

The New England Virtual Health Network (NEViHN)

Working in collaboration with our partners and local communities to deliver a digitally-enabled, networked model of healthcare practice that meets patient needs, supports healthcare professionals, and promotes in-place multidisciplinary health education – to provide a sustainable regional, rural and remote medicine and health workforce.

November 2022



NEViHN collaborators

NEViHN was established in 2020 as a collaborative program of work between the University of New England's Faculty of Medicine and Health, Hunter New England Local Health District, the Hunter New England and Central Coast Primary Health Network, and New South Wales Health Pathology.

Since then, we have broadened our discussions to better understand community needs, receiving in principle support for NEViHN at our pilot site towns (currently at Armidale, Glen Innes, Inverell and Tenterfield). We aim to extend NEViHN's footprint to include all communities across the New England North West – with a view to providing a digitally-enabled, integrated approach to healthcare practice and education that will also be appropriate for rollout at scale.

NEViHN footprint

NEViHN has been established within the context of the New England North West region of New South Wales, a region that covers almost 10 million hectares, and is home to over 185,000 people. It is also home to the University of New England's Armidale campus, and the University's Faculty of Medicine and Health.

QuickStats¹ – New England North West region:

| | |
|-------------------|---------|
| People | 185,560 |
| Male | 49.2% |
| Female | 50.8% |
| Median age | 41 |
| Families | 47,169 |
| Private dwellings | 85,613 |

More detailed comparative data about the population of the New England North West region, is available via the weblink to the Australian Bureau of Statistics, below.

¹ Reference: Australian Bureau of Statistics (2021) *NENW QuickStats*. Retrieved from <https://www.abs.gov.au/census/find-census-data/quickstats/2021/110>



A collaborative response to a critical RRR healthcare challenge

Australian government reports, as well as the findings of academic research, and articles delivered to the public via the Australian media, show that the health and wellbeing of patients in the nation's regional, rural and remote (RRR) locations is increasingly compromised by the fragmented nature of health services provision, the longstanding issue of dwindling numbers of healthcare professionals remaining in RRR areas, and the subsequent need for many patients to travel long distances to obtain healthcare treatment (or simply do without). As a result, we know that patients in RRR areas generally experience poorer than average health outcomes, while overall, people in RRR locations suffer higher rates of disease and injury, and can expect a shorter lifespan than their urban counterparts¹.

The full impact of this critical healthcare challenge has been brought into even sharper focus by the recent NSW Parliamentary Inquiry into *Health Outcomes and Access to Health and Hospital Services in Rural, Regional and Remote New South Wales*. Even with an upswing in the use of telehealth as a quick-step response to Australia's enforced COVID-19 social distancing restrictions over 2020-2022, access to healthcare services for RRR communities has remained patchy, the full potential of telehealth to support (rather than replace) a healthcare professional has not been realised, and the physical drift of healthcare professionals away from RRR locations persists.

Over the past two years we have watched this situation play out across the New England North West and elsewhere. We believe the opportunity to work with our communities and come together as a team with NEViHN collaborators in order to respond to Australia's deepening RRR healthcare crisis, has never been greater. As a cohesive team, we are excited to share NEViHN's vision for the future of healthcare in our region. We hope that it inspires others to join us in our endeavour to develop a more sustainable, connected, community led healthcare solution.

¹Reference: Australian Government Department of Health. (2021) *About Australia's Rural Workforce*. Retrieved from <https://www.health.gov.au/health-topics/rural-health-workforce/about>



Our vision

We acknowledge the potential for digitally enabled healthcare tools, services and models of care to deliver healthcare services over distance to RRR communities. It's our vision to build on and enhance this potential via the development of a digitally enabled healthcare clinic and interconnected pilot site clinics to showcase integrated, multi-disciplinary, patient-focused models of healthcare practice that will supplement in-person healthcare delivery and meet the needs of healthcare professionals and patients throughout the New England North West. The drawing together of technologies and resources will support and improve healthcare outcomes for patients, connecting them to healthcare professionals and specialist services in place, enabling a shared approach to extended hours of service provision, and sowing the seeds for a strong community of practice amongst participating colleagues at NEViHN pilot site towns from across the region and beyond.

