Federation University

Final Report

Building a Climate Lens for Rural Health Promotion

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Contents

Executive Summary

In 2022, West Wimmera Health Service (WWHS) identified a role in its health promotion activities to support climate adaptation efforts within the service's catchment area. A proposal was developed to work towards the establishment of a climate adaptation tool (climate lens) to align critical health promotion activities with climate adaptation actions at individual and community level.

The development of a climate lens for WWHS health promotion activities involved three stages. These were:

1. A literature review of climate change and adaptation strategies and tools, and rural health promotion in Australia and internationally.

2. Qualitative research with communities in the WWHS catchment area, exploring values, attitudes and behaviours around climate change and adaptation. The goal of this work was to understand both priority areas of concern for individuals and communities around climate health, and the level of confidence people had to manage critical environmental events in their community.

3. Development of a climate lens that provides health promotion service staff within WWHS with a stepped process to add value to health promotion projects and activities so that WWHS can support communities to plan and prepare for climate volatility and the impacts of environmental change.

Ultimately, the objective of a climate lens is to help health service professionals to consider broader climate adaptation objectives, support behaviour change and prepare communities for current and future health challenges. This work provides a climate lens approach for the WWHS team to test and try, as well as a methodology to evaluate performance and support future refinement of the lens as this approach becomes embedded in health promotion practice.

Key findings from the literature

As a first step, Federation University's Future Regions Research Centre (FRRC) Horsham Hub conducted a literature review of climate adaptation strategies and tools in health promotion both in Australia and internationally.

The literature indicated that awareness of the need for comprehensive climate adaptation strategies and policies in the health promotion space is growing, particularly at the macro level (state and federal government). However, at the individual community level, climate preparedness and adaptation services and activities are occurring in silos, and it is often difficult for community members to understand which organisation is providing what support. As well, there can be both overlaps and gaps in service provision, due in part to how services are funded, but also because of crossovers in jurisdictions and service boundaries and multiple marketing and promotion campaigns across services.

These issues can make it challenging to assist individual communities (and individuals *within* communities) to prepare for and adapt to expected climate change outcomes and the potential impacts these may have for health.

This literature review highlighted the importance of the following in addressing the climate adaptation needs of rural and regional communities:

- There are currently no exemplar rural community based and led climate adaptation focussed healthcare programs applicable to regional healthcare services that can be adapted to local needs.

- Emergency preparedness and response should be a priority for any approaches to address climate variability and adaptation.

- Healthcare systems can leverage their ability to manage complexity and utilise systems thinking to approaches to support engagement in climate adaptation activity; and

- Communication and engagement efforts around climate adaptation must align with community norms, cultural values, sense of place and institutional understandings, to encourage familiarity and acceptance of change and priorities.

- Health promotion theory and practice can positively influence sustained health behaviour change. As such, health promotion professionals can significantly impact how rural communities adapt to a changing climate.

Given the policy void at the mezzo level (organisation, groups and communities level) regarding climate adaptation efforts of health services, WWHS is well placed establish itself as a leader in this space.

A close analysis of the climate change and health literature shows that climate change adaptation will require the intersection of several lenses through which emerging impacts and challenges can be analysed:
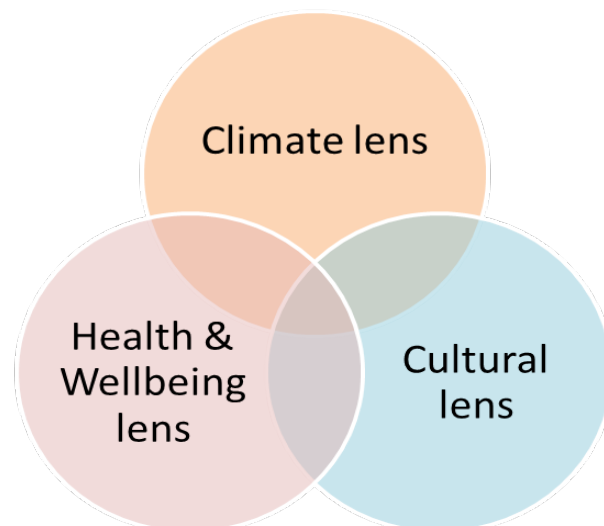
To achieve a workable climate adaptation lens, being able to measure performance in imperfect systems will also be essential. To achieve this, the following measurement principles will be necessary:

- Current community health demographics: age of population, socio-economic status, current health challenges

- Current community culture: how open is the community to climate change health forecasts and to change? (Measuring resilience and adaptability)

- Current health service culture: how open is the organisation to climate change health forecasts and to change more generally? (at leadership level and staff level)

- Supporting cultural shift (organisation): what education, resources and tools do health service organisations need to become climate change champions and how do these interact with each other?

This has been the foundation for the research approach with communities in the WWHS catchment area.

Key findings from interviews with WWHS staff and community members

As a second stage for the project, qualitative research around community values, behaviours and supports from within the WWHS catchment was undertaken to provide a foundation for building an approach to support communities to prioritise climate adaptation activity. Three research questions formed the foundation for this work. These were:

1.   To understand how people and communities in the West Wimmera Health Services (WWHS) catchment view climate change and assess how much priority they afford this issue as a priority for action.

2.   To understand the values and behaviours at individual and community (cultural) levels that may be impacting on internalising and adopting change efforts.

3.   To find strategies to maximise existing and flag future WWHS efforts to better support individuals, families, and communities in their efforts to adapt and mitigate climate impacts, including ways to measure performance.

Data collection was conducted across the nine towns (Goroke, Jeparit, Kaniva, Minyip, Murtoa, Natimuk, Nhill, Rainbow and Rupanyup) in the WWHS catchment. In total, 28 community members participated in a research focus group within their community.

As well, WWHS health promotions staff were consulted at several stages throughout the life project, both in face-to-face group sessions, via in person and phone/Teams interviews and in ad-hoc situations (for example, prior to or at the conclusion of a community consultation).

Consultations identified two key areas requiring focus in terms of supporting communities where climate intersects with health prevention and care. These were:

1. *Preparing for and managing through critical adverse events*: these are health issues created by extreme weather events, such as fire/smoke, flood, extreme heat, and disease outbreaks (pathogens, mosquito-borne, zoonotic etc.). Knowing where to go for support and which organisation/agency was responsible for different kinds of assistance during critical events was highlighted as an important communications issue.

    The research team notes that while elements of preparation and recovery can fall within the remit of health service activities, the management of critical events is primarily the responsibility of emergency service agencies.

2. *Working towards behaviour change to reduce climate impacts on health at individual and community level:* Climate impacts and health impacts can intersect, and this is where the focus of effort for the health service should be. Individual and community efforts to reduce climate impacts can also deliver personal health benefits and can align strongly with health promotion efforts, in many cases providing a value add for priority actions.

The research team also observed a wealth of creative individual efforts to manage climate impacts. This indicates that information sharing should be bottom-up as well as top-down, to allow the promotion of individual efforts and share solutions in a localised context.

Further, availability of local supports (trades, technicians and maintenance) was highlighted as a critical issue for communities to be able to engage in individual management efforts at property level. Affordability and access were a particular concern. While these generally fall outside the scope of health service support, they are issues for liveability and form secondary scaffoldings to support positive or maintained health outcomes.

Many issues related to climate adaptation were issues that intersected a range of in-region and state-level service providers including local government, emergency services, health services, and community service providers. A *service provider focus* on the sharing of climate adaptation information and supports was an inhibitor to active behaviour change. Discussions with participants

identified that communication and connection needed to be improved so that community members could feel safe, empowered and informed. People spoke of needing a one-stop-shop for accurate, up-to-date information pertaining to their town or locality:

> *Who do I ring if I need a light globe changed? How do I apply for the $250 energy rebate I've been hearing about when I don't have the internet? I feel lonely since moving to Murtoa. How do I find a group to join?*

Importantly, interviews with community members indicated a stronger need for an end user focus on the way in which information is communicated – so that individuals can access information that is timely and relevant.

