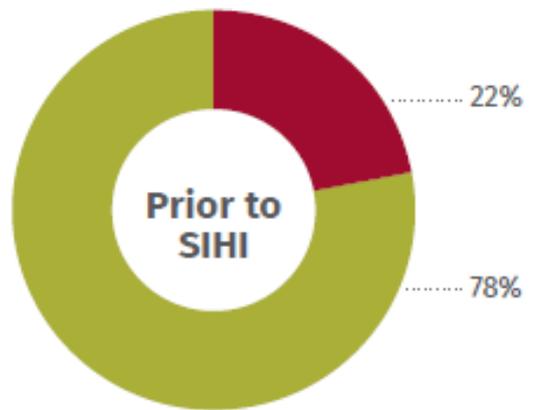
# Impact of better access to community-based health services under SIHI



**58%**  
more GPs in  
SIHI towns

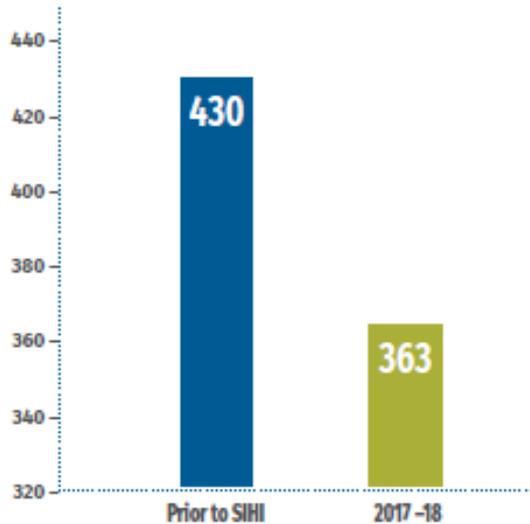
== Better access to follow-up care in the community

## Proportion of average monthly non-urgent emergency presentations at SIHI hospital EDs



● Non-urgent emergency presentations  
● Urgent emergency presentations

## Number of people attending SIHI EDs daily



## Primary Health Nurse Practitioners

Community clinics providing access to care where GP services were limited or unavailable.



## SIHI provided more connected, integrated care for country residents

### Highlights

- **Improved communication channels** between health consumers and healthcare providers
- **Better coordination** of primary health services
- **Better patient information** exchange

SIHI aimed to improve coordination of primary health services for chronic conditions, in order to provide comprehensive shared care for residents of the SIHI region. A number of approaches were trialed to improve communication between clinicians, and between clinicians, consumers and their families to improve health outcomes, for example:

- **Primary Care Integration Coordinators** helped identify primary care service need in regional communities and developed service integration, coordination and capacity building across various providers and service types. Four WACHS primary care integration coordinator positions were established under SIHI providing intra-district and regional support to the SIHI primary health care projects.
- **Primary Health Nurse Practitioners** were also instrumental in capacity building and providing more connected, integrated primary care in areas where there were limited or no access to GPs. The role provided complex case management and care coordination across multidisciplinary teams and partnering agencies where available (see breakout box).

- **The Health Navigator service** provided a coaching and mentoring self-management approach for consumers, linking health professionals and patients with chronic conditions to other health providers, enabling better self-management of health conditions.
- **New information technology systems** implemented under SIHI such as an electronic health record linked to Health Navigator and webPAS® in regional hospitals and health services, improved access to patient information for some clinicians.

Overall, the SIHI primary health service trials provided significant increase in access to care for people with complex care needs in the Wheatbelt and Central Great Southern, with improved coordination between services for the benefit of clients.



“The nurse practitioner clinics are held in local communities, which are convenient and less daunting than having to travel to an unfamiliar town away from family and friends. For this reason, some clients who otherwise wouldn’t access a health service will access help locally.” *Silver Chain nurse practitioner who delivers physical health assessments and care for mental health patients in the Central Great Southern*

## SIHI primary health nurse practitioners

### Background

Nurse practitioners are nurses who have attained clinical qualifications to Masters level and are able to diagnose, treat, prescribe medication and order clinical tests for patients within a prescribed scope of practice.

Eligible nurse practitioners may practise in a range of settings including the patient’s home, health clinics, medical practices or private consulting rooms and have a role in capacity building as well as direct patient care, helping to reduce avoidable hospital admissions.

### SIHI-funded nurse practitioners

The SIHI Primary Health Nurse Practitioner trial commenced in the eastern Wheatbelt in August 2012, targeting patients with complex care needs and chronic conditions, with particular emphasis on Aboriginal health and those with mental illness.

The primary health nurse practitioner improved access to care by building capacity and integrating care between the hospital, the GP and community-based services.

There were four SIHI primary health nurse practitioner positions in the Wheatbelt and Central Great Southern. WACHS partnered with the Silver Chain Group to provide the service in small outlying towns where there were limited or no GP services available.

The capacity building element of primary health nurse practitioners was effective in improving safety and quality and service delivery for the benefit of patients, including through referral pathway development to WACHS services and the WAPHA funded Integrated Chronic Disease Care Program. These positions guided the development, implementation and evaluation of the primary health care projects and worked to bring service partners together to work more effectively, identify gaps and minimise duplication.

WAPHA commenced funding the primary health nurse practitioners in the Central Great Southern and Eastern Wheatbelt in 2017–18. Silver Chain worked with WAPHA on an improved business model which will increase the use of the MBS.

## Case study

### Primary health nurse practitioner makes a difference

**Bill was a resident of the Eastern Wheatbelt with a long history of Type 2 diabetes. He had a number of partial amputations to his right foot and suffered from severe pain from a wound.**

He also had a poorly fitting prosthesis which was exacerbating his pain. He was sleeping badly, suffering depression and was a heavy smoker.

The SIHI primary health nurse practitioner (NP) was introduced in a coordinating capacity and liaised with two tertiary hospitals in Perth to enable Bill to access a high-risk foot clinic, providing a multidisciplinary approach with several specialists and an orthotics clinic. The NP also coordinated telephone liaison with a pain consultant and assisted with provision of prescriptions to help with nausea.

His depression and lack of sleep resolved and the NP helped to coordinate consults with a GP in another town via telehealth. The NP also provided practical support and education to help Bill to stop smoking.



Bill had the following to say about the primary health nurse practitioner service: “Along comes a nurse practitioner service and straight away things begin to change, new doors start to open. Things start to happen. Within a month, hardly any pain and my foot started to heal and I know lots of other people that benefitted too. We can’t live without them.”

## Innovative service that helped people navigate the health system

Wheatbelt and Great Southern residents with chronic health conditions received help to improve their health from SIHI's innovative Health Navigator service.

Health Navigator was a free telephone and videoconferencing self-management service offered by WACHS and the Silver Chain Group to help people with diabetes and long-term lung and heart conditions 'navigate' the often complex health system and self-manage their condition.

Health Navigator worked with local GPs to support people to keep their health on track. With the patient's permission, clinical information was shared between their GP and any other health provider involved in their care to ensure everyone was working towards the same health outcomes.

People in regional areas have higher rates of diabetes and heart disease than people in the metropolitan area and it can be harder for them to access advice and support services.

Both conditions are preventable and treatable with access to the right information, education and ongoing support, which is what the Health Navigator service provided.

A Health Navigator client survey conducted during the SIHI period showed 81 per cent of clients agreed the service helped them to better manage their health. Ninety three per cent reported the service helped teach them how to stay as healthy as possible and 79 per cent said the program had improved their quality of life.

The survey illustrated the impact the service had for people with chronic conditions, especially those with complex social situations or multiple comorbidities. Their stories told the value of having a service that helped them address the complexities of their situation and coached them through the small steps along their patient journey to health improvement.

WACHS and Silver Chain were joint winners of a WA Health Excellence Award in 2017 for the Health Navigator program in the category 'Developing sustainable solutions for out-of-hospital healthcare'.

SIHI funding for the Health Navigator service transitioned to Silver Chain in December 2017, with support from WACHS and WAPHA, enabling country people with complex chronic conditions to continue to access the service.



### Case study

#### Health Navigator helping people self-manage their health at home

**Telehealth service Health Navigator, helped local Northam retiree Pat self-manage his chronic health issues so he could stay connected with his community and continue volunteering at his local football and junior cricket club.**

Originally referred to Health Navigator for his diabetes, Pat said the service has helped him in many ways he didn't initially expect.

