

Collaboration Triumphs over the Tyranny of Distance 2019

WORKING AS ONE





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This case study covers the period 2014 to mid-2019.

It was produced by eHealth NSW (2019), the organisation responsible for delivering core statewide Information and Technology infrastructure and programs funded by the Ministry across NSW Health.

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Introduction

NSW Health has overcome the tyranny of vast distances and improved health outcomes for patients in rural and remote areas by having six different local health districts work as one. It is widely recognised that Information Technology (IT) is critical to the advancement and overall quality of Healthcare delivery. This is particularly true in rural and remote locations where public health indicators can lag behind their metropolitan counterparts.¹ Implementing IT projects into rural settings across a land mass that is three times the size of the United Kingdom is daunting, but this is the challenge that NSW Health, eHealth NSW and six rural Chief Executives were determined to overcome. By fostering collaboration across entities, the Rural eHealth Program (the Program) was able to overcome the tyranny of distance and affect lasting cultural changes to the delivery of rural health services and improve patients' experiences.

In 2013, rural health services in NSW suffered a lack of IT infrastructure, resources and capability. Patients were frustrated that they had to repeat their health stories over and over and staff were drowning in paperwork. Six rural Chief Executives (CEs), working in isolation, were worried that they could never find the scale of resourcing needed to bring their local health districts up to a technological standard enjoyed by their metropolitan counterparts. Together they designed an answer that required the implementation of one system across six very different health districts, spanning vast distances.

This case study outlines how NSW Health overcame the tyranny of distance and improved patients' experience in rural and remote areas through a collaborative partnership at all levels.

The case study emerged from an independent review of the Rural eHealth Program, which was undertaken by conducting semi-structured interviews with:

- Chief Executives from the rural Local Health Districts (LHDs) to understand the strategic direction and conditions that built the trust that underpinned the collaboration
- Clinicians to understand patient specific improvements and capability requirements driving rural specific demands
- Rural LHD implementation teams to gain an appreciation of the key changes and processes used to support implementation.

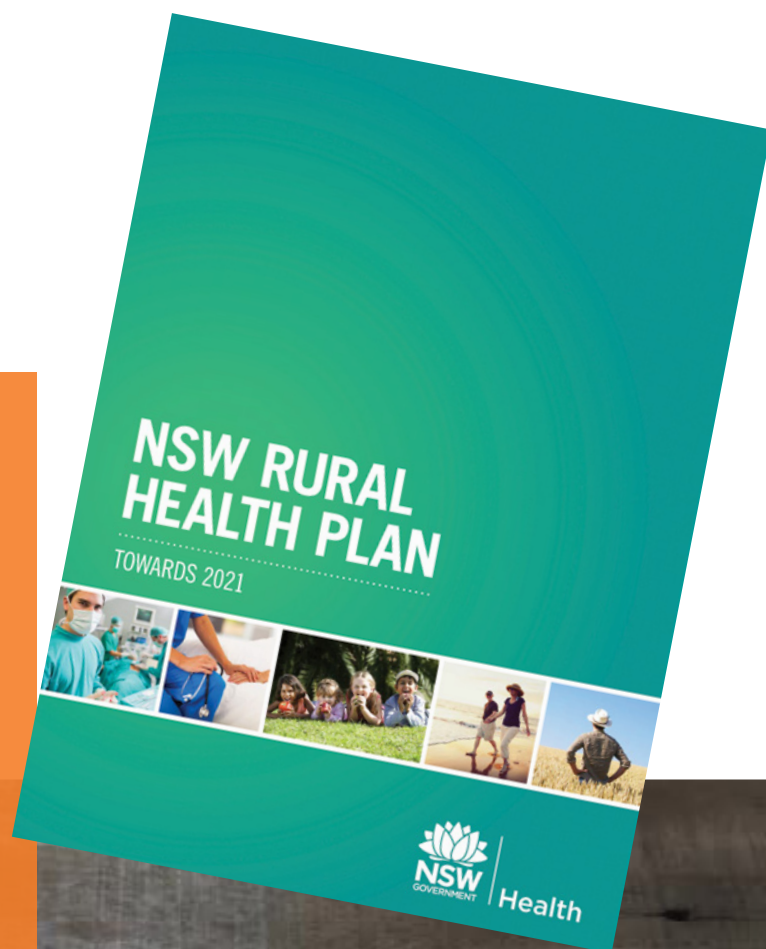
A full list of all contributors is provided on the final page of this case study.