The development of a climate lens

The focus of this work was to understand the primary areas of need and/or perceived value for individuals within WWHS communities regarding climate adaptation support. Findings from this research was then used to develop a lens – a way of considering climate adaptation and mitigation impacts within planning for the delivery of WWHS health promotion activities. Key objectives of this lens are that it be scalable, replicable and include evaluation measures and indicators. It should also be aware of and respond to local community attitudes, values and behaviours.

Essentially, the climate lens provides a set of considerations for the WWHS health promotions team to consider when designing projects and activities for engagement with their communities. This helps to ensure that opportunities to share information, prepare for and manage through issues of climate are part of the health promotion focus in any engagement with their communities.

The climate lens approach and checklist for action are provided in this report (See figure A & B).

Future considerations

The report makes two recommendations for additional activity to support the implementation, periodic review and stronger incorporation of the climate lens into WWHS health promotions activity. These are:

1. It is recommended that WWHS support an evaluation of the application of the climate lens for health promotion over an initial twelve-month period. This should focus on reviewing the trial implementation of the lens – testing its impact as a tool for staff and in recording and supporting change at the micro/community level.

2. It is recommended that by July 2025 the WWHS Health Promotions team, in collaboration with the Department of Health, review their project planning documentation to formally incorporate the climate lens, rather than using the lens as an additional set of considerations to add on to planning activity. This would streamline activity for WWHS Health promotions staff around project planning and normalise climate considerations within planning activity.

Background to the Project

The project aims to provide a deeper consideration of climate change and variability within WWHS health promotion activities. As a key objective of health promotion is to support people to make positive choices about their health and social connection (with the goal of reducing the burden of disease at community level) it makes sense to include consideration of climate impacts as part of planning activities and actions.

The expected impacts of climate change and variability on health outcomes over the coming decades are well documented. Frumkin, Hess, Luber, Malilay & McGeehin (2008) outline some of these effects. These include how severe and worsening droughts, cyclones, fires, floods and heat waves may lead to more injuries and fatalities, displacement and general hardship. Food

production may also be affected, resulting in interruptions to supply and demand. Other systemic changes, such as how biological processes may affect viral and other pathogens forming and spreading are more difficult to predict but have the potential to impact whole populations.

The OECD (2009) defines a climate lens as a method through which policies and actions can be investigated to determine population vulnerabilities and risks that may arise due to climate change. The application of a climate lens to assess health risks arising from climate change is now viewed as critically important. The value of the climate lens is that it:

"…can be applied to rethinking how to take a more population-based approach to health care delivery, prioritize health care system decarbonization and resilience, adapt data infrastructure, develop a climate-ready workforce, and pay for care" (Salas, Friend, Bernstein & Jha, 2020 p.2064).

Worldwide, healthcare climate adaptation at the mezzo level has been occurring in silos (at individual state/province level, local government level and healthcare organisational level). However, the literature contends that both macro and mezzo efforts are at best 'emerging' and organisations at all levels must do better. Recommendations can be broadly summarised as climate adaptation strategies in health services need to be:

- Integrated into health education

- Mainstreamed

- Across disciplines

- Place based

- Communicated to community

The research area

The study area for the project covers 22,000 square kilometres including the towns of Nhill, Goroke, Jeparit, Kaniva, Minyip, Murtoa, Rainbow and Rupanyup (West Wimmera Health Service, 2023).

Understanding how and in what ways climatic change may impact WWHS communities was critical to informing the methodological design and guide the recommendations.

Initially, attendees of monthly Café Health sessions hosted by WWHS were approached to seek their participation in the project. The rationale for this approach was that:

a)   Café Health participants are, to a varying degree, already engaged with WWHS and health promotion staff and are familiar with the other attendees, which may assist the research team with building trust and rapport.

b)   Attendees at the Café Health events were broadly representative of the WWHS catchment demographic, which is older, white and low to mid socio/economic. Engaging with members of this demographic would therefor enable the research team to gain understandings of how climate change, health and wellbeing were perceived across the targeted demographic.

Some 'snowballing' recruitment also occurred through FRRC team member and WWHS staff connections with local community members and groups.

All interview participants were provided with information on the research both verbally in person by a research team member and via a hard copy of the Plain Language Information Statement. Each participant was then briefed verbally by a team member about the consent process and invited to sign a consent form.

In total, 28 community members were interviewed for the research, and six WWHS health promotion staff were engaged with during the project.

As well, WWHS health promotions staff were consulted at several stages throughout the life of the project, both in face-to-face group sessions, via in person and phone/Teams interviews and in ad-hoc situations (for example, prior to or at the conclusion of a community consultation). The team also met monthly with the WWHS health promotions manager to provide updates and to share ideas and concerns. These community and health promotions staff consultations identified several key themes around the impact of climate change and how best to support individuals and communities to adapt.

The research approach

This research used a methodology of critical ethnography to understand the values and behaviours of service professionals within WWHS and community members towards climate change issues. Critical ethnography is a methodology that explores "the ways that symbols of culture create asymmetrical power relations, constraining ideology, beliefs, norms and other forces that unequally distribute social rewards, keep some people disadvantaged to the advantage of others and block fuller participation" (Thomas, 1993, p.43). The research team has strong experience in utilising this approach to understand the underlying cultural issues which reinforce resistance to change, within a Wimmera Southern Mallee context.

As key areas of focus were identified from the qualitative data, the research team used a critical theoretical approach to support a diversity of perspectives (Hammersley, 2000) and to establish information about current understandings and framings of climate change impacts on health both at the organisational level and community level. The research approach focussed on small group interviews with employees and managers working at WWHS and community members engaged with WWHS health promotion activities, to gather key data around the broader issues which impact upon climate adaptation and awareness.

Another benefit of the critical ethnographical approach is that it can be used to understand the "social customs, values and expectations that affect our ways of working" (Frow & Morris, 2003, p.489). This ensured a focus on the cultural and pragmatic context in which views on climate change are made and explored and the ways in which community members may engage in "assumptions about what is typical, normal or appropriate" (Kvale & Brinkman, 2009, p.151). The research approach itself therefore creates an opportunity to challenge normative ways of thinking and consider collaborative efforts between health services and users to resolve shared problems.

In accordance with the findings from the literature review and guided by the ethnographical methodological approach, the research team (in consultation with WWHS) conducted several small group interviews with community members between November 2022 and February 2023.

Review of the Literature

Scope of the literature review

The literature review for this research study encompassed local, Australian, and international reports and journals in the areas of climate adaptation lenses, health lenses and rurality and health promotion and rurality.

The initial literature was collected via three major databases: Informit online, Wiley Science and SCOPUS. Additionally, a Google Scholar search was performed for relevant peer-reviewed articles examining in rural and regional settings. Care was given to focus on an Australian and especially a

Victorian, rural context wherever possible. However, literature was also drawn from the US, UK, and Europe to compare the international experience, with a particular focus on rurality.

Analysis

The articles, reports and papers retrieved were assessed according to their relevance to the key aims of the project. The selected materials were analysed according to four criteria: the theme(s) addressed, the date they were published, their relevance to the context of climate change and health lenses and the articles related to. Themes were determined based on adherence to the research objectives for the project and contribution to knowledge about challenges and opportunities for reducing gender inequality in the rural workforce.

Of the studies that have examined the rural experience, most have come from overseas investigations, where geographical and supply issues can be similar, but public policy responses may vary significantly. The intention of this literature review is to provide an overview of the depth of understanding about addressing gendered workforce inequality in rural communities such as the Wimmera Southern Mallee.

Significance of the study

Climate change is strongly linked to negative outcomes and impacts on the health and wellbeing of populations, both in Australia and internationally (Banwell, Dixon, Bambrick, Edwards and Kjellström, 2012; Campbell, Remenyi, White and Johnston, 2018; Watts, Amann, Arnell, Ayeb-Karlsson, Beagley, Belesova and Costello, 2021; World Health Organisation, 2018).

While the focus of most studies has been on potential and real health impacts in urban settings and in developing nations, studies are emerging both abroad and within Australia regarding the ramifications of climate change on regional and rural community health.

Climate change can be understood as an issue that requires scaled actions at macro, mezzo and micro levels in order to achieve positive change. National and State Governments and international agencies and organisations are generally best placed to address regulatory issues and large-scale targets for compliance (macro), while businesses and organisations can be considered to operate at the mezzo level, where organisational or group-wide change is possible. A third level, the micro level involves individual efforts (community) to achieve change.