"Anytime I was concerned, had questions about a health issue or upcoming medical appointment, I knew I could talk to my Health Navigator Coordinator and get honest and informative advice," Pat said.

"They've helped me manage my diabetes and other health issues as they have come up.

"When I fractured my ankle, they helped me access services and supported me with my own goals to get back on my feet. They helped me understand who I could contact for what type of help and told me what support services were available near me.

"It put my mind at ease knowing there was a Health Navigator Coordinator I could trust and talk to whenever I needed help. They always pointed me in the right direction, I recommend it to anyone with health conditions like me, you can never have too much help."

## Maternal and Newborn Services Improvement Project

Under SIHI, the Maternal and Newborn Services Improvement Project aimed to improve access to antenatal and postnatal care for women in the Wheatbelt and Central Great Southern, and has now expanded to all of country WA.

Research indicates that closure of rural maternity increases both social risk and clinical risk for women and their families during pregnancy, birth and the postnatal period. This project has worked to strengthen the overall safety, quality and accessibility of maternal health services through introducing both universal and targeted initiatives across the SIHI catchment.

### Community midwifery service

In 2015, the Community Midwifery service was introduced under the Maternal and Newborn Services Improvement Project, focussing on provision of maternity care for vulnerable and highly complex clients. It included delivery of antenatal and postnatal clinical services, antenatal education and linking and collaborating with the woman's birth hospitals (metropolitan and regional).

Community midwives were employed in each Wheatbelt district at 0.6FTE each and the Central Great Southern. The service provided care in or close to home where more comprehensive assessment of need could occur in the context of the mother's usual environment rather than the artificial clinic environment, which was particularly important for complex and high acuity clients.

The Project has worked to support staff in non-maternity sites by developing a learning package on 'Imminent birth at non maternity sites' targeted at registered nurses and other staff employed at small rural sites that are likely to encounter an unplanned birth. This package is delivered via a face-to-face workshop by a midwife and covers imminent birth, referral and emergency assistance processes and newborn resuscitation.

These workshops have been running in the Wheatbelt since 2016. Twelve workshops have been held and a total of 126 registered nurses and enrolled nurses have been trained in 'Imminent birth at non maternity sites' across the Wheatbelt.

Innovation and technology has assisted in improving access to services for country women. The Project commenced the use of telehealth for childbirth and parenting classes which provided education to over 150 country women and their partners. Telehealth reduces the need for unnecessary travel and time away from home, helping pregnant country women and their families avoid the risks of road travel.

The Baby Bumps WA Facebook page was introduced to increase the reach of pregnancy and birth information and WACHS maternity services and has over 1000 followers throughout country WA.

Additionally, a pregnancy messaging service (SMS) was commenced to assist vulnerable women to stay engaged with the health service during their pregnancy by sending them positive, gestational appropriate, action based messages weekly during their pregnancy.

Three fragile maternity services were identified in the South West inland region at Bridgetown, Manjimup and Collie. A comprehensive review of these inland services was undertaken and included consumer and service provider stakeholder forums to develop three potential models for sustainable maternity services into the future. The review resulted in the submission of a business case for the preferred model of care – a maternity group practice.

In addition, the Maternal and Newborn Services Improvement Project has developed the WACHS Maternal and Newborn Care Strategy that will assist the WACHS regions to develop strategic plans to implement at local levels.

The community midwife positions in the Wheatbelt and Central Great Southern continue. The Maternal and Newborn Services Improvement Project has transitioned to Country Health Innovation funding and has many new initiatives planned for 2018–19. These include the procurement and implementation of a remote, real-time electronic fetal monitoring system, a maternity information mobile phone application and scholarships for midwives to undertake studies in prescribing and diagnostics.



“Everything was fantastic! Midwives were beyond awesome and went over and above my expectations.” *WMGP client*

“The intuitive approach, the autonomy they gave me, the guidance and the empowerment of this natural process of pregnancy, labour and birthing my baby.” *WMGP client*

## Innovative Wheatbelt Midwifery Group Practice introduced under SIHI

Birthing services were restarted in Northam in November 2017 with the introduction of the Wheatbelt Midwifery Group Practice (WMGP). In the first six months after reopening the maternity service in Northam, the WMGP:

- booked 49 women into the service in the antenatal period
- completed 225 antenatal occasions of service and 177 postnatal occasions of service
- cared for 10 women during labour and birth.

A six month evaluation of the WMGP was conducted in 2018 to ascertain consumer satisfaction as well as midwifery staff satisfaction.

The evaluation revealed women who had used the service rated the relationship with their primary midwife as excellent in terms of trust, support and empowering them to plan for the birth they wanted. Midwives were also very positive about the service, with 100 per cent reporting an increased feeling of responsibility and autonomy, support from colleagues and pride in being a midwife. They also enjoyed their relationship with their clients and increased use of their midwifery skills.



### Case study

#### Pregnant women stay home as community midwife comes to Jurien Bay

**When Jurien Bay mum Kiyara Clifford was pregnant, she had to make several trips to Perth and Geraldton to see specialists and felt anxious about her baby's health.**

But her travelling and stress were dramatically reduced with the help of Western Wheatbelt community midwife Martha Simpson (pictured right, with baby Eiden).

Martha supports pregnant women across the region in the months leading up to their births, offering a “shared care” model of service. She conducts their antenatal checks in their home or at their local health centre, which reduces their need to travel to the metropolitan area.

Martha liaises with the woman's GP, obstetrician and birthing hospital as necessary.

Kiyara said while Martha did a great job at the regular health checks that she and the baby required, what she most appreciated was how this care eased her anxiety.

“I didn't have to see a doctor for anxiety during my pregnancy, because Martha's care relaxed me,” she said.

“She was really lovely – she came into my home and spoke to me on the phone, and made me feel at ease, completely.”

Kiyara gave birth to a healthy baby boy, Eiden, in 2017.

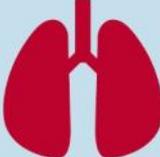
Martha said she offered women holistic care, and that one of the most important aspects of her role was to build a relationship with the mothers-to-be, as she would have an ongoing relationship with them.



# Innovative SIHI services that brought care closer to home



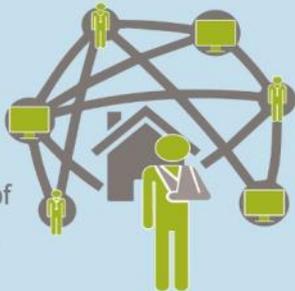
**Aged care**



**Lung disease**

**Health Navigator Service**

- 1271 people referred
- More than 12,550 occasions of service (Nov 2013–Dec 2017).



**Maternal and Newborn Services Improvement Project**

- Approx 1273 occasions of community midwifery service in Wheatbelt for mothers with more complex, higher acuity health and social issues.
- Introduced the Wheatbelt Midwifery Group Practice in Northam.
- 150 women and partners attended childbirth and parenting classes via telehealth.
- Training developed for nurses who encounter unplanned births at small Wheatbelt sites.





**Mental health**

**Diabetes Telehealth Service**

More than 2250 occasions of service with country clients via telehealth, keeping care closer to home.