¹Australian Institute of Health and Welfare. (2018). Rural and Remote Australians. Accessed on 5 June 2019 from <https://www.aihw.gov.au/reports-data/population-groups/rural-remote-australians/overview>

Background

In 2013 the *NSW Rural Health Plan - Towards 2021* was developed by the NSW Ministry of Health. This plan provided a clear direction for improving the rural patient experience and set the context for how IT projects could enable a much larger health improvement agenda. HealthShare NSW, now known as eHealth NSW, in consultation with the six rural LHDs and the Ministry of Health, developed the Rural eHealth Vision, Strategy and Plan 2014 – 2018 (the Plan) to deliver on this strategy. The Plan proposed a multifaceted approach to increasing the digital health capabilities of the six rural LHDs, so that rural health care could be connected and delivered as close to each patient's local community as possible.

The Rural eHealth Program was formed within NSW eHealth in 2014 to support the implementation of the Plan. The Program worked with the six rural LHDs to provide tools and resources to clinicians, staff and patients, to accelerate the adoption of eHealth solutions. The aim of the Program was to deliver safer patient care by having the right information in the right place at the right time. Over time, it would deliver more efficient use of healthcare resources by replacing paper-intensive processes and providing better information to healthcare managers. However, the Program was not without its challenges.



The Challenges

The aim was to integrate and support delivery of eHealth programs to 17,000 staff in over 150 rural and remote facilities across NSW. These facilities service a patient population in excess of 1.3 million across an area of 650 square kilometres. This scale of distance provided many challenges for the program, especially in the areas of:

- **Governance** – Limited opportunities to meet across such vast distances was causing isolated decision making, specific to LHD history, patient demographic and priorities.
- **Resources** – Limited funding across many competing priorities both within and across LHDs.
- **Capability** – Limited influence of statewide health priorities for the delivery of IT systems.
- **Influence** – Limited influence of statewide health priorities for the delivery of IT systems when rural health services makes up 16% of the overall NSW population.²
- **IT Infrastructure** – Outdated infrastructure that was unable to support digital health demands.

²NSW Government. (2018). Population. Accessed on 11 June 2019 from <https://www.nsw.gov.au/about-new-south-wales/population>



Big numbers for a huge area

The Rural eHealth Program is being rolled out via

150 

facilities

across the Western, Southern, Murrumbidgee, Far West, Northern NSW and Mid North Coast LHDs, in areas covering more than...



650K

square kms
serving a population of approximately...



1.3M 

people

and ensuring that eHealth services are available for over 17,000 staff



Results

Over the past five years, the Program has brought innovative mobile technology and standardised solutions to remote facilities across both clinical and corporate systems. The provision of additional software functionality has provided clinicians with the ability to easily record, access and report digitally on patient information, producing improved patient experiences. These system implementations have also resulted in significant technology infrastructure investment across the state, which has provided a vital platform to ensure systems could be accessed and used instantaneously and enable the rural LHDs to act as one.

The following projects and infrastructure were implemented on time and on budget as part of the Program:

- Electronic Medical Record Phase 2 (eMR2).** This enables clinicians to view patient information at the click of a button, rather than relying on paper-based patient records, which often had to be couriered between sites, giving patients a more seamless service across a range of health services.
- Community Health Outpatient Clinics (CHOC).** This supports better coordination of patient care through access to patient information and management of waiting lists and referrals between local health services, providing a more connected service for patients.
- Health Wide Area Network (HWAN).** This infrastructure underpins the delivery of the eHealth programs by providing a high-speed secure network linking all public hospitals across NSW.
- Conference, Collaboration and Wireless (CC&W).** This has enabled patient and guest WiFi as well as providing an IT platform to support a virtual rural network that facilitates information sharing across rural sites. This has also improved patients' experience by enabling them to stay connected with family and friends when in hospital.
- Single Document Page Scanning.** This scanning solution has enabled increased access to patient information within the electronic medical record for clinicians. This also provides patients with virtual access to specialists' opinion without having to leave their local community, saving patients time and money, while providing them to access to the best care possible.
- HealthRoster.** This has enabled more efficient allocation and planning of staff and greater transparency of rosters between management and staff.



Historically, clinicians worked using paper records. As a result of the eMR project, clinicians in rural areas currently access electronic medical records on average 3.5 million times a month, giving them the ability to view patient records in any location in real time."