Healthcare services operate across all levels of climate change performance, as an influencer of local, state and federal governments occupying the macro space (driving policy direction and funding), and responsible for organisational climate leadership, whilst also having a role in working with individuals and local community groups, whose actions largely sit within the micro level. The objective of a regional hospital service, therefore, is perhaps best understood to have responsibilities for influencing and utilising government policy, funding, and directives to deliver initiatives within the context of climate (as climate change 'champions') to provide organisational and individual practice change through health promotion actions. A climate lens is required for healthcare services to consider their responsibilities within the context of a changing climate.

However, importantly for this study, the focus is on encouraging behaviour change at a micro level that supports individual behaviour change within a context of improved health and wellbeing outcomes.

In recent times there has been significant movement at the macro level to establish climate emissions targets, mitigation objectives and adaptation supports (Canada being a prime example but also the US and Asia and the CSIRO here in Australia). However, a review of the literature revealed there are currently no 'exemplar' government led climate adaption lenses applicable to regional healthcare services that can be adapted to local needs.

Climate change and rural health

The impacts of climate change on health over the coming decades are well documented. Frumkin, Hess, Luber, Malilay & McGeehin (2008) outline some of these effects. These include how severe and worsening droughts, cyclones, fires, floods and heat waves may lead to more injuries and fatalities, displacement and general hardship. Food production may also be affected, resulting in interruptions to supply and demand. Other systemic changes, such as how biological processes may affect viral and other pathogens forming and spreading are more difficult to predict but have the potential to impact whole populations.

There is strong evidence to suggest that the most marginalised will be disproportionally affected, so it is incumbent on governments (local, state and federal) to assist the most susceptible communities to mitigate against worsening climate impacts. As Keim (2008) notes:

"Vulnerability to natural disasters has two sides: the degree of exposure to dangerous hazards (susceptibility) and the capacity to cope with or recover from disaster consequences (resilience)" (Keim, 2008, p.508).

Keim (2008) advises that programs designed to reduce vulnerability and improve the resilience of susceptible communities must firstly concentrate on emergency preparedness and response. However, long term recovery will require on-going prevention and mitigation strategies.

Climate lens

The OECD (2009) defines a climate lens as a method through which policies and actions can be investigated to determine population vulnerabilities and risks that may arise due to climate change. The application of a climate lens to assess health risks arising from climate change is now viewed as critically important. The value of the climate lens is that it:

"…can be applied to rethinking how to take a more population-based approach to health care delivery, prioritize health care system decarbonization and resilience, adapt data infrastructure, develop a climate-ready workforce, and pay for care" (Salas, Friend, Bernstein & Jha, 2020 p.2064).

In Australia, some government organisations are implementing climate change adaptation strategies to inform future work. For example, the CSIRO has incorporated a climate adaptation lens into their national resource management (NRM) planning. According to the CSIRO, climate adaptation presents four challenges:

- Making decisions for multiple possible futures
- Employing flexible and adaptive planning processes
- Explicitly identifying and preparing for likely future decisions
- Strengthening the adaptive capacity of people and organisations (CSIRO, 2022).

When it comes to longer term climate change adaptation, the health of whole populations will require programs targeted to reduce health harms specific to particular communities. For example, climate forecasts for the Australian eastern seaboard will differ significantly from those in northern Australia or the interior. This will necessitate each community building a knowledge base of local climate change impacts within the broader climate, economic and social context.

The Victorian State Government (through the Department of Environment, Land, Water and Planning (DELWP) also funds a local (to the study area) collaboration called Adapt Grampians (Adapt Grampians, 2022). This group has developed a coordinated *Grampians Regional Adaptation Strategy* designed to involve local stakeholders (at the macro, mezzo and micro levels) in climate adaptation efforts. While not directed towards population health specifically, the group's collaborations are aimed at supporting a wide range of industry and community climate change adaptation projects.

This suggests that there is an awareness and acknowledgement at the macro level (state and local government) in Victoria regarding the need to prioritise population health action and policy through a climate adaptation lens, even if that is not the exact terminology used.

More often, climate adaptation strategies are being undertaken using other 'lens' terminology, such as risk governance, practice, resilience and the like. From the extant literature it is possible to conclude that while climate change adaptation is being taken seriously by all levels of government across all sectors, there is presently more rhetoric than action regarding implementation of climate adaptation efforts within healthcare policy.

Health & Wellbeing lens

Beginning with The World Health Organization (WHO) Health for All Strategy in 1979 (Ollila, 2011) there has been acceptance internationally of the importance of the 'Health in All Policies' (HiAP) approach. This approach can be defined as:

 "Health in All Policies is a horizontal, complementary policy-related strategy with a high potential to contributing to population health. The core of Health in All Policies is to examine determinants of health" (Kickbusch and Buckett, 2010, quoting Sihto, Ollila and Koivusalo, 2006: p 18).

The OECD has long encouraged governments to incorporate a wellbeing lens into their strategic climate adaptation thinking so that wellbeing is a primary consideration when designing climate mitigation policies:

"By defining outcomes in terms of well-being (e.g., health, affordability, equity, biodiversity) and making these outcomes central criteria guiding systems' redesign, it mainstreams well-being considerations into the decision-making process of climate strategies from the onset," (OECD, 2022).

In Australia, the importance of the integration of a health and wellbeing lens into policy planning is well recognised – particularly when undertaking environmental impact assessments (EIAs). A decade ago, Harris and Spickett (2011) examined how and in what ways the utilisation of a health lens has been implemented into the Australian policy landscape.

Since then, all state and territories have integrated (to a larger or lesser extent) health impact assessments into their broader policy frameworks. However, the authors note that in 2011, no Federal policy undertakings were at that time operating.

One leader in this space is South Australia, where the South Australian government has implemented a Health Lens Analysis tool to inform decision-making regarding all proposed and future policies (Government of South Australia, 2022; Kickbusch and Buckett, 2010).

According to the SA Health website, the Health Lens Analysis (HLA) has been designed so that health is a key consideration of all policy planning and sits within the broader Health in All Policies model.

SA Health lists five key elements underpinning the HLA process:

- Engage: establishing and maintaining strong collaborative relationships with other sectors. Determine agreed policy focus.

- Gather evidence: establishing impacts between health and the policy area under focus and identifying evidence-based solutions or policy options.

- Generate: producing a set of policy recommendations and a final report that are jointly owned by all partner agencies.

- Navigate: Helping to steer the recommendations through the decision-making process.

- Evaluate: Determining the effectiveness of the health lens (Government of South Australia, 2022).

SA Health also lists a range of projects that have been implemented in partnership with other government agencies. These projects include improving Aboriginal health and road safety, healthy aging through employment and an initiative using money from the current mining boom to improve regional health outcomes.

That state governments are implementing health lenses to critically assess departmental policy suggests that, at the macro level, there is recognition that population health and wellbeing needs to be placed at the forefront of governmental decision making.

Cultural lenses and organisations

According to Davies, Nutley and Mannion (2000) organisational culture can be defined as:

> "a common way of making sense of the organisation that allows people to see situations and events in similar and distinctive ways. It is "the way things are done around here", as well the way things are understood, judged, and valued" (Davies, Nutley and Mannion, 2000 p.112).

Acknowledging how an organisation 'does things' is therefore important in developing an understanding of how an organisation might react to change. This is where the application of a cultural lens may assist organisations to 'retrofit' or introduce new ways of thinking into their strategic planning around climate change adaptation.

A consistent finding in the literature is that when it comes to climate adaptation in the healthcare space, there needs to be a shift (cultural change) at the organisational level to create change at the community level.

In a review of the literature into cultural change interventions in health care organisations, Johnson, Nguyen, Groth, Wang and Ng, (2016) define organisational culture as that which "shapes the attitudes and behaviours of employees and plays a key role in driving organizational outcomes" (p 265). while acknowledging that changing an organisational culture can be extremely difficult.

The study reviewed a range of extant cultural change interventions ranked each intervention according to Lewin's 1951 three stages of change model:

"These include providing evidence for the need for change through data, a range of successful change strategies, and strategies for embedding the culture change into business as usual" (p 265).