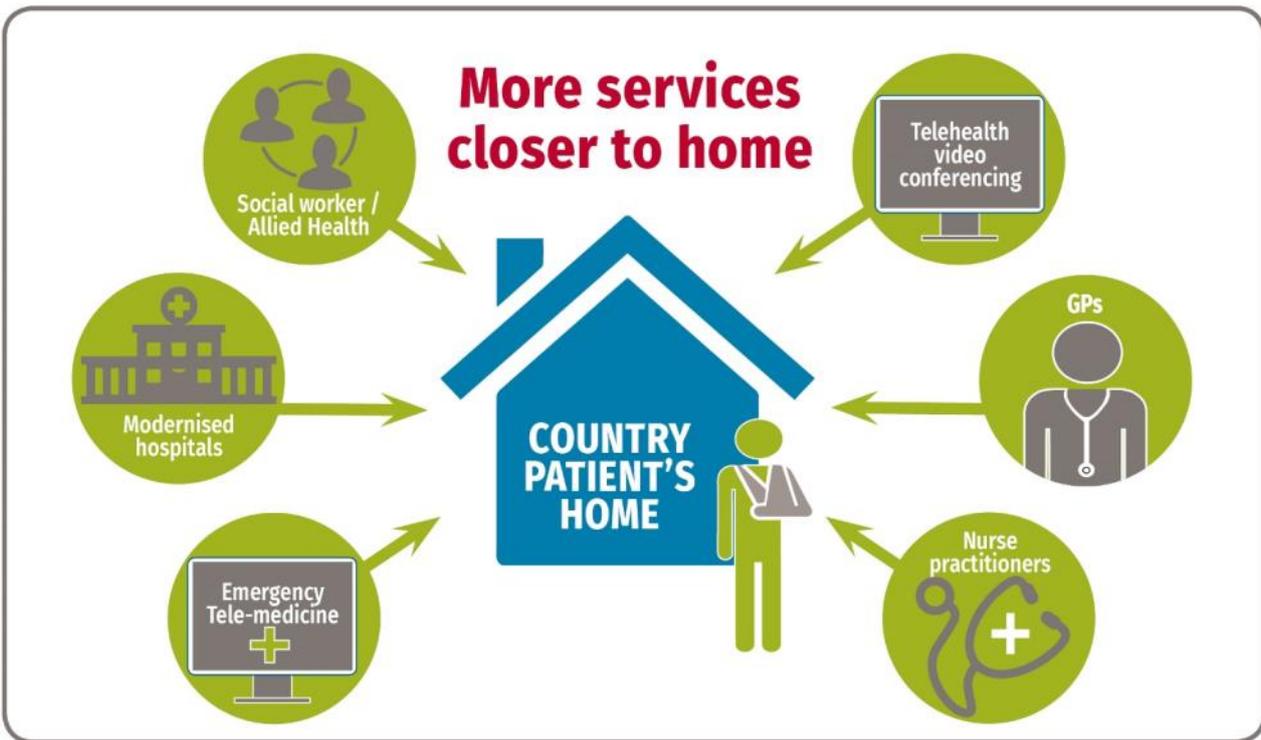




**Heart disease**



**Early childhood**



## Strong partnerships improved service delivery to communities

### Highlights

- SIHI enabled the **development of valuable partnerships** between WACHS, NGOs, private GPs and other government agencies
- Strong partnerships improved **NGOs' understanding** of rural health

Many of the new primary health care initiatives introduced under SIHI were delivered through partnerships with NGOs, supporting the Government's Delivering Community Services in Partnership Policy, 2014.

There were many opportunities to develop service partnerships with both traditional and non-traditional partners in other government agencies and within the non-government sector.

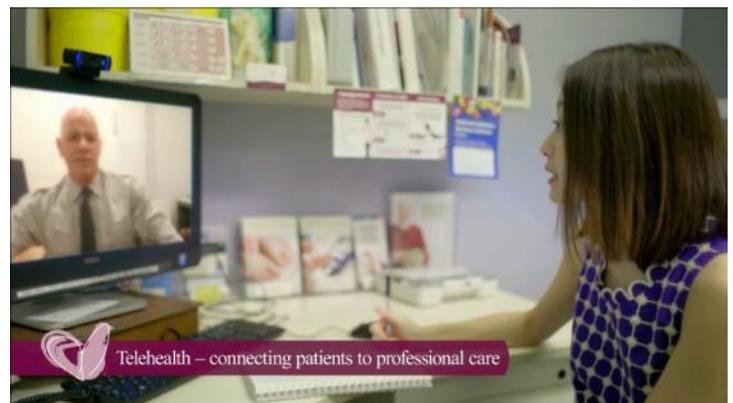
Through SIHI, WACHS forged good working relationships with the Silver Chain Group, YMCA, Amity Health, Diabetes WA, the Asthma Foundation of WA, specific services within the WA Education Department, non-government Aboriginal health services, mental health service providers, multiple private GPs and allied health professionals.

The partnership approach under SIHI enabled WACHS and the NGOs to work together to build the NGOs' understanding of rural health, to better address the needs of country patients.

It also provided pathways to transition important services developed

under SIHI to NGOs where appropriate, ensuring greater coordination and easier access and equity for consumers across country WA managing complex chronic conditions.

NGOs now deliver a broader range of services, providing various opportunities to trial the use of telehealth to enhance service access, service quality and safety across regional WA.



### Case study

#### SIHI school speech program wins national YMCA award

**A kindergarten speech therapy program, designed by WACHS in partnership with YMCA speech pathologists and funded by SIHI, received a national accolade.**

The Kindergarten Oral Language Program (KOLP) that operated in the Central Great Southern, won YMCA Australia's Program of Excellence Award at the 2016 YMCA National Convention.

KOLP started in partnership with the YMCA in 2013 to improve the oral language skills of young children in the region. The area has growing numbers of migrants, refugees and Aboriginal children who have a need for speech pathology services. Each year across 13 schools, between 160 and 180 kindergarten students participated, averaging 14 per cent Aboriginal children, 14 per cent children from culturally and linguistically diverse backgrounds and 22 per cent children with speech and language difficulties.

"All schools saw a marked improvement in the number of children

achieving language benchmarks," a WACHS senior speech pathologist said. "One school saw a jump from only 22 per cent of children reaching the benchmark before the program, to all of them reaching it following KOLP intervention.

"Strong oral language skills are directly related to how well children will do with reading, spelling and writing throughout their school years, so this program made an incredible difference to their future progress."

The YMCA and WACHS Great Southern facilitated a service model that is now sustainable for future years in the Central Great Southern through the WACHS Primary Health Service. YMCA is actively pursuing funding opportunities to further develop the program in other regions.

## Conclusion

The SIHI investment increased the range of options for country communities to access GP and primary health services, including by Aboriginal and more vulnerable people. As a result, non-urgent visits to regional hospital EDs reduced in the SIHI region.

The new SIHI primary health services sought to address identified community health needs and some of the social determinants of health and health inequities that country people experience, through innovative programs and initiatives.

An example of this was the introduction of the Wheatbelt Midwifery Group Practice, which increased continuity of care and addressed access issues to birthing services for Wheatbelt women due to declining numbers of GP proceduralists and midwives in the region.

The qualitative and quantitative evidence available demonstrated that the primary health service trials achieved positive outcomes for service users and communities, and improved the consumer experience of care and people's ability to self-manage their chronic conditions.

## Challenges and future opportunities for GP and primary health services

- While it is early days in terms of population trends, anecdotal evidence and patient profiles indicated the positive effects of the trial primary health services may have contributed to the reduction of non-urgent presentations at SIHI EDs and fewer people needing to be admitted to hospital. Academic literature supports this trend, and gains in hospital avoidance will continue to be monitored.
- Strengthened monitoring and evaluation frameworks for all new primary health services are required to capture a broader range of information, including more robust quantitative and qualitative data, and will be assisted by the full implementation of the Community Health Information System (CHIS) during 2018–19.
- The WACHS Maternal and Newborn Strategy has been developed to support sustainable, safe, contemporary country maternity services from pre-pregnancy to antenatal care and birthing services to postnatal care.



## Key finding 3

# Telehealth transformed WA's regional health landscape

Access to high quality specialist healthcare has always been a given for people in the metropolitan area, but not for those living in country areas.

For city dwellers, seeing a specialist for an outpatient appointment might involve a short commute. For those in rural WA, it could involve a long drive, bus trip or flight, time away from family, work and accommodation costs.

Through SIHI, WACHS invested in world-class telehealth enabled services that connect health providers to patients in their communities, and reduce the burden of travel and dislocation from family and other commitments.