A digitally enabled network of healthcare professionals and clinics from across the New England North West also provides an opportunity to enhance the experience of UNE students enrolled in medicine and health disciplines. Our vision extends to the building of professional partnerships with clinics at pilot site towns, providing locations for extended, multidisciplinary clinical placements where students can experience interprofessional learning in action, increase awareness around the use and potential of digital technologies to enhance healthcare service provision, and also experience everyday life as a valued member of a RRR community. At the same time, the development of deepening professional relationships with clinics and healthcare professionals from across the region provides an opportunity for UNE to support and enrich the teaching and learning opportunities for academics and students within the Faculty of Medicine and Health.

NEViHN paints a bold vision that aims to meet the needs of many - including communities in the New England North West region, the healthcare professionals currently practicing across the region's towns, and the needs of UNE medicine and health students.



Our aims

To achieve our vision, we have established a program of work comprising three projects, all focused around a series of key aims. Our aims are at the core of all our activities. They are:

- To improve healthcare access and health outcomes for patients and communities in the New England North West;
- To enhance the experience of UNE's students in medicine and health-related disciplines;
- To increase the number of graduating UNE medicine and health students; and
- To develop and grow new research into regional, rural and remote healthcare.



Our project-based objectives

We plan to achieve NEViHN's aims via a series of projects with capacity to evolve in line with changing community needs. To that end, NEViHN's three projects align with the following objectives:

P1 – Establish a network of digitally-enabled healthcare clinics across the New England North West region (initially at pilot site towns of Armidale, Glen Innes, Inverell and Tenterfield)) improving healthcare access and outcomes for patients, facilitating the sharing of resources, and creating a community of practice for healthcare professionals.

- P1 is core to NEViHN's success, using digital systems, tools and applications to facilitate the delivery of healthcare services at the clinics, between clinics, and over distance to patients in place. We anticipate that local GP, specialist and allied healthcare professionals will be able to collaborate with colleagues from the region or anywhere in the world to provide patient-centred, wrap around care via online consultations, diagnostic devices and patient monitoring tools.
- This means that patients can conveniently access healthcare services either in the local clinic or at home, and save on the cost of travel and accommodation that they would otherwise have spent in attending appointments with healthcare professionals from outside their community.

P2 – Enhance learning experiences for UNE students in medicine and health-related disciplines (flip the Faculty) by -

- Embedding multidisciplinary teams of UNE students into local RRR pilot site communities to participate in supported, supervised, extended clinical placements with healthcare professionals for up to 40 weeks duration, and
- Working closely with healthcare professionals to develop an online compendium of digitally-enabled patient journeys and scenarios for use by students in the classroom.

P3 - Build a strong research arm within UNE's New England Institute of Health Research (NEIHR) - focused on multidisciplinary research that will acknowledge and respond to ongoing RRR healthcare challenges.

NEViHN program of work

P1 – Establish a network of digitally enabled healthcare clinics to meet community needs

P2 – Enhance learning experiences for UNE students

P3 – Build a strong research arm to respond to rural healthcare challenges

Realising the NEViHN vision

Operationalising NEViHN will be a collaborative effort, relying on the continued support of Hunter New England Local Health District and the Hunter New England and Central Coast Primary Health Network, and the University of New England. We have welcomed the support of UNELife, as well as the professional advice and feedback from colleagues at NSW Health, digital healthcare agencies, rural health organisations, and digital health tech innovation companies.