The review found that culture change needed to occur in a 'top down' approach, starting with an honest and scrupulous cultural evaluation. The evaluative process must enable the recognition of existing attitudes and behaviours of staff so that (using climate change adaptation as an example) an accurate measure of staff attitude towards climate change can be produced. Developing such an understanding is crucial several reasons. For instance, staff who deny or are agnostic towards climate science may be less willing or able to implement health adaptation strategies within the organisation and to on-sell these strategies to the communities they service (Johnson et al, 2016).

Johnson et al (2016) also found that specific strategies designed to promote cultural change need to be imbedded into existing and new policies and procedures, with leaders encouraged to provide direction and support into this process. Such a top-down approach has long been showcased as the 'gold standard' for organisational culture change (Elsmore, 2017; Mansaray, 2019).

Importantly, the authors stress that cultural change cannot occur within a vacuum, so understanding the strengths and weaknesses of the current organisational culture is crucial to developing an understanding of how and in what ways the culture must shift. This is relevant to the discussion regarding the ability of healthcare organisations to promote climate change adaptations strategies both internally and externally.

When it comes to organisational change, Khan, Vandermorris, Shepherd, Begun, Lanham, Uhl-Bien, and Berta (2018) encourage healthcare organisations to take advantage of one of the natural

strengths of the healthcare system, which is the ability to optimise in what is generally the suboptimal 'messiness' of healthcare itself:

"This means seeing challenges as opportunities for adaptation, stimulating innovative solutions to ensure positive adaptation, leveraging the social system to enable ideas to emerge and spread across the system, and even more important, acknowledging that these adaptive actions are part of system behaviour just as much as periods of stability are" (p.7).

Likewise, Marks, Bayrak, Jahangir, Henig and Bailey (2022) acknowledge how healthcare systems can leverage off their inherent ability to manage complexity (systems thinking) to respond to climate change. The authors indicate that this ability will be crucial, given that even the best evidence base says little about how to translate the hard evidence into policy action. Marks et al (2022) also suggest that healthcare services have an advantage over other services through their health promotion capabilities, which they can use to "engage society towards the huge transformations needed" (p.2) to enable climate mitigation and adaptation.

Community

While it is important to evaluate the current healthcare organisational culture to create and promote change, it is vital to build an understanding of community and individual understandings of climate change and provide positive adaption approaches (carrot, not stick).

Marks et al (2022) describe how a cultural lens can illuminate particular community vulnerabilities and current practices that may empower or hamper climate change adaptation. The use of a cultural lens can also assist communities to adapt to "more severe climatic events, often with less time in-between events to recuperate or rebuild structures" (2022, p.21).

To understand how 'adaptable' a community is to climate change, Marks et al (2022) recommend organisations consider two cultural variables - the socio-economic and current cultural norms. Applying this study's findings to the WWHS catchment, the following questions can be posed. For the socio-economic:

- What are the dominant income generators (agriculture, social services, tourism, hospitality)?
- How and in what ways have these businesses already begun to adapt to climate change (for the West Wimmera, this may include fire, flood and drought)?
- How wedded is the community to existing ways of earning a livelihood?
- What 'climate ready' opportunities been identified and how receptive is the community to these ideas?

For the current cultural norms:

- How important is a sense of 'community' to the community?
- How conservative versus how progressive is the community?
- How and in what ways has the community diversified over the years (for the West Wimmera, this may include 'tree-changers', CALD members and migration of young people away from the district).

These are all concepts health organisations will need to consider when contemplating how they can assist their local communities to embrace climate adaptation strategies.

Kalogirou, Dahlke, Davidson and Yamamoto (2021) also highlight how broad, global climate health policies, such as the Paris Agreement, are difficult to transform into localised action. With individual healthcare organisations tasked with providing their communities with optimal healthcare within local climate constraints and conditions, understanding their community's ability to adapt will become a primary objective of the organisation itself.

Multidisciplinary and collaborative approaches to climate

Connecting with key stakeholders across the macro, mezzo and micro levels can create positive engagement. One regional, multidisciplinary, and collaborative climate adaption blueprint developed in regional Queensland in 2020 (Tonmoy, Cooke, Armstrong and Rissik, 2020) provides strong evidence for the effectiveness of such an approach.

Building on the existing evidence base regarding the expected impact of climate change on the Queensland health sector, Tonmoy et al (2020) created a strategy designed to:

- Explore stakeholder understanding of the impacts of climate change on population health and the provision of health services

- Identify current barriers and opportunities adaptation may entail and,

- Understand what would be needed to either overcome the barriers and/or exploit the opportunities from a stakeholder perspective.

The authors found that engaging with peak bodies across multiple sectors (local government, academics and key health service providers) to answer these questions enabled the researchers to build a regional climate change adaptation policy for health sector based on collaborative input. The authors claim that this approach facilitated "a level of sectoral 'ownership' (not 'top-down' imposition) which will be important for its successful ongoing development and implementation" (p.1).

At the time of writing, no climate adaption policy for regional Queensland health services has been implemented, however, the authors contend that:

"Developing the [climate adaptation policy] has provided the sector the opportunity to address existing but previously unacknowledged concerns and stimulated intra-sectoral and inter-sectoral conversations around both climate change adaptation and mitigation. The broad policy directions identified by stakeholders and supported by the literature must continue to be discussed, developed, nurtured, and grown in order to achieve successful climate resilience both for the sector and more broadly, in the community, as climate disruption proceeds" (p.10).

Communication with communities

It may seem self-evident but effective, mutually inclusive communication between healthcare services and the communities they service is a vital aspect often either overlooked or taken for granted. This is particularly so when health services seek to promote radical change (Frumkin, Hess, Luber, Malilay and McGeehin, 2008; Kearney, Jones, Bell, Swinker and Allen, 2018; Nisbet, 2009).

When it comes to communicating new, perhaps confronting information (such as promoting climate adaptation strategies) Nisbet (2009) recommends messaging be targeted "using carefully researched metaphors, allusions, and examples that trigger a new way of thinking about the personal relevance of climate change (p.). Framing change as a positive, personal choice may foster community engagement and ownership of the issue. It is also important that individuals feel that they are equal participants in the conversation, rather than passive recipients (Frumkin et al, 2008).

Community stakeholder groups may also have their own ideas and/or strategies already in place. An example is the agricultural sector, who (with advice and support from various peak bodies such as the National Farmers Federation, Farmers for Climate Action and Agriculture Victoria) have been trailing innovative farming methods in cropping, animal husbandry and water usage to remain sustainable in an uncertain climate future. Health promotion practitioners will need to work with such groups and the individuals they represent so that change becomes a community driven opportunity, rather than an imposed, disempowering construct (Frumkin et al, 2008).

Effective communication will also require expert knowledge regarding the population group and of how vulnerable the community is to particular climate events. For this study area, more severe droughts and temperature extremes are likely (Government of Victoria, 2015). As the West Wimmera

district is predominantly a farming community with an aging urban population, the effects of heat and drought will have myriad ongoing health impacts. As Kearney et al (2018) express, "the need for health care providers to understand and communicate the challenges faced by rural, vulnerable population groups is of great public health importance. Communicating these health risks to policy makers is of equal importance" (p 270). This suggests that mezzo level healthcare services will need to become adept at communicating at the macro and micro levels if real, sustainable climate adaptation can be implemented in the healthcare space.

The importance of place

Just as the role that place plays in how forecast climate change events may impact a particular community are critical to understand, so too is the role place plays in a community's sense of identity and belonging. Hess, Malilay and Parkinson (2008) highlight that:

"People's ties to a place are deep, as is their fealty to traditions that facilitate survival there. Historically, for many societies, this adherence to tradition has complicated adaptation to environmental change" (p.468).

In other words, if proposed climate change adaptation strategies disrupt traditional ways of being and living, this may in turn upset long held conceptions of belonging and place. The authors recommend that healthcare providers consider how climate adaptation may disrupt place-based relationships and how this disruption can be minimised. As mentioned earlier, effective, two-way communication may assist in this regard, as well as educating health promotion professionals in preparing for such eventualities. Ultimately however, it must be recognised that:

"Climate change will affect these relationships by prompting migration or by fundamentally altering a place's ecology such that established human relationships with place can no longer be maintained" (p.475).