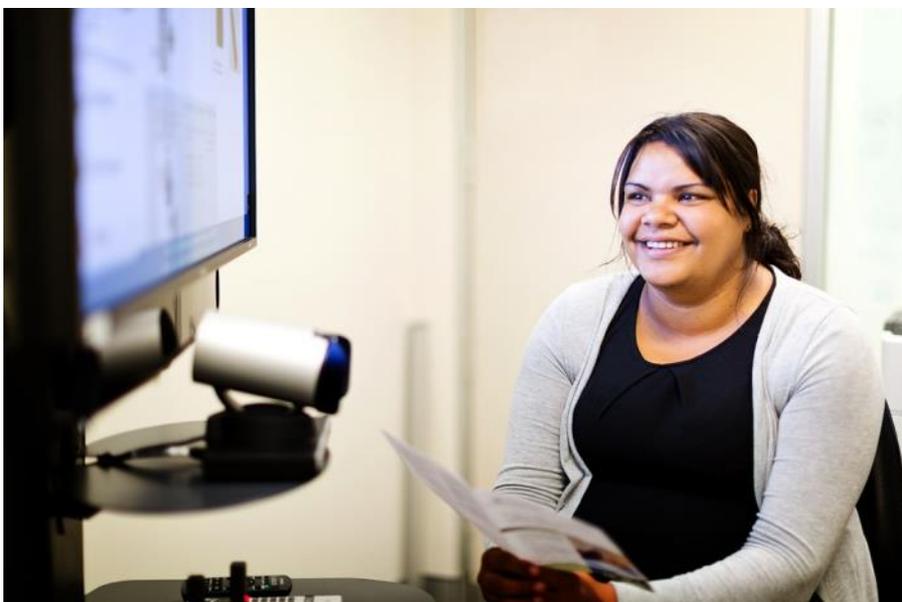
Telehealth revolutionised the delivery of healthcare in country WA, significantly closing the gap in health inequalities and providing optimal and timely access to specialist services for all country people.

Telehealth technology delivers health services within a variety of settings including hospitals, clinics/health centres and patients' homes. Telehealth as a mode of service delivery can be used for inpatient, outpatient, rehabilitation, primary health, planned and unplanned (emergency) health service provision. It includes the provision of clinical and education services to clients, education and training for clinicians and other health workers, and supports interactions between clinicians as well as between clients, family members and clinicians.

WACHS works closely with metropolitan health service providers in delivering access to specialist services for patients via telehealth. This collaboration has been crucial in the successful implementation of the statewide telehealth service.

Telehealth has enabled:

- the transformation of country emergency and acute care through provision of 24/7 specialist emergency support for regional doctors and nurses
- people living in country WA to access improved, safe, quality emergency and acute care that is in line with the WA Health Clinical Services Framework and the WACHS Emergency Care Clinical Framework
- provision of new service delivery models of care including TeleStroke, TeleOncology and TelePalliative Care services, keeping patients closer to home and on country
- consumers access to a range of outpatient, mental health and primary care services and chronic conditions education in country areas that would otherwise only be available in the metropolitan area or a large regional centre.
- training and upskilling of clinical staff and a specifically planned emergency medicine curriculum delivered to regional clinicians via videoconference.



Since the introduction of SIHI, there have been more than 67,800 Emergency Telehealth Service consults and more than 69,500 clinical outpatient appointments via telehealth, keeping country people closer to home and on country.

## Prior to SIHI

Prior to SIHI, residents of the catchment area had limited local access to health and clinical services via telehealth. People had to travel to a larger regional or metropolitan centre for specialist outpatient and other types of care that were not available close to home (e.g. sessions with a diabetes educator). For some, the barriers in accessing healthcare were too great to overcome and they didn't receive the care they needed.

The use of telehealth to deliver health services to people in regional WA has been evolving since the early 2000s when individual clinicians willing to use new technologies for consultations with patients began undertaking clinical telehealth appointments.

By 2010 prior to SIHI, interest in telehealth services was increasing, however there was limited uptake of telehealth across the health system due to a range of issues including:

- telehealth was not identified as a clear strategic priority by health service providers across all clinical services
- limited access to, and maintenance of appropriate telehealth equipment

- ad hoc services initiated by individual champion clinicians without the support to develop robust service models for specialties
- lack of telehealth awareness as a mode of health service delivery meant requests by clinicians, consumers or family members were uncommon
- lack of clear funding models to support telehealth-enabled outpatient clinics
- traditional workflows impeding simple and cost-effective delivery by telehealth
- challenges providing clinical or administrative support at both providing and receiving locations
- lower quality video and audio relative to today's standards.

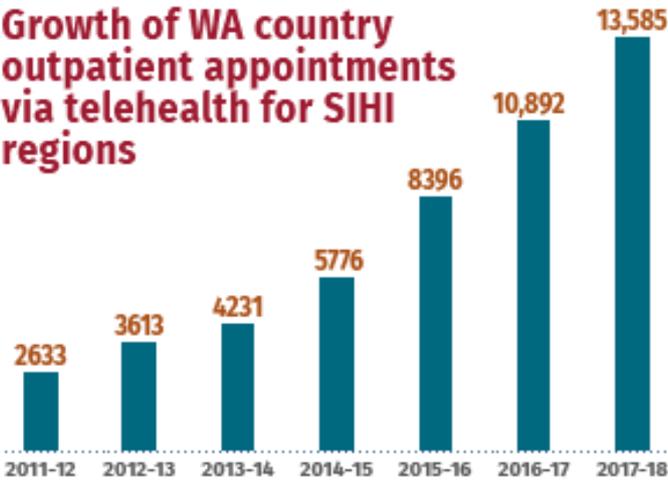
Some outpatient clinic specialties such as mental health, burns, ophthalmology and neurology were early adopters of telehealth and the modality was being increasingly used for staff meetings, staff and patient education and training.



# Snapshot: telehealth outpatient activity in country WA

achieved through strong partnerships between country and metropolitan health service providers

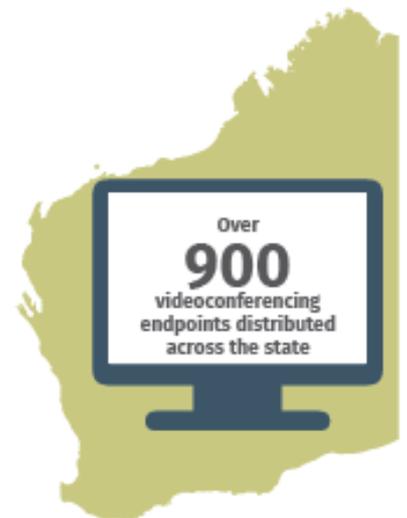
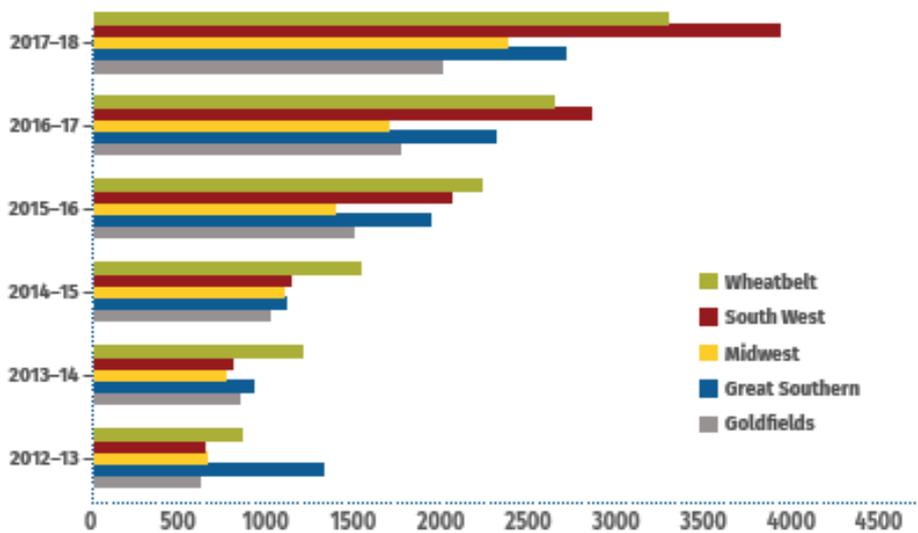
## Growth of WA country outpatient appointments via telehealth for SIHI regions



## Top 5 outpatient specialties delivered via telehealth in 2017-18

Specialty	No. of appointments
1 Plastic surgery	3,635
2 Haematology	1,362
3 Orthopaedics	1,224
4 Respiratory medicine	1,175
5 Gastroenterology	1,025

## Telehealth consultations in SIHI regions 2011-12 to 2017-18



## In 2017, telehealth outpatient activity saved WA country patients from travelling 27.3 million kilometres

for outpatient appointments.\*

That's to the moon and back about **35 times!**

**18,224**

country outpatient appointments via telehealth in 2017, 30% increase on 2016

Average outpatient consults per week via telehealth in 2017

**350**

More than **7000**

mental health services were delivered via telehealth across country WA in 2017



Fuel savings:

**\$3.95 million**<sup>^</sup>

Kinder to the environment: Saves

**5000 tonnes** of carbon<sup>#</sup> being emitted



Equivalent to planting

**75,000 trees**<sup>\*\*</sup>

<sup>^</sup> Based on average rate of fuel consumption per passenger vehicle, on 2017 ULP average regional prices.  
<sup>#</sup> Based on an annual distance of 15,000kms a medium size petrol car (7.5L/100km) produces 2.7 tonnes of CO<sub>2</sub> emissions.  
<sup>\*\*</sup> Based on 15 trees/tonne of CO<sub>2</sub>.