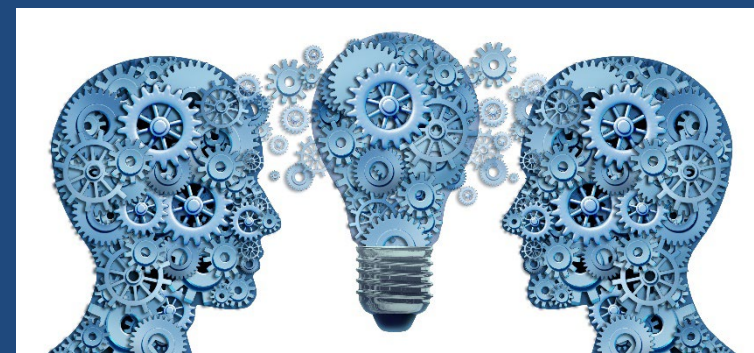
We look forward to inviting healthcare professionals and patients from across the New England North West to join us in further refining the NEViHN vision, with a view to nuancing a digitally-enabled model of healthcare practice to more closely align with community needs. As a result, components featured in the model of care must be sufficiently flexible to be built out, added to, or removed. The final cost of the model and its implementation will ultimately be determined by the specific needs of each community.

Incorporating digital healthcare solutions into an existing clinic will require an assessment of digital readiness at each site; the alignment of existing systems with new technology; opportunities to roll out e-health literacy and training packages for clinic staff and patients; and the employment of a small team of NEViHN staff to facilitate changes into healthcare practice and technology with minimum disruption to existing patient flow. We recognise the pivotal role that nurses and nurse practitioners play in supporting existing GPs - as well as treating patients directly, both in the clinic and in the community.

As clinics engage with NEViHN, opportunities for UNE's medicine and health students to undertake extended multidisciplinary clinical placements as part of a UNE student placement team will become available. We anticipate securing comfortable accommodation for our students in pilot site towns, ensuring that they have the support and resources to settle into their new environment, and to enjoy their experience in a RRR town. Support will be offered by UNE academic and professional staff, and also via a Student Placement Support Team member from the community where placements will take place.

Finally, and in step with work undertaken to develop, implement and evaluate innovative, digitally enabled models of healthcare practice and new approaches to teaching and learning for UNE medicine and health students, NEViHN's research arm will gather momentum as an invaluable resource for current and future research into RRR healthcare challenges.

| Suggested resources for four sites, over four years | Aggregated, indicative cost |
|---|-----------------------------|
| Technology and software | \$3,858,166 |
| Human resources for operationalising digitally enabled models of healthcare practice | TBA |
| Human resources for student support at four sites | \$1,409,616 |
| Additional infrastructure and student accommodation at four sites | \$432,861 |
| Additional technology and software for student placements and learning resources for classroom activities | \$635,000 |
| Total | \$6,335,643 |



Thank you

We acknowledge that the health and wellbeing of people in Australia's regional, rural and remote (RRR) communities depends on a sustainable healthcare workforce. We also recognise the potential for digitally enabled models of healthcare practice to support a more sustainable approach to healthcare service delivery. Through NEViHN, it's our vision to implement a multidisciplinary model of healthcare that will meet the needs of patients and healthcare professionals in the New England North West region of New South Wales, incorporating digital healthcare systems, tools and applications into existing services, delivering additional services to community clinics or to patients in place, and offering extended hours of service via a networked model of support across multiple healthcare practices. This is a vision we hope to develop beyond the New England North West, with implementation at scale.

At the same time, NEViHN's connection to UNE's Faculty of Medicine and Health will support a new generation of healthcare professionals to develop real-world clinical skills throughout their degree, ensuring that our graduates are well equipped for practice in RRR locations. Students will receive expert supervision and support during extended clinical placement experiences in RRR towns as well as in the classroom, where their learning will be enhanced by online teaching resources and an increasing familiarity with digital healthcare delivery.

Thank you for your interest in our work. For further information about NEViHN, or to identify an area where your support could be applied to make a positive impact on the health and wellbeing of communities in the New England North West region or more widely, please contact:

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