A 2016 editorial in the Journal of Global Environmental Change also highlighted the interplay between place and identity as crucial to creating sustainable (and obtainable) climate change resilience. Healthcare services are encouraged to consider several interconnected dimensions:

- How the experience of local climate change events such as heatwaves, floods and droughts impact directly on a community's health and wellbeing
- How the direct effects of extreme weather events shape community understanding and response to climate change adaptation strategies
- How and to what extent do individuals attribute these extreme weather events to climate change (or not) and,
- Community perceptions around fairness – of who pays and who ultimately benefits – from climate adaptation strategies.

This latter point is key to understanding if and how a community will engage with climate risk mitigation in the healthcare space, "because when the burden of adaptation is perceived to be unfair, then action will not be legitimized and interventions simply will not happen" (Change, G. E. (2016, p.1).

From theory to practice

Crucially for this project, the evidence-based, theoretical frameworks informing the climate lens will be used to support practical action. Rigour will need to be applied to the theoretical frameworks guiding the application of any action. While the ultimate aim of the climate lens tool will be to guide action across the West Wimmera Health Services delivery suite (infrastructure, programs, allied health services) this section is focused on engagement and collaboration between the health promotions team and rural service users specifically.

A final caveat on the breadth of literature examined as part of this process is that the methods align with the key tenets of health promotion theory and practice generally, and rural health promotion in particular. In essence, behavioural change (the challenges humans can experience psychologically when confronted with 'flux' (Menon and Smith, 2014; Rietveld, 2022) ties all of the most recognised health promotion models together. These models are:

- The Social Ecological Model - Ecological models acknowledge that there are many interconnected influences on health behaviour, such as individual, interpersonal, organisational/structural, community and policy factors
- The Transtheoretical Model/Stages of Change (TTM) - The Transtheoretical model (TTM) is predicated on the idea that health behaviour change occurs in stages and that different people are situated at different points along a continuum. These stages are precontemplation, contemplation, preparation, action, and maintenance. Understanding where a person is located on this continuum can help health practitioners support individuals to create positive health behaviour changes.
- The Health Belief Model (HBM) - This model looks at how an individual thinks about their health and what they see as the primary threats to health. For some people, fear of getting sick might be the primary motivating factor to change health behaviour. For others, it might be the positive outcomes of positive health behaviour change that prompts action.
- Theory of Reasoned Action/Planned Behaviour - As their names suggest, these two closely linked theories predict that a person's intention to change behaviour is informed by how a person views the behaviour and how much control a person believes they have over their own behaviour.
- Social Cognitive Theory (SCT) - This model synthesises individual experience with outside influences (from others and from the environment) to predict health behaviours in individuals. People are encouraged and supported to firstly, understand their own health behaviours (and influences on these behaviours) and develop their own tools and skills to build positive behaviours.
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*For a more detailed explanation of these methodological approaches, see: The Rural Health Information Hub, (2023), Hashemzadeh, Rahimi, Zare-Farashbandi, Alavi-Naeini & Daei, (2019).

The importance of these models in activating community health behavioural change cannot be over-emphasised, due, mainly, to their practicable utility and collaborative approach. However, as with all theoretical models, they are subject to change and improvement (DiClemente, Crosby and Kegler (Eds.), 2009). As newer approaches emerge, it will be important for health promotion professionals to adapt their practice as necessary to ensure they are using the most effective (from an evidence-based perspective) models available.

Finally, health promotion practitioners working in rural Australian must also consider the importance of community self-empowerment when behavioural change is the goal. In their 2020 publication, *Health promotion: Principles and practice in the Australian context,* Parker and Fleming (2020) argue that health promotion in Australia cannot be undertaken in a vacuum:
"Historical and more contemporary developments highlighting the range of factors impacting on the health of the population demonstrate that the public health movement as a whole will not have any lasting impact on the advancement of the public's health without intersectoral collaboration. Furthermore, there must be a willingness on the part of public health practitioners to form broad coalitions of mutual support and action. Arguably, this type of collaborative effort is where health promotion offers the greatest possibility for advancing health" (p.47).

As such, effective health promotion initiatives must involve community development strategies that work in tandem with core health promotion models of practice. This will be important for advancing the Climate Lens tool as a practical, not just theoretical (and therefore blunt) instrument.

Health promotion in rural communities

For health promotion teams operating in rural areas, their work is at once easier and potentially more challenging than their urban counterparts; easier because rural populations are generally smaller and more homogeneous (which can make communication less complicated) and more challenging due to a lack of infrastructure (public transport, internet/mobile phone connectivity) financial resources, isolation and distance and aging (high needs) populations (Smith, Canuto, Canuto, Campbell, Schmitt, Bonson ... and Stephens, 2022). Where rural health promotion has a distinct advantage is that team members are generally embedded in the communities in which they work; raising families, socialising and experiencing the same local climatic and other events as their neighbours. The established links health promotion teams have in their local communities can lend credence to the health messaging and encourage trust, collaboration, engagement and self-determination (Smith et al, 2022; Van Beurden, Kia, Hughes, Fuller, Dietrich, Howton and Kavooru, 2011).

Aligning with the broader behavioural change models outlined above, there are two other, important, evidence-based models in the health promotion literature that health promotions teams working in rural areas can apply (and modify to local area needs) to help their communities to plan for, and adapt to, climate change.

Complex Adaptive Systems (CAS) theory.

Historically, complex human behaviour has been made to fit into quite confined economic understandings (Schill, Anderies, Lindahl, Folke, Polasky, Cárdenas & Schlüter, 2019). More recently, there has been a shift in thinking. As Schill et al (2019) note, "people are diverse and intrinsically pro-social, do not always act on their plans, and are generally not well described as optimization algorithms (p.1075). When it comes to human caused climate change, many would argue that initial responses to the climate crisis were distinctly irrational – with prominent climate denialists and others conflating scientific fact with political agendas, mythmaking and an attack on long held ideals and values (Fischer (2019) in Norgaard, (2019).

Complex Adaptive Systems (CAS) thinking has been in existence since at least the early 19th century (Holden, 2005). A useful definition of CAS theory comes from The Health Foundation in the U.K (2010): "complex adaptive systems is a way of thinking about and analysing things by recognising complexity, patterns and interrelationships rather than focusing on cause and effect" (p.5). Since the late 1990s, CAS has also gained prominence as a useful tool in managing complex health challenges, including health services themselves (Holden 2005).

Van Beurden et al, (2011) argue that CAS theory may provide the ideal theoretical model for understanding challenges such a climate change from a health promotion perspective. Firstly, because climate change is itself a complex socio-ecological challenge and secondly, because health promotion "addresses phenomena with multiple causal relationships using strategies that are often compound and multi-disciplinary" (p.554).

Self-determination theory (SDT)

Gillison, Rouse, Standage, Sebire and Ryan (2019) in their article, A meta-analysis of techniques to promote motivation for health behaviour change from a self-determination theory perspective, discuss the utility of SDT theory. The core concept of SDT is that health behaviour change occurs "along a continuum of autonomy" (p.111) and that motivating behavioural change in individuals is best achieved when autonomous decision-making is involved. Autonomous decision-making, the authors suggest, "results in more adaptive health outcomes, including more positive well-being, and better behavioural adoption and maintenance" (p.111).

It will be necessary to embed these notions of complex relationship interplay and autonomy into the climate adaptation lens model (both as guiding principles and as practices of action) to achieve successful community adaptation to climate change.

Research Interviews

Research interviews were designed to prompt discussion about the issues and areas of importance held by individuals and communities around their environment and managing through issues of climate variability and change. This work provides a foundation for identifying issues of community interest in climate change links to health and wellbeing. This is intended to support the alignment of community interests and values with health promotion efforts. The work commenced with engagement with the WWHS health promotions team to build an understanding of their community networks and connections, as well as the perspectives of the team around potential for value adding climate considerations to health promotions activity. The themes which emerged from interview discussions with internal (health promotions staff) and external stakeholders (community members) highlights points of difference, while also identifying areas of potential opportunities for alignment.