\* Total distance by road from receiving location to Perth and return.  
<sup>\*\*</sup> Excludes mental health occasions of service.

## Country people received more access to health services closer to home via telehealth

### Highlights

- **More than 67,800 ETS occasions of service** across 79 sites statewide
- More than **30 different outpatient specialties** available to country people via telehealth
- **Telehealth delivered clinical services** for diabetes, respiratory illness, oncology, stroke, mental health and more

- The statewide **ETS** introduced under SIHI in 2012 delivered more than **67,800 occasions of service and expanded to 79 sites** (44 in the SIHI region). There is now 24-hour, seven-day-a-week access to specialist emergency care across a reliable and consistently available telehealth platform with helpdesk and infrastructure support. The ETS was supported with high quality telehealth equipment set up in 79 hospitals and nursing posts (as at 30 June 2018).
- The number of **outpatient specialties provided via telehealth** increased significantly under SIHI, with patients living in the SIHI regions accessing **a range of different specialities and sub-specialities** such as burns, plastic surgery, gastroenterology, orthopaedics and haematology.
- **Clinical services for those with chronic conditions** were developed using telehealth as the key mode of service delivery for diabetes education services, respiratory services, oncology, ophthalmology, stroke and mental health services.
- The SIHI investment enabled the development and maintenance of a **highly reliable, quality telehealth platform** that technically supported the establishment of a wide range of health services delivered across the State via telehealth.

These services delivered via telehealth made positive differences to WACHS clients' health outcomes and improved their ability to better manage their conditions. Country patient stories indicated the difference telehealth made to their lives.

### Case study

#### Tayten gets her 'normal' life back, thanks to telehealth

**Life has been a bit difficult in recent years for 11-year-old Kalgoorlie girl Tayten Dowson.**

In 2012 she was diagnosed with the debilitating, life-long condition ulcerative colitis and she and her mum, Haylie, had to live at Princess Margaret Hospital for eight months.

Since then her life has been punctuated with ongoing medical appointments and Tayten often has to miss several days of school to get to Perth to see her team of specialists.

But she recently started using telehealth technology for her appointments – so she can now connect to her doctor using videoconferencing equipment at Kalgoorlie Hospital, instead of spending three days away from home travelling.

This has made a significant difference to Tayten's quality of life – and to her family, who were all affected by Tayten's medical needs.

"My husband works shift work so I have to call in 'the village' to help us with our other two children when I'm away with Tayten," she said.

"Tayten's condition makes travelling long distances difficult and uncomfortable, and so removing travel from her life is better for everyone.

"Telehealth is so, so good – Tayten gets to do her appointment at the local hospital, goes back to finish her day at school, and then she gets on with her next activity. Normality is so important for kids who have been unwell."

Thanks to telehealth, Tayten now has greater capacity to manage her appointments and enjoys a better quality of life closer to home.



## SIHI service delivery models using telehealth

Following the introduction of SIHI, the range of health services delivered via telehealth grew significantly. There were three key health service initiatives:

### Emergency Telehealth Service (ETS)

The ETS was a significant service implemented through SIHI. The impact of ETS services is discussed in detail on page 22.

### Outpatient appointments via telehealth

Country residents can access telehealth in their nearest town to consult with specialist health providers who are based in the metropolitan area or regional centres, rather than travelling for outpatient appointments.

Following the telehealth investments in 2011, the number of outpatient consultations via telehealth steadily increased across the five SIHI regions. The total number of outpatient telehealth consultations for all five SIHI regions is estimated to have grown by 416 per cent, from 2,633 consultations in 2011–12 to 13,585 consultations in 2017–18.

There was significant growth in telehealth outpatient consultations across all SIHI regions, for example in the Wheatbelt, the number of consultations increased from 545 in 2011–12 to 3,117 in 2017–18, representing growth of 472 per cent.

There is scope for this trend to continue, as telehealth still represents a very small proportion (less than two per cent) of all outpatient consultations for residents in WACHS regions.

### New specialist clinical services delivered via telehealth (excluding ETS)

In addition to expanded outpatient services, there was significant service development to improve access to specialist tertiary services such as stroke, oncology and palliative care through the SIHI investment, including:

#### TeleOncology

There were significant increases in services to country patients via telehealth for medical oncology, radiation oncology, haematology and palliative care. In 2017–18, a total of 2,106 oncology telehealth occasions of service were delivered to WACHS regions, a 52 per cent increase from 2016–17.

In addition to this, in 2017–18 the TeleOncology Project established/expanded the following services:

- **TelePalliative Care in the Home** – Established to support carers and oncology patients in country WA who wish to die at home. Without the TelePalliative Care service, these patients would be unable to remain at home. In 2017–18, TelePalliative Care was expanded from the Wheatbelt to three additional regions (Midwest, South West and Great Southern).
- **Oral Cancer Treatment Supervision for country patients** – Established to provide a statewide specialist nursing service via telehealth for patients who were prescribed oral cancer treatment by Fiona Stanley Hospital (FSH). A total of 41 patients from five regions across country WA were referred to the service during the initial phase (Sept 2017 to April 2018) and a total of 180 outpatient service events were provided, with 40 per cent via telehealth.
- **TeleHaematology Service** – Implemented in the Great Southern and Goldfields regions in 2017–18, resulting in more equitable access to haematology services through a mixed model of service delivery that combined telehealth and face-to-face visits. Commencing in August 2017, there were 353 appointments within these regions to 30 June 2018.

(continued.....)



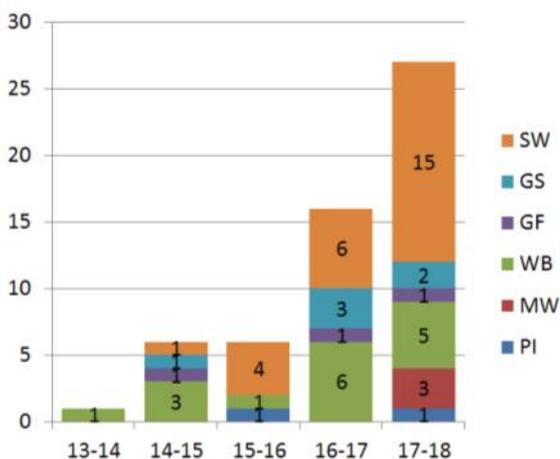
### Rural Acute TeleStroke Service

Introduced in early 2016, the service provided country stroke patients in regional EDs with time-critical specialist emergency neurology consultations via telehealth. This improved access to time-critical treatment, considerably improving stroke patient outcomes.

Key achievements of the service included:

- Emergency Acute TeleStroke consultation rates for country stroke patients increased from 57 per cent in Quarter 1, 2017–18 to 75 per cent in Quarter 4, 2017–18.
- The number of country patients receiving endovascular clot retrieval increased from 18 in 2016–17 to 27 in 2017–18 and the number of regions where patients could access this treatment increased from one to six WACHS regions.
- The number of country patients who received thrombolysis (revascularisation) therapy following stroke under Acute TeleStroke guidance in WACHS sites increased from one in 2016–17 to eight in 2017–18, with two WACHS hospitals (Albany and Bunbury) now providing thrombolysis for eligible stroke patients. This treatment was previously unavailable at country sites.
- The Rural Acute TeleStroke Service was a finalist in the WA Health Excellence Awards in 2017 and 2018.

### WACHS endovascular clot retrieval rates



### TeleStroke Rehabilitation

Introduced in April 2018, this proof of concept service enables WACHS-Midwest stroke survivors to undergo rehabilitation via telehealth at Geraldton Hospital, provided by stroke rehab clinicians at Osborne Park Hospital.