At the time of writing, the following projects were still being supported by the Rural eHealth team members in rural LHDs:

- **Rural eMeds** is currently scheduled for completion in December 2019. This will provide 112 hospitals with electronic medication management.
- **Rural Formulary Project** is scheduled for completion by June 2020. This will create a transparent and accountable medicines evaluation system, which will promote cost effectiveness of treatment options and reduce medicine wastage. The Rural Formulary Project will improve fund management and purchasing practices, which are particularly important in small hospitals without onsite pharmacy staff.



Before and after statistics

The impact of the innovative mobile technology and solutions that were implemented on the rural work environment is evident in the statistics below.

Measure	2014	2019
Capacity of network at each site	1MB	100MB
Number of users	9,578	23,280
Number of charts opened	946,592	4,608,488
Number of staff using Skype for Business	0	3951
Number of Rural NSW Health sites WiFi enabled	0	170
Number of rural community sites WiFi enabled	0	99

Alternate Approaches

An international literature review revealed other countries were facing similar challenges in providing healthcare across great distances. An effective implementation of electronic health records and core clinical systems in rural regions in the United States found the following components were crucial to success:

- **Active staff engagement** through local implementation committees and teams
- **Targeted training** of staff before implementation to guarantee the adoption of new IT-enhanced systems⁴
- **Collaboration with technical experts** to ensure accurate translation of capability to meet requirements.

These components for success were similar to aspects of the relationship between NSW eHealth and the rural LHDs.

⁴ Richardson, D. (2016). *The Successful Implementation of Electronic Health Records at Small Rural Hospitals*. Waldon University Scholar Works.

Building on international success

How the Rural eHealth program was different

While the Rural eHealth program included the three components that were critical to the international successes, the Program displayed additional success factors that were unique to NSW and supported them "working as one".

Factors of Success

The Project Implementation Review identified six factors that led to the success of the Program:

1. Culture of collaboration across LHDs
2. A governance structure that sustained trust
3. United direction across the LHDs
4. Combined resources that delivered scale
5. Strong partnerships between rural LHDs and eHealth to deliver improved patient experiences
6. Capability for change and responding to local needs.

The combination of the six factors is demonstrated in the conceptual diagram below. The collaboration culture underpins the entire approach while the governance provides the overarching mechanism to enable the other four areas to achieve results.



GOVERNANCE THAT SUSTAINED TRUST

United
Direction

Combined
Resources

Strong
Partnerships

Capability

CULTURE OF COLLABORATION

1. Culture of Collaboration

A common theme emerging from the Project Implementation Review was the fundamental way the Program influenced the culture of rural health. The culture shifted from one of feeling isolated and left behind to one of collaboration and success across all areas of the LHDs. They now have a successful and established way of working that underpins how they work as one to improve patients' experiences. This is evident in the way the rural LHDs are approaching research and process standardisation to support prescribing medication.

The table below captures the key shifts in culture over the past six years.

2013	2019
Isolated	Act as one
Sense of lagging behind	Pride in being ahead of other areas
Limited sharing of information	Strong partnerships
Individual approach	Standardised approach
Lack of influence	Strong and respected governance framework
Lack of resources	Combined and shared resources
Low connectivity and paper-based systems	Reliable, trusted network with electronic records
Low levels of capability in change management	Capable experienced staff supported by learning networks
Reactive and unstructured change management model	Planned, integrated and coordinated change management