Information from research interviews drew attention to the highly localised adaptative efforts of individuals and communities to manage through seasonal climatic events. For people living in rural environments, household actions, which are often done primarily for pragmatic environmental or economic outcomes, (e.g., water saving, growing local produce, minimising travel) are incidentally supporting the achievement of a smaller footprint. As a result, existing adaptation efforts in rural communities should be celebrated and shared. Many of the focus points for people were about pragmatic management of their home and basic needs to support individual welfare outcomes.

Communication and information sharing are also critical factors in supporting adaptation activity and wellbeing during climate events. There is a noticeably strong focus on organisations presenting their messages to communities and individuals with limited consideration about how the end-user (and particularly the rural end user) accesses this information. End users therefore need to be increasingly competent at searching and navigating for information in an increasingly online environment. This can be time consuming and frustrating for the end user and can lead to perverse outcomes where people will not follow through with accessing information, resources or support that would provide a significant benefit. There is scope to consider a better approach to information transfer from service providers to those organisations that connect directly with communities (such as WWHS health promotion teams) to communicate information to end users at the point at which they are most usefully engaged.

As a result, the research component of the work identified a need to focus in the following areas:

- Acknowledging local experience and understanding about managing the environment, and build action based on supporting existing individual and community efforts.

- Supporting localised activities and efforts that are focused on community coordination, on actions such as information sharing and product sharing and making connections to a broad definition of support options. These may need to include areas largely considered private sector issues, e.g., coordination and access to tradespeople.

- Improving inter-agency connections and the transmission of information about preparing for climate change and variability, so that information is widely shared and accessible for communities. This should include supporting and reinforcing efforts of other agencies to support wellbeing.

The sections below provided a more detailed synopsis of issues identified from the research interviews.

The sensitive topic of climate change

Initial interviews with WWHS staff indicated that climate change is a sensitive topic, and there was some hesitancy in seeking to engage with community members around issues of climate and adaptation. There was the strong view that the term 'climate change' is ideological and that it's use may result in polarising of positions for people who engaged with the service to access health information and social support.

It was acknowledged that health promotion outcomes are enabled through the development and maintenance of trust and rapport with community members, and behaviour change involves small steps and careful consideration of the social and cultural understandings that influence action and resistance. The WWHS health promotions team had made considerable investment in the maintenance and development of community networks and research activity. These networks needed to support this investment to minimise any negative impacts.

As a result, the research team developed a set of questions that did not explicitly examine the causes of climate change or ask for opinions as to whether participants believed in it or not. Instead, the focus of the questions was more on severe weather events, how such events had been managed in the past, the types of weather events the community mainly experienced and barriers and enablers to coping with changing weather patterns – regardless of cause.

This approach proved to be successful, as it enabled the researchers to gain an understanding of community concerns regarding changing climatic events while minimising the likelihood of engaging in ideological debate.

It should be noted, however, that the community research interviews demonstrated a fairly robust view of climate variability and impacts. There was a strong awareness of variability and difference in seasons, and significant individual efforts to manage and minimise climate impacts at household level were detected. Older participants often referred to early life experiences in their childhood when considering how climate variability was managed in the absence of electricity, or limited water supplies:

We'd manage hot weather by having a shower and getting out wet or we'd spend the day in our bathers.

In contrast, newer residents had a lack of connection to the landscape and their role in managing climate variability in the absence of technological supports. Sharing the stories of long-term residents had additional value in demonstrating localised problem solving around managing through weather events in the West Wimmera. In fact, some long-term residents highlighted the need to share this knowledge with new residents:

People don't know how a small town operates – things like needing to manage tank water supplies so you don't run out.

The research discussion identified that within WWHS communities, there was a strong understanding of, and acceptance that, climate variability is an issue to be managed (often individually), and the impacts of climate can and do impact on individual health and wellbeing. However, there was a clear view that variability is part of the experience of living in the Wimmera and managing variability is a lifelong responsibility.

The realities of climate change

Climate variability because of climate change is an issue that can also be inflammatory, depending on individual ideological perspectives. The research team found that Wimmera residents were very comfortable having conversations about weather patterns, but there was a significant level of resistance to accepting weather patterns as different or more extreme than in past years.

When asked the question, *Have you noticed anything different about weather patterns and the*

seasons in recent years? there was some disagreement among participants that catastrophic weather events such as floods, drought, bushfires and the like were increasing in severity. An estimated 40% of focus group attendees indicated that changing weather patterns were a 'normal' and accepted dynamic of living in the West Wimmera:

We've always had droughts, we've always had floods, we've always had the odd really hot summer – we're used to it.

Local people don't need to be told to stay indoors on a hot day. Just look at the main street on a 40 plus degree day – the place is dead because everyone's home under the air conditioner or fan. People aren't stupid.

They reckon that the long-term trend is for hotter years, but last year was the coolest, wettest year we've had in 40 years. The year before last was pretty mild too.

However, the majority of those interviewed individually and in focus groups stated that they were witnessing more extreme weather events. This was particularly noticeable among long term, older residents:

We've now had two 'once in a hundred year' floods within the past 10 years. We need to change the way we think about this sort of thing and plan for the very worst and then the even worse than worse.

Years ago out on the farm we didn't have any air conditioning because we didn't need it. We'd be lucky to get two or three 40 plus degree days each summer. You used to be able to harvest right through January. Now, the number of days were it's too dangerous to have farm machinery out in the paddocks has tripled.

The Millennium drought brought this town to its knees. No-one in living memory had seen anything like it. I don't think we'd survive another one. The amount of de-stocking that took place meant farmers couldn't farm, so couldn't shop and so small businesses suffered. All the rivers and lakes dried up. We all suffered.

Participants living outside of town (on farms or small acreage) were aware of the danger of grass fires and had a fire plan in place. But those living within township limits did not, on the whole, identify grass fires as any threat to them personally and did not have a fire plan. At one focus group, the interviewer asked participants, *If a grass fire started on the outskirts of town on a hot day with a strong northerly wind, could this threaten the township itself?* Of the seven attendees, only two agreed with this premise and both of these attendees were living on farms outside the town itself. As one stated:

People living in town don't get it. Fires don't just stop at tin fences. You get a fast moving grassfire and you have only one CFA tanker for the whole place and the whole town could go up. Just look at Kinglake and Marysville in what, 2009?

There was some discussion about this statement within this group, with four attendees indicating that they hadn't thought about the consequences for themselves or their township in the event of an out of control grass fire. This led to a general conversation about who would do what if such a situation arose.

Most attendees reported that they did not know if or how they might be notified if the town was under threat. Some suggested that the council would be responsible for alerting residents. Others believed that it was the Country Fire Authority (CFA). Two people stated that no-one would take responsibility and that individuals would need to look after themselves.

Most participants in this research study were aware that their community could be subject to extreme weather events, but it was their level of understanding and preparedness that differed substantially from individual to individual.

Who is responsible for what?

One of the concerning findings of this research project was the level of confusion among participants regarding who and/or what organisation(s) were responsible for what service when their community was faced with a catastrophic weather event. When asked who might be responsible for notifying residents of an impending weather event, many participants were of the opinion that individuals would largely need to take responsibility for their own health and safety:

My daughter keeps an eye on what's going on – she has some app on her phone. She will always ring me to tell me if anything's happening and will come and get me if needed.

I have the Bom [Bureau of Meteorology] app and the Vic Emergency app on my phone and if they're predicting big storms or whatever, I'll make sure I don't drive and bring my outdoor furniture in.

I know the council has an emergency management plan, but I'm pretty sure they won't be door knocking or ringing every resident up if there's a storm or flood!

My son is the vice-captain of the CFA and he's already said, 'Mum, if there's a fire, we can't get to everyone – there's just no way'. People need to know what to do to save themselves.

These comments reinforce a strong sense of individual responsibility in the management of extreme weather events, and low expectations for support from community services.

Another issue raised was that some older residents did not have 'smart' mobile phones or internet access, so were unsure how they might be notified and supported in the event of an impending weather incident:

I watch the ABC news and I have the local ABC radio, so I know if there's a heatwave coming or storms forecast, but if the power goes out, I'm in trouble. I should buy myself a little transistor radio I suppose. Like we had as kids.