From April to June 2018 five patients admitted at Geraldton Hospital received specialist stroke consultations from Osborne Park Hospital via telehealth as part of a multi disciplinary team approach across metro and country sites.

Evaluation of the impact and benefits for stroke patients is currently underway, in partnership with Curtin University. Preliminary findings indicate greater compliance with clinical best practice and reduced transfer to the metropolitan area for Midwest stroke patients requiring rehabilitation.

### Tele-mental health

The Tele-mental health service has been in operation since 2000. The SIHI investment provided additional videoconferencing equipment to be installed in regional sites, enabling access to Tele-Psychiatry and staff education to better support regional clinicians and patients.

To illustrate the growth of tele-mental health under SIHI, activity increased in the Wheatbelt from 117 occasions of service in 2012 to 697 occasions of service in 2018. This included face-to-face sessions with patients, case conferencing and staff education sessions.

The significant increase in occasions of service in the Wheatbelt was noteworthy as the region is located close to the metropolitan area, yet patients chose to stay closer to home and connect by videoconference.

### Diabetes Telehealth Service for country WA

(See page 35)

### Tele-ophthalmology

The Tele-ophthalmology service (in partnership with Lions Eye Institute) for the Goldfields and Great Southern regions enabled coordination of care via telehealth between private optometrists, ophthalmologists, GPs, nurses, diabetes educators, health workers, and patients and their families.



## Case study

### Telehealth allows Fred to do rehab from the mines

**Despite being diagnosed with Parkinson's disease in 2013, Fred Sellars has only recently been able to take part in regular rehabilitation and support classes.**

His location on a minesite 30km from Laverton meant driving the nine-hour round trip to Kalgoorlie each week was just too taxing on him and his wife, Wendy.

That was before Kalgoorlie Health Campus started offering therapy by telehealth.

His GP in Kalgoorlie let him know a weekly Parkinson's support group was starting up at the hospital. Allied Health staff at the hospital then told him he would be able to attend the group as well as regular physio, speech and occupational therapy sessions by telehealth.

An increasing number of health practitioners such as allied health therapists are using telehealth to make their services more accessible.

Services offered so far include self-care re-training, strength exercises, mobility and balance exercises and memory training from home by occupational and speech therapists and physiotherapists. The Goldfields rehabilitation team will also offer the option to attend education sessions by telehealth from around the region, including stroke and falls prevention education.

Fred has now had a handful of telehealth sessions from home at Mt Windarra Mine, enjoying the chance to catch up with others who have Parkinson's as well as take physical therapy sessions.



## TeleNeuroCare Service

**Many people in rural areas who have experienced a stroke have lower access to specialist treatment and increased disability following stroke. Stroke survivors also have a high rate of readmission to hospitals.**

Access to follow-up care and support in the community after experiencing stroke and other neurological conditions is advantageous for country patients, often preventing readmission to hospital.

Under SIHI, WACHS partnered with the Neurological Council of WA (NCWA) to trial the TeleNeuroCare Service in the Wheatbelt in February 2017. The service was established to provide Wheatbelt clients with access to community neurological nursing services via telehealth, to assist them with managing their condition.

Between Feb 2017 and June 2018, NCWA provided 163 TeleNeuroCare consultations with Wheatbelt residents and monthly education sessions to NCWA clients, carers and relevant country workforce, with a total of 212 attendances.

The success of the service saw expansion into the Midwest, South West and Great Southern regions in 2017–18. Feedback received during in-home TeleNeuroCare consultations indicated telehealth is valued by clients as a flexible option for receiving post stroke support.

Number of NCWA NeuroCare consultations delivered via telehealth



## Telehealth Awareness Week

### Accessing clinical telehealth services relies heavily on public awareness and clinician advocacy.

In 2017, WACHS introduced Telehealth Awareness Week—a statewide promotional campaign to raise awareness and increase the use of non-admitted telehealth-delivered services in country WA.

Following the success of the initial Week, an expanded Telehealth Awareness Week was launched in June 2018. The integrated campaign included paid social media and regional media advertising, unpaid promotional and social media activities, displays at regional and metropolitan hospital sites and extensive media coverage of patient and clinician stories about telehealth services.

Some of the highlights included:

- A 90 second video developed in-house for social media distribution that achieved a reach of 156,000 people, 485,000 impressions, 42,000 video views (3+ seconds) and over 250 shares over four weeks.
- Paid social media advertising on Facebook and Google display ads that achieved a combined total of over 2.5 million impressions and 7,400 link clicks.
- Close collaboration with key health providers, medical workforce agencies, consumer advocate and district health advisory groups enabled

Telehealth Awareness Week to reach targeted audiences.

- Unprecedented coverage across traditional media outlets including news stories on GWNTV (statewide) and Seven News Perth, telehealth stories in regional newspapers across the state as well as national and statewide online editorial coverage.
- Support from more than 50 regional local government organisations who posted the telehealth placard video on their Facebook pages.



It's Telehealth Awareness Week!

WA Country Health Service

Like Comment Share  
11 Comments 176 Shares

## Evaluation survey

Prior to Telehealth Awareness Week 2018, a paid omnibus survey was conducted with 200 country people to assess their awareness and understanding of telehealth. The survey was also conducted following the Telehealth Awareness Week campaign with 200 different country people.

The survey showed the number of people who had heard of telehealth increased from 45 per cent pre-campaign to 71 per cent post-campaign. Those who had an understanding of telehealth appointments increased from 33 per cent to 60 per cent, following the campaign and 67 per cent said they would be interested in a telehealth appointment.

The SIHI telehealth investment program expanded the existing WA Statewide Telehealth Service to enable more emergency, outpatient and primary health care service delivery via videoconferencing, improving access to specialist and acute care for people in regional WA communities.

Investment included telehealth technology (900 videoconferencing endpoints in more than 200 sites across WA), Service Desk availability, training for WACHS staff and its service partners and service development.

## Conclusion

Under SIHI, country residents increasingly were provided with the opportunity to use telehealth in their nearest town to consult with specialist health providers in the metropolitan area or regional centre, rather than travelling for medical appointments.

Telehealth also enabled the provision of the ETS at 79 health sites, supporting local clinicians to save lives and significantly improving outcomes for emergency patients in smaller WACHS hospitals.

People with various health needs, specialist doctors and health professionals embraced telehealth as a new way of accessing and providing healthcare in regional WA.

Telehealth also supported important education and training programs across regional WA for WACHS staff, country GPs and provider partners, including in the SIHI region.

An independent review of SIHI by Curtin University in November 2016 concluded the availability of telehealth across a range of service provision areas was a major achievement of SIHI and had improved access to healthcare for those living in the SIHI region. The review recommended this strength should be built on in future program iterations.

## Challenges and opportunities for telehealth services

- Increasing the uptake of telehealth was a key strategy of SIHI to increase the provision of care closer to home. While the uptake of telehealth for emergency presentations via ETS was successful, adoption of telehealth across the primary health care trials, clinical telehealth and outpatient telehealth was varied. Telehealth represents a very small proportion of all outpatient consultations for WACHS residents, however the numbers of consultations and specialities being provided by telehealth steadily increased under SIHI.
- There is enormous potential for further growth in utilisation of telehealth to provide more outpatient and clinical services for both country and outer metropolitan people. This will require significant change management and clinical redesign including, system-wide strategic direction, champions and action planning to drive change across WA to enable telehealth consultations to be regarded as business as usual alongside face-to-face consultations. To this end, WACHS is developing a Digital Innovation Strategy to drive the changes necessary to harness digital opportunities that will improve healthcare and health outcomes for country people.