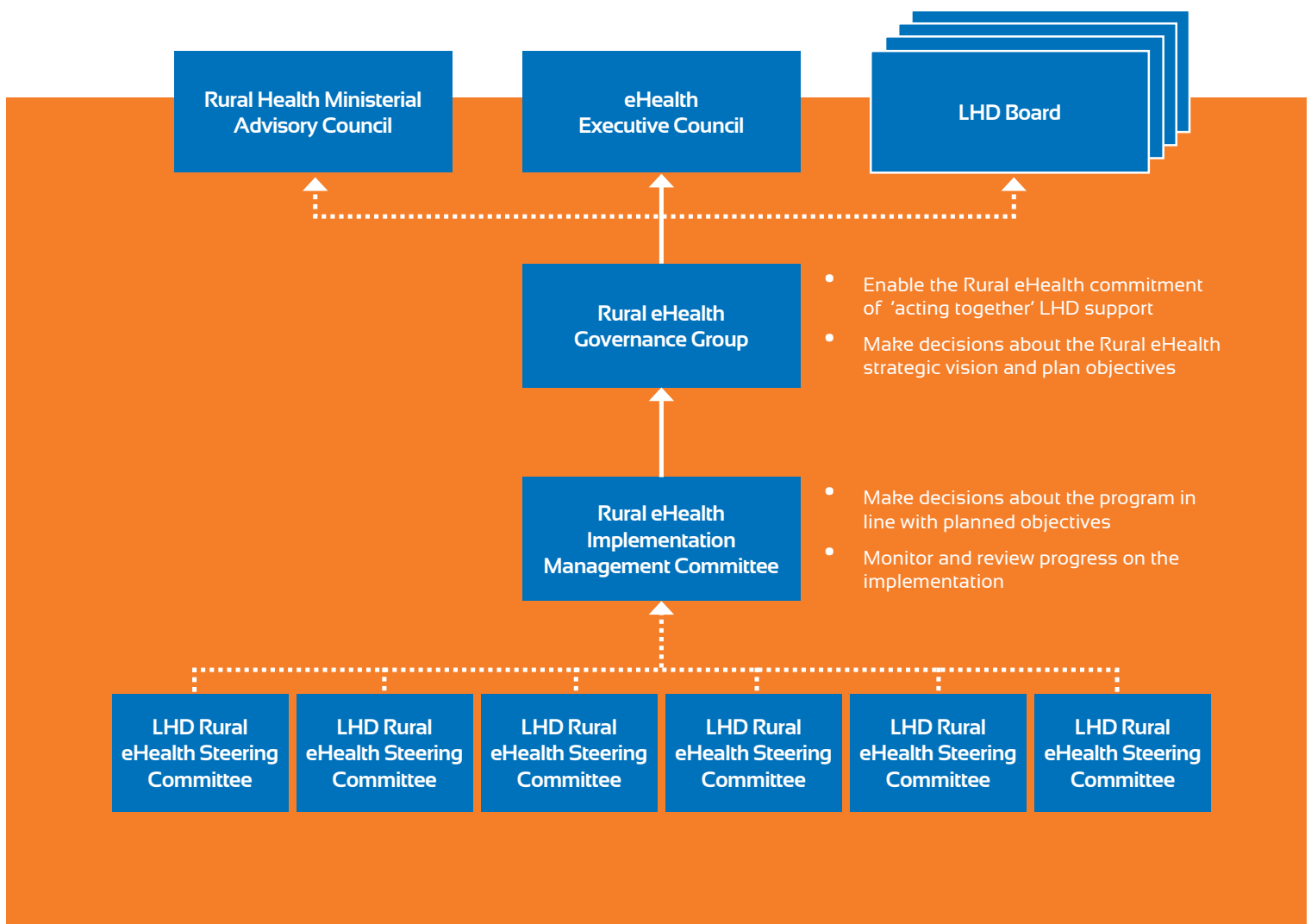
2. Governance That Sustained Trust

The Program was governed by the Rural eHealth Governance Group, which comprised the six Chief Executives from each of the rural LHDs, the Chief Executive of eHealth and the Chief Clinical Information Officer of eHealth. The Chair of the Rural eHealth Governance Group has always been a rural CE, with the chair rotating approximately every two years. This has ensured leadership was shared across the rural LHDs, to keep a strong rural focus.

The Rural eHealth Governance Group provided transparency in setting priorities, identifying constraints and allocating resources to achieve the Rural eHealth vision and plan. Over time, this structure fostered a trusting relationship between the six LHDs and eHealth as well as a shared

approach to problem solving. This overarching structure contributed to overcoming the past frustrations and provided the mechanism for the six LHDs and eHealth to form a strong partnership to deliver complex technology solutions within a specific budget.

The Rural eHealth Governance Group set the tone of collaboration for the overall Governance Framework for Rural Health and eHealth, which is outlined in the diagram below. The governance structure was cascaded down the hierarchy of the organisation building trust at all levels across the LHDs and between clinicians and IT specialists. This effectively sustained the culture of collaboration and enabled the LHDs to work as one.