I'd have to go get mum and bring her to my place. I'd probably knock on the door of the old chap in the unit next to mum's because he only has a landline too and I don't think he has any family.

When the power goes out

While much of the conversations within the group and individual interviews focused on extreme weather events and their impact on the health and wellbeing of community members, the researchers ensured that non-extreme climate change impacts were also discussed. One example that generated much debate was what to do if the power were to go out during a heatwave.

When asked the question, *What are some of the strategies you use/have used in the past to help you get through heatwaves?* Most responded by saying that they have air-conditioning in their homes, so aren't concerned:

It's only in really humid weather that the old swampy [evaporative air conditioner] doesn't work very well and we hardly ever get humid weather up here.

My husband and I installed a split system in my mum's unit a couple of years ago. It's easy to set and forget so mum just has to press the on/off button.

I don't have an air conditioner, but the house is really well insulated, and I keep the blinds down and sit by the fan on really hot days. If it gets too hot, I can go to the Neighbourhood House or drive into Horsham to the plaza or something.

When posed with the follow up question, *What would you do if the power went out during a prolonged heatwave?* it was clear that many participants had not thought through such a scenario:

Oh, I don't know! I think the hospital has a generator. Maybe I could go there?

I'd probably get my son to come and get me I guess because I don't have a car. But he works in

Warracknabeal, so he'd need to take time off.

Well I'm not sure if it's the council or the hospital but I thought there was some service that contacts elderly residents and buses them to the nursing home. But I don't know who would be on that list.

New versus old residents

That last statement is critical – how are vulnerable community members contacted during power outages, severe storms and other short-term events? While the majority of participants in this study had either family or friends living locally, there were concerns that recent migrants to the area (including individuals and families from CALD groups) may not be as well connected and supported:

I came here from the Philippines 6 months ago and I didn't know anyone. I was very lonely, and it was only because I met this lovely Filipino lady [indicates woman sitting next to her] when I was out walking that I made a friend. She told me about the Chat for Health and now I know many people.

A lot of people moving into these small towns have no idea how small communities work. They don't know that it's okay to start a conversation with someone in the supermarket or at a café – that people won't think they're weird or being rude or anything. It's a totally different way of making connections.

We've noticed that these tree changer types come here because of the cheap housing, and they don't do anything in the community. They don't contribute. They don't join the CFA or the church auxiliaries. They don't volunteer at the Neighbourhood House or the hospital. Our towns are dying because everyone just sits in their houses. The other side of it is, if no-one knows your there, so no-one knows if you're okay or not.

Again, these answers indicate that these rural community members feel that they are personally responsible for making connections and forming support networks. How new residents (particularly those with English as a second language or who have never lived in a rural community before) are managing their health and wellbeing is difficult to know and speaks to the challenge of health promotion in rural communities that are experiencing demographic changes.

Communication

Interviews highlighted a frustration from community members around accessing information to provide them with supports to address climate and wellbeing issues at the individual level. It was found that most information is presented to rural communities from a service provider perspective, which has a passive approach to information sharing with communities - placing information on websites or social media for community members to access, for example. This relies on individuals being motivated – and able - to search for this information in order to access it. Problems arise when people don't know what they need to know, or don't know how to search for available resources and support:

So many services are just using websites and apps these days. Why can't we get a newsletter in the mailbox? At least that way everyone gets the same information and those without internet don't miss out.

I don't have Facebook and I really don't want it, but it seems like I'm always missing out on what's going on because everything just gets posted on there. I usually hear about stuff after it's happened.

The council used to do a fridge magnet that had all the emergency services numbers and local community services on it, which was pretty handy. But I think it was hard for them to keep up to date.

I think there's a welcome pack that people moving to the area get from the council, but I'm not sure if that's still going.

I've never used the health service so I couldn't tell you what they do!

The issue with many of these statements is that each method has its own limitations. Newsletters, fridge magnets and welcome packs can get misplaced or thrown out and can become out of date very quickly. Using website and mobile phone-based services as the primary communication method can

discriminate against those who either do not have internet or data or who have English as a second language, or a disability such as impaired vision or hearing.

For WWHS, there is an advantage to considering the needs of the end user in accessing information. The approach of the WWHS Health Promotion team to focus on direct engagement with target audiences and an interest in linking health promotion information with climate adaptation activities would align well with the preferred approach of communities interviewed for this research project.

Other issues raised by some communities – with wellbeing implications

Housing Conditions

West Wimmera communities have significant older populations on fixed incomes living in older style houses that do not provide optimal conditions for ageing in place. People particularly reported difficulties in heating their homes in cold weather and highlighted the challenges of living in old homes more generally:

Keeping warm is the most difficult thing – I'd like to see government supports to seal up rooms to help keep them warm for longer. Also to address old louvre windows.

I manage by putting a bigger jumper on first and then a tighter one after – it holds the air in.

Its really hard to manage cold weather.

I'd like to see a location point for people to stay warm or cool. Because we don't have a shopping centre, we need somewhere that's always open and safe.

Linked to this were challenges of smaller towns in being able to attract support for maintenance activities on their properties. People in more isolated communities (such as Jeparit) noted problems in undertaking maintenance activities as they aged, or in accessing and/or being able to afford trades for maintenance of properties:

People overquote when you ask for help – it blows out any subsidy support and makes it unaffordable. This is meant to be a service that helps people but its often unfair.

There's a lack of qualified workers – trades to support us. They charge to travel to [our area] to come out and get work done.

Councils could have a handyperson to change lightbulbs – small jobs.

People spoke about the need for local access to low cost supports for maintenance. There was also some debate about the possibility of coordinating tradespeople when they came to the area to share travel costs and achieve multiple jobs for people in the area on the same day rather than having a tradesperson travelling individually for a single job.

Food Security

Several participants highlighted a notable shift away from localised produce over time. People in smaller communities were concerned about the distance required to travel to access fresh produce:

Fresh vegetables are hard to access.

A café/produce shop would be good – a swap shop. There are lots of people making things in town. The craft shop could also have produce.

There are a lot of gardeners – being able to share produce would be good.

People emphasised the need to coordinate local fresh produce sharing opportunities in local communities, and opportunities for community gardens were also raised in a small number of discussion groups. However, concerns around volunteering expectations amongst ageing community members was a concern, indicating that some form of funded support may be necessary to establish

and maintain such efforts:

A community garden or method of produce sharing is needed in town. It would be supported. But there are no volunteers in town and we would need someone to manage it. People can't do what they used to do [due to age]. Other people work out of town [and don't have time].

Developing a climate lens for WWHS health promotion activities

The findings from the interviews and focus groups, as well as the research team's engagement with WWHS health promotion staff, have informed how the climate lens was developed. The goal was to meet communities and individuals 'where they are at' – in terms of how they conceive of climate change, current strategies already in use and how communities can be supported in adapting to a changing climate. This includes supporting them to achieve wellbeing outcomes that also help communities and individuals in the WWHS catchment area to plan and prepare for climate volatility and the impacts of environmental change.

The climate lens approach provided here is also designed to help health promotion service professionals to consider the broader objectives of their role in supporting behaviour change and preparing their communities to be able to manage current and future health challenges. This work provides a climate lens approach for the WWHS team to embed within their existing project planning processes, using evidence-based, qualitative research aimed at addressing local community need. It also provides a methodology to evaluate performance and support future refinement of the lens as this approach becomes embedded in health promotion practice.

There are five identified steps to building a project with a climate lens. These are:

1. Consideration of alignment of a proposed project to climate outcomes.

2. Understanding the stakeholders and beneficiaries for the project, as well as those who will be excluded.

3. A specific consideration of broader information sharing from other agencies with an interest in climate preparedness and mitigation at community and individual level.

4. Consideration of evaluation approaches to collect information and performance against climate outcomes; and

5. How climate actions and potentially outcomes can be communicated to communities and other agencies.

A visual representation of the steps is provided below (Figure A).