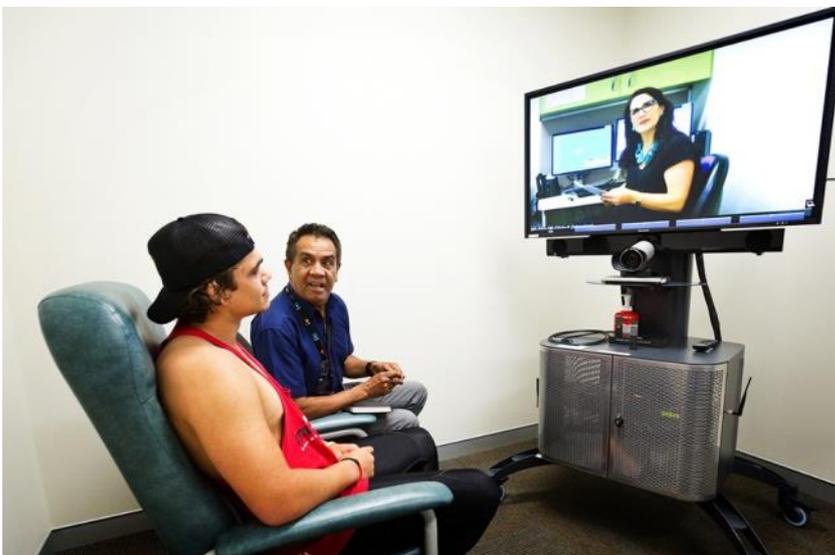
### Advantages of telehealth

*Rural Health West SIHI Evaluation: A Community Perspective, February 2016*

“Access to services eliminates waiting for a specialist or travelling to Perth.” *Shire CEO, Esperance*

“Time saving; addresses transport issues and minimises dislocation from having to leave town. Patients from outlying communities also benefit, minimising their travel.” *Shire CEO, Merredin*

“Huge advantages because tyranny of distance is real.” *Shire CEO, Irwin*



## Key finding 4

# Economic benefits of SIHI

The reduced healthcare demand benefits as a result of the SIHI program were estimated to be \$77 million from 2010–11 to 2015–16

**Improvements to the SIHI medical workforce, health services and reforms resulted in financial and non-financial benefits for country residents and the WA economy.**

### Prior to SIHI

Before the introduction of SIHI, a lack of GPs in many country towns was a factor in people with non-urgent conditions visiting emergency departments at local hospitals.

As a result, ED doctors and nurses were less able to focus on the more complex and urgent emergency presentations to SIHI hospitals due to the high proportion (around 74 per cent) of people with non-urgent issues coming to country EDs instead of visiting their GP.

Specialist care was also difficult to access in many country towns prior to SIHI. People had to travel to Perth for specialist outpatient appointments which meant funding travel, fuel and overnight accommodation costs, as well as the inconvenience of having to take time off work and the impact on family.

While PATS provides a limited financial subsidy for travel and accommodation for eligible regional patients, it does not cover the high cost of Perth accommodation, so patients could be left out of pocket.



## SIHI improvements brought economic benefits to WA's regional communities

### Highlights

- It is estimated the SIHI investment of \$133 million in healthcare service enhancements resulted in a **cumulative benefit of \$192 million**
- SIHI **saved the WA economy an estimated \$77 million** in reduced healthcare demand

With the introduction of SIHI, there were significant improvements that addressed these issues, including better access to doctors, both in regional communities and country hospital EDs and safer, higher quality health and medical care.

These enhancements also led to economic benefits for WA and SIHI communities. Economic benefits measure some of the positive outcomes as a direct result of the SIHI investment, such as having additional doctors working in regional towns, lower healthcare costs for some patients and more efficient operations, making the health dollar go further.

Robust economic analysis conducted for the *SIHI Interim Evaluation Report* (November 2016) estimated the SIHI investment of \$133 million in healthcare service enhancements up to the 2015–16 financial year resulted in a cumulative benefit of \$192 million to the SIHI community and WA economy from the start of the SIHI recurrent programs in 2011–12 — a net benefit of \$59 million. So in that time, for every dollar that was invested in SIHI programs, there was \$1.44 in economic benefits returned.

There are different categories of benefits measured, but the largest group of economic benefits are from 'reduced healthcare demand'. These benefits come from the decrease in patients requiring hospital-type services that were clinically inappropriate or preventable. Improvements in quality and access to local primary health care can lead to these benefits.

For example, some patients may visit a local GP instead of going to the ED for non-urgent cases, or a higher quality service in the local ED may mean that patients do not need to return to the ED or hospital following initial treatment.

The additional doctors in the SIHI catchment were valuable to the community because it meant more patients could be seen each year and care was available consistently.

The SIHI investment also supported employment of an additional 55 GPs in the region as well as clinical and other staff to support the initiative. Additional employment opportunities were created through contracted clinical and support services with NGOs.

Other estimated SIHI benefits included lower costs to WA to recruit doctors as more were staying in regional communities for longer thanks to SIHI incentives and benefits for patients not having to travel as much. This meant SIHI residents were more productive and away from work less, benefitting their communities.

### Predicted impact of SIHI on future benefits

If the SIHI investments in emergency care, telehealth and medical workforce were continued from 2016–17 until 2024–25, it is estimated there would be an additional \$566.6 million in total cumulative benefits for WA. The net benefit of the investment would be \$259.4 million for the WA economy and SIHI community.

Benefits from the combined SIHI investments to improve infrastructure and healthcare services supported the WA Department of Regional Development objectives of building capacity, retaining benefits and growing prosperity in regional communities.

“Often it is our seniors who need these services. Telehealth services for follow-up appointments removes the need for them to travel to Perth.”

“Travel can be very uncomfortable for the elderly, both physically and emotionally, who find the trip down and home again traumatic, expensive (if overnight stay is required) and very often rely on volunteers or family members to get them back and forth.”

“This can cause people to put off follow-up visits as they are reluctant to ask for that assistance and so outcomes might not be as good as they should be.” *WACHS SIHI community survey February 2016*