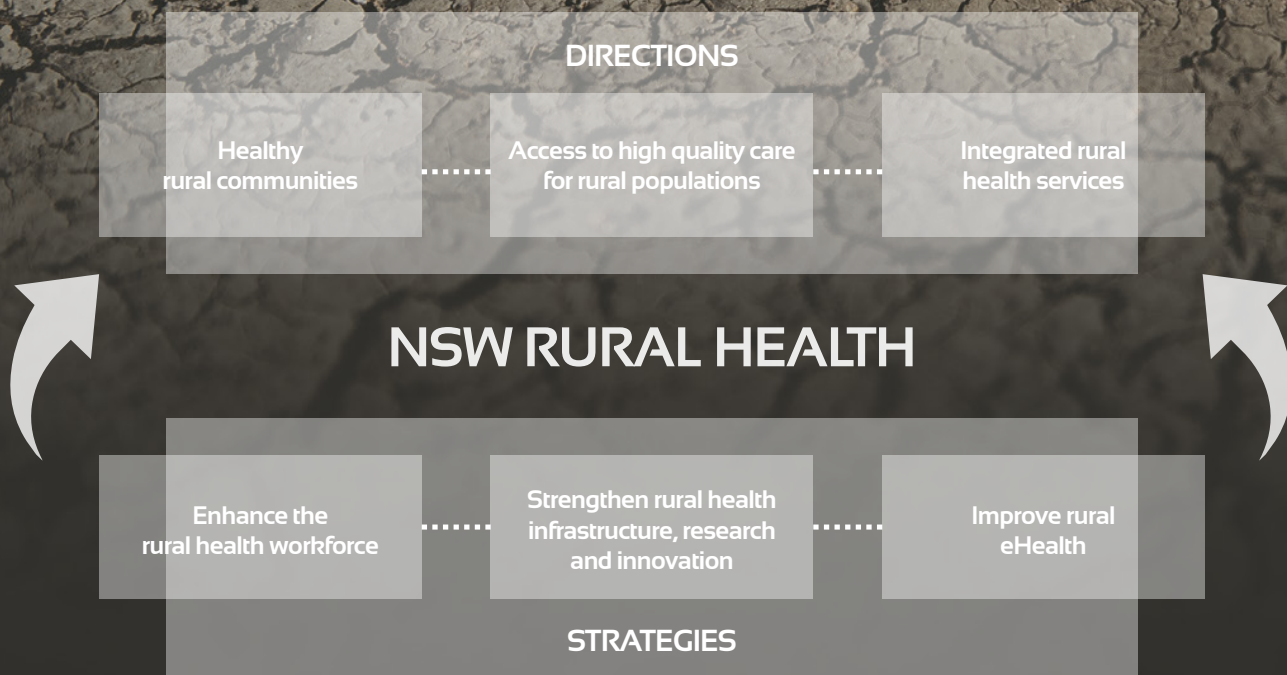


3. United Direction

The *NSW Rural Health Plan Towards 2021* provided a uniting roadmap for the six Chief Executives from the rural LHDs, which highlighted their similarities and shared challenges. Their willingness to work collectively for the common good of rural health was crucial in leading the spirit of collaboration.

The *NSW Rural Health Plan Towards 2021* provided context and the visibility of the eHealth projects to deliver the required rural health outcomes. This context proved useful when negotiating for the necessary resources needed to implement the eHealth projects.

At the time of writing, the six Chief Executives had commenced the next phase of improving health services in their rural environment. In early 2019, work began on identifying elements of a High Performing Rural Health System that has the potential to further strengthen the unity of the rural LHDs and provide context and support for the next wave of change in their continued quest to work as one to improve patients' experiences.



Source : NSW Ministry of Health (2014). *NSW Rural Health Plan Towards 2021*. p.6. Retrieved from <https://www.health.nsw.gov.au/rural/Publications/rural-health-plan.pdf>

4. Combined Resources

Financial

At the outset of the Program, each LHD was at a different starting point with respect to their digital maturity. This was due to the differing priorities and investments of the individual LHDs. With a common view on where they were headed, rural CEs were able to combine financial resources so they could achieve the scale required to tackle the identified challenges. This was enabled by all rural CEs maintaining a focus on the future and leaving the past behind.

By combining financial resources, the rural LHDs were able to achieve technological outcomes that could never be achieved if they were working independently. Rural CEs were acutely aware that working together with eHealth allowed them to present a unified list of priorities and requirements that could be worked through systematically. This provided a clearer priority list for eHealth that allowed the LHDs to achieve the scale required to work towards a common goal across rural NSW.

In addition to combining financial resources across LHDs, money was also reserved for the sole use of the Program. Historically, rural LHDs had often been left until the later stages of technology rollouts due to the complexities of implementing IT systems in rural environments. This would often mean that money was scarcer than at project outset and that rural implementations were implemented on thinner budgets. Having guaranteed funding meant that the rural CEs had certainty of the amount of funding available, allowing them to make informed decisions on how to best allocate their available capital and work as one.