A project checklist has also been designed for use by WWHS staff. This provides a range of supplementary questions through a stepped process to encourage consideration of climate actions within projects, as well as plan for communication of climate based efforts alongside other project objectives. This table is provided below (Figure B).
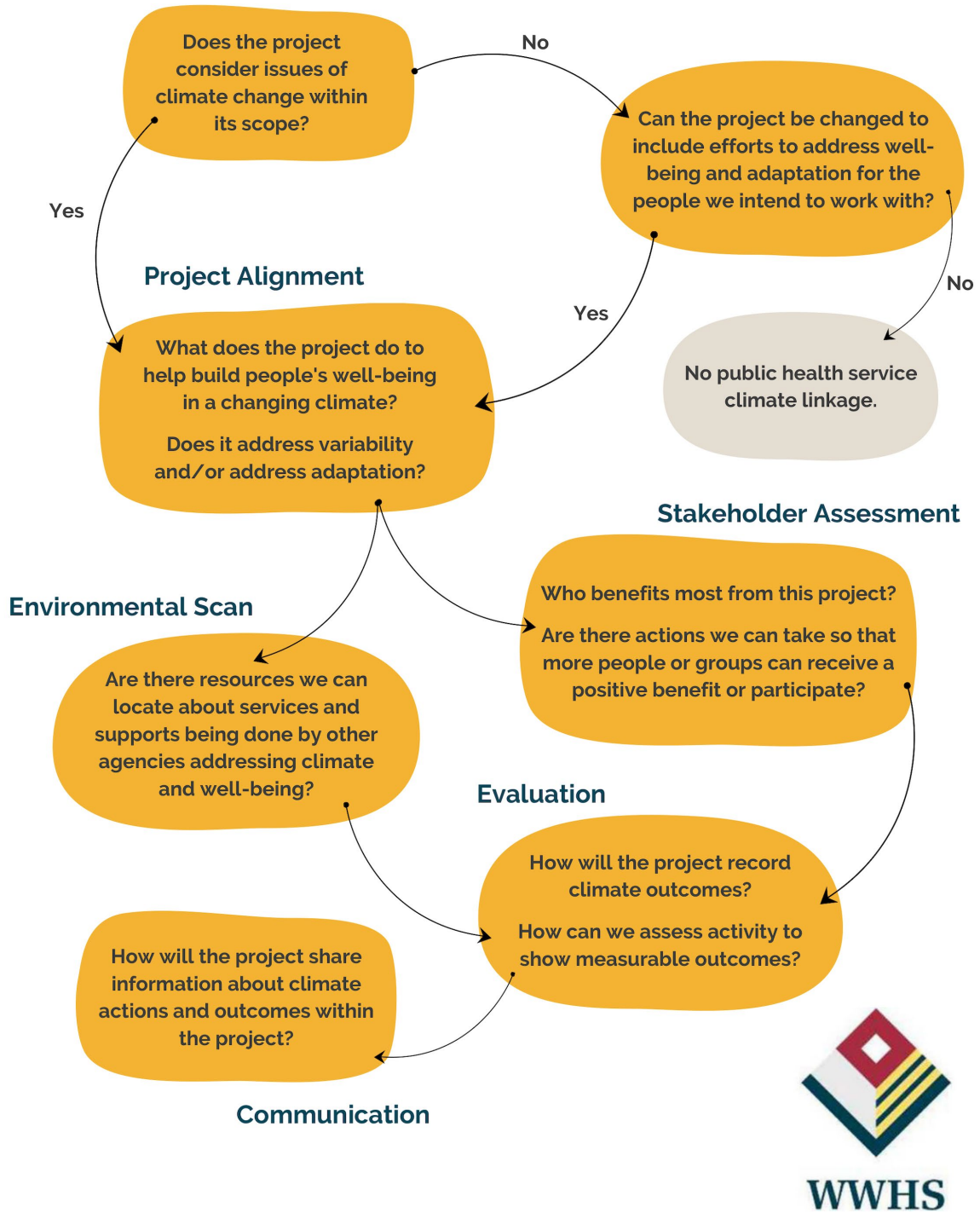
Figure A. The five step process to applying a climate lens to health promotion activities/projects.

Climate Lens Project Checklist

This is a tool to help you in planning your project with an awareness of how climate change is impacting our community.

Using a climate lens when planning a public health project adds a further dimension to community engagement while bringing value to health and well being impacts.

Incorporating climate awareness into your project can provide opportunities for participants to plan and prepare for climate variability and can add to the knowledge we take away in understanding how people can be supported to adapt to a changing climate.

There are five key steps in this process.

The questions below will help you think about how your project can provide support to communities and the individuals you work with to prepare and adapt. The climate lens should be considered within the broader context of your project delivery objectives.

The project may only be able to address some elements of the steps below. This is ok, as the lens is about assisting you in considering climate as part of your thinking and planning.

WWHS

Preparing your project

Five steps

PROJECT ALIGNMENT
- What does the project do to help people's wellbeing?
- How does this project help people prepare for issues of climate variability? For example: major events such as fire, flood, disease risk etc?
- How does this project help people make changes to lifestyle to better adapt to a changing climate? For example: behaviour changes in purchasing, heating/cooling, travel, surrounding environment etc?

STAKEHOLDER ASSESSMENT
- Who are the key groups or individuals you want to engage with in this project? Why?
- Who benefits most from this project? Define the groups, individuals, or networks.
- How will local community values and attitudes impact your approach?
- Will these values and attitudes make certain outcomes harder to achieve?
- How will community values and behaviours help your project?
- Who might be excluded from the project?
- What barriers or actions might you need to address to be able to attract more people to be a part of the project?

ENVIRONMENTAL SCAN
- What other climate adaptation efforts might be underway in my project area or with my target groups that could add value to this project? For example, think about programs and incentives at Local Government, State Government or Federal level.
- Do you know of any specific climate adaptation issues that are existing or prevalent in this community?
- How might these positively or negatively impact your project?

EVALUATION
- How will I record information about the changes people are making to reduce climate impacts as part of this project?
- What kinds of things can I measure?
- How can the information I have learned be used to good effect in future projects?

COMMUNICATION
- How can I communicate information about community or individual efforts to plan and prepare for climate impacts as part of this project?
- Who are my target audiences for this information?
- Which methods of communication are best utilised in this community?

To learn more about how to apply a climate lens to WWHS communities please read research report: [LINK HERE]

Figure B: Climate Lens Project Checklist.

Evaluating Success

The climate lens provides a framework for WWHS health promotion staff to consider how a proposed project or activity to improve community health and wellbeing can also support the management of climate variability and adaptation at individual and community (micro) level.

Assessing the performance of the climate lens requires an evaluation approach that works in three stages to assess:

1. WWHS staff learnings as they engage with the climate lens tool (real time)

2. How well the lens is working to assist with inclusion of climate considerations in project/activity development (formative)

3. The impact of the tool. Are there changes happening to action/behaviour at staff and community/individual level? (summative)

The climate lens has been developed to prompt questions that will encourage the collection of summative data around its own performance. However, a comprehensive assessment of the performance of the lens that supports iterative development will require the collection of both qualitative and quantitative data during its initial implementation.

Recommendation for future action – It is recommended that WWHS support an evaluation of the application of the climate lens for health promotion over an initial twelve-month period. This should focus on reviewing the trial implementation of the lens – testing its impact as a tool for staff and in recording and supporting change at the micro/community level.

Way Forward

This research project has supported the development of a stepped climate lens approach for a rural health promotion team. The work has been informed by literature in the space supporting climate change and adaptation strategies and tools, as well as rural health promotion approaches, in Australia and internationally.

The work has also been informed by a community centric approach, engaging with both staff and communities in the WWHS service area to better understand the values, attitudes and behaviours around climate change and adaptation. This research has found a high level of pragmatism across Wimmera communities regarding managing climate change and variability at individual level. While the accepted language around this issue may vary among individuals, there is a solid understanding of the challenges and impacts of variable weather patterns and how these need to be managed. This work has informed the design and approach for the climate lens as a tool to support health promotion efforts to support the change and wellbeing efforts of individuals.

The lens has been designed to align with existing project development methodology and provides a strategy for data collection and communication about its own performance over the life of the projects it is used within. As a result, this lens provides an additional set of