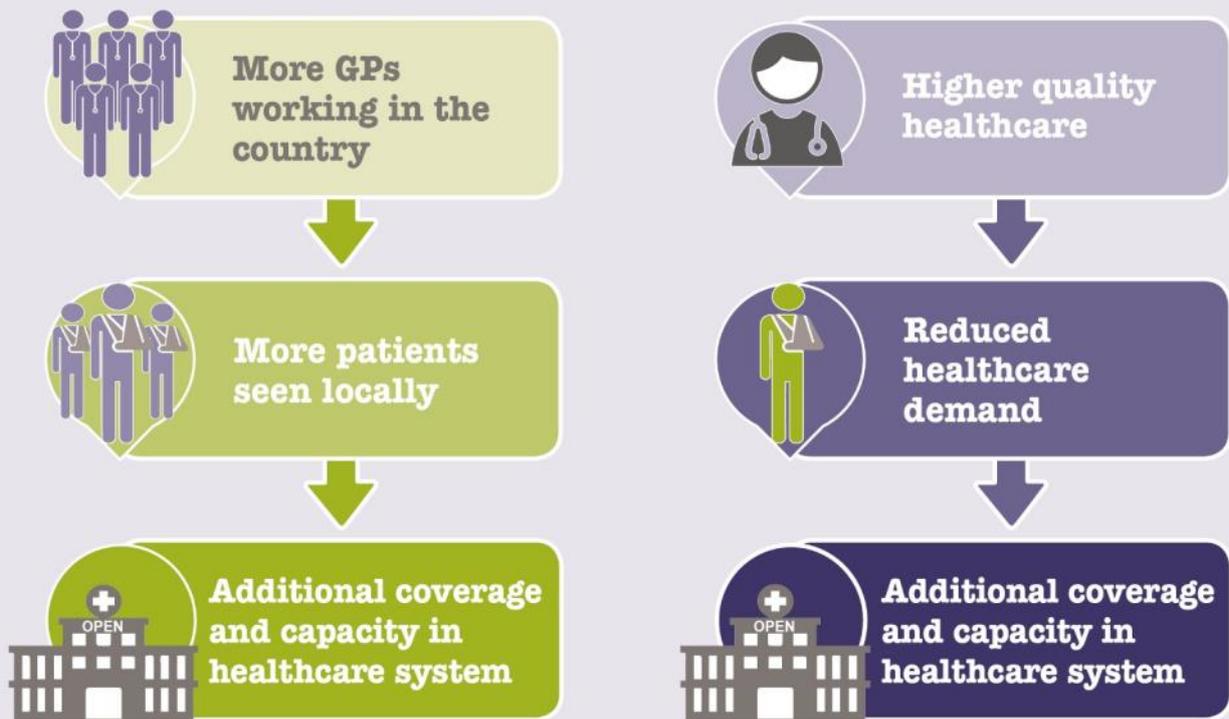
# Economic benefits of SIHI



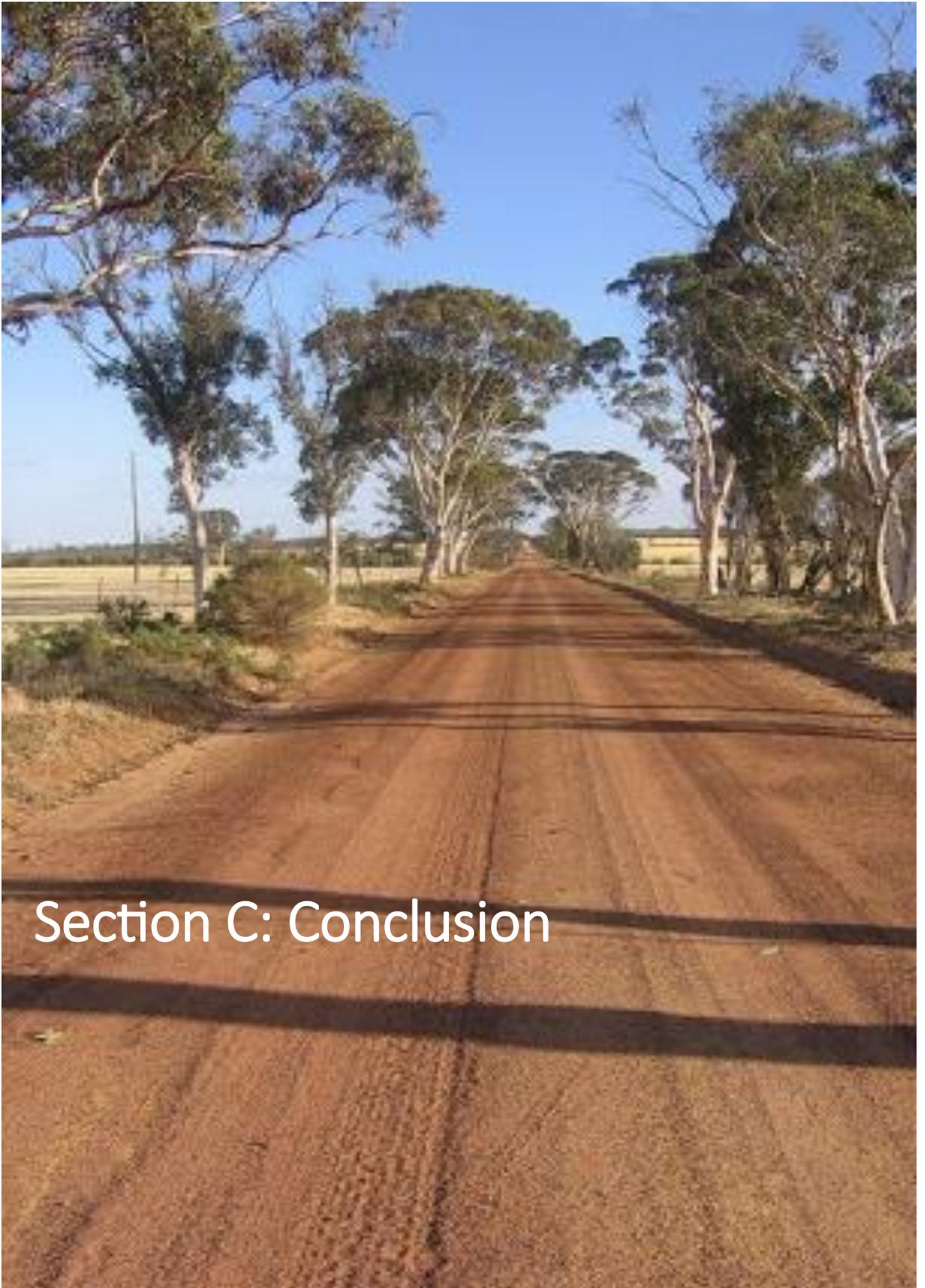
**If SIHI continues until 2024-25 \***

**Total benefit for WA: \$566.6m**  
**Net benefit for WA: \$259.4m**

## Better access to doctors and safer, higher quality healthcare for country residents



\* Investment in emergency care, telehealth and medical workforce only.



## Section C: Conclusion

# Conclusion

## The significant impacts of SIHI on regional communities have become more apparent

**SIHI significantly modernised healthcare across the southern inland area of WA by delivering high quality, safe emergency services and increasing front line community-based health and GP services.**

Through the innovative use of technology and attracting and supporting more GPs into the region, SIHI enabled the provision of an effective, safe, reliable and contemporary rural emergency service. Country residents and visitors to the SIHI region now have access to emergency services that are similar in standard and quality to those accessed by people in the metropolitan area.

A strong regional network of integrated health services delivered consistent clinical standards for emergency and acute services, enabling better clinical decision-making and improved patient safety. As a result, there was a significant reduction in clinical incidents in SIHI hospitals.

Access to more GPs in the community helped to keep more people out of hospital as well as providing a workforce for WACHS to cover

emergency care rosters or to be on-call in case of an emergency.

Greater access to primary care and outpatient services via telehealth brought healthcare closer to home for many country people, reducing the need to travel long distances, away from family and work.

This final evaluation report demonstrates that SIHI achieved its intended strategic outcomes, providing significant improvements and benefits to regional communities. In addition, the SIHI funding provided the foundation for further innovation, enabling WACHS to develop a higher level of technological readiness that will build further economic efficiencies, continuing to significantly improve access to health services and health outcomes for country patients and communities.



## The future

Building on the successes and learnings of the SIHI program, WACHS has developed the Country Health Initiative (CHI), funded under the State Government's Royalties for Regions program.

The Country Health Initiative continues the health service delivery reform process and improvements to health infrastructure capability across regional WA. The initiative aims to strengthen and reorientate rural health services to meet local, district and regional communities' needs with a focus on the following areas:

- **Emergency and acute workforce strategy** – aims to maintain and strengthen emergency, acute and maternity services to the required standard and level of care in regional Western Australia.
- **Digital innovation, transport and access to care strategy** – using technology and digital innovation, synergies between patient transport, care coordination and access to virtual care will be leveraged to ensure patients receive support and care in home or the place most convenient to them.
- This strategy includes the development of a Command Centre (including the Emergency Telehealth Service, Inpatient Telehealth Service, Mental Health Emergency Telehealth Service, Acute Specialist Services, Advanced Patient Monitoring System and the Acute Country Patient Transport Coordination Service).
- **Health services strategy** – groups a range of health service programs including Residential Age Care and Dementia Service, Renal Services, Ear, Eye and Oral Health, Meet and Greet Service, Expand the Ear Bus Program and the Pilbara Health Partnership.
- **Clinical service redesign to meet contemporary needs of consumers** – to enable improved work flows and embedding of telehealth in the clinical care work flows for the Non Acute and Outpatient services require significant change management and redesign of current clinics and service provision practices, WACHS will work closely with Department of Health and metropolitan health service providers to achieve system-wide reform inclusive of telehealth.
- **Targeted clinical telehealth innovation projects** – will design and facilitate telehealth enabled services to:
  - improve access to timely evidence based care for country patients
  - develop and improve systems to ensure a telehealth enabled and capable WACHS workforce
  - achieve sustainable efficient use of telehealth through integration in regional health service planning, reporting and funding systems.
- **Health infrastructure strategy** – development of identified capital infrastructure programs across WACHS.

## The overarching objectives of the Country Health Initiative

- Continue to reform the delivery of health services in regional WA to enable quality, accessible health services for regional communities.
- Continue to improve health outcomes for those accessing medical care in regional WA, including emergency medical care outcomes.
- Support patient access to health services.
- Increase the range of health services available in regional WA.
- Undertake significant hospital and health facility upgrades and developments to provide more contemporary facilities in line with community expectations and healthcare facilities best practice.
- Develop digital innovation capacity including telehealth, patient management and digital systems to provide more timely access to specialist clinical advice and support.

Funding totalling \$579.195 million has been committed for CHI from 2018–19 to 2021–22.

The CHI investment will contribute to building healthy, vibrant country communities that improve health service and community sustainability. This will help attract and retain people to live and work in regional areas, with flow-on effects for businesses, services and country communities.

This document is available in alternative  
formats on request.



Government of Western Australia  
WA Country Health Service

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