People and Knowledge

A key challenge in rural health locations is attracting and retaining highly skilled IT professionals. Because the rural LHDs had confirmed their common goals, they were able to explore sharing key roles such as Chief Information Officers, trainers and Business Analysts. Currently, four Chief Information Officers manage two eMR domains across the six rural LHDs and technical staff are typically trained to work across LHDs, providing greater flexibility to manage and support peak workloads.

The effective sharing of resources has been made possible due to an IT platform that supports a consolidated virtual rural network, which enables anyone to work anywhere across the rural LHDs. This network has allowed sharing of knowledge beyond IT and supports all aspects of health management across the LHDs and underpins collaboration, learning, innovation and standardisation that enables them to work as one.



5. Strong Partnerships

A key focus for the Program team was to build a strong partnership between eHealth NSW and the rural LHDs. This initially required understanding and sharing unique aspects of each of the LHDs. This enabled accommodation of rural LHD needs, including:

- Alignment of eHealth program implementation timetables with local rural projects and resource capacity
- Differing starting points in IT infrastructure and capabilities
- Differing workforce compositions.

This level of understanding helped build individual roadmaps for implementation for each LHD that integrated local, clinical and corporate IT projects. These individual roadmaps resulted in rural LHDs having greater involvement and control over the changes occurring within their district. This supported them working as one, while deploying locally.

In the initial years of building the partnership, the Rural eHealth program provided “a voice of the customer” within eHealth. This allowed rural

LHDs’ priorities and clinical needs to constantly be at the forefront of considerations and therefore better understood by eHealth project teams. This was formally reinforced through the governance framework at all levels in the organisation. In later years this has evolved to greater direct involvement of rural clinicians in eHealth project teams leading to greater acceptance by clinicians and ultimately an improved patient experience.





6. Building Capability

The Rural eHealth program was instrumental in building capability in change management and understanding the process and constraints of building complex technology solutions in rural LHDs. It was equally as successful in building capability in eHealth project teams to better understand the rural health environment. This was achieved through the provision of mentoring and capacity building workshops, particularly in the areas of training and change management. The sharing of information on the constraints of eHealth projects being implemented fostered greater understanding between eHealth and the rural implementation teams, thereby reducing frustration levels on both sides, which supported them working as one. Regular meetings of

implementation leads and change managers fostered the sharing of information and built confidence and capacity to lead change so that local conditions and priorities could be accommodated. The pragmatism found in rural LHDs supported by the capacity building and networks has produced a strong learning and innovation focus across all six rural LHDs that underpins their efforts to improve the customer experience.

Sustaining the success

NSW Rural Health has made substantial gains in the way staff members are supported to deliver better and safer health services to patients in rural and remote areas.

The level of digital maturity gained in both rural LHDs and eHealth projects enables the rural LHDs to work as one with eHealth projects without the support of a specialised program. However, to sustain the momentum and capability that has been built, it is recommended to continue to support the six factors of success in the following ways:

Recommendations

- ➔ **Governance** – Maintain the current governance framework.
- ➔ **United Direction** – Renew the Rural eHealth Vision, Strategy and Plan. Develop and agree on an achievable roadmap for the next two to three years that can guide rural investment into IT and set clear priorities and expected benefits.
- ➔ **Combine Resources** – Use the virtual rural network to resolve challenges in resourcing the next Rural eHealth Vision, Strategy and Plan.
- ➔ **Strong Partnerships** – eHealth projects continue to employ staff with knowledge of how rural LHDs operate to ensure the needs of rural patients are heard and understood.
- ➔ **Capability** – Continue to invest in the capability of rural LHDs so they can be more responsive to local reporting needs and minor IT change requests. Focus on building capability in end users so that the functionality of existing systems can be maximised.
- ➔ **Culture** – Continue to act as one and learn from one another to tackle the challenges of the future.

The Rural eHealth program set out to accelerate the adoption of eHealth solutions across a large and diverse geographical area in rural and remote NSW and ended up achieving so much more. As a result of the Rural eHealth program there is now a stronger, more capable rural health network that uses collaboration as a way to find solutions across all areas of health management. The rural LHDs now have a proven and repeatable model of operation to enable them to continue to triumph over the tyranny of distance.

If you would like to know more, please contact eHealth NSW at EHNSW-Communications@health.nsw.gov.au or P: + 61 2 9880 3200



Appendix

Thank you to everyone who so readily shared their knowledge and experience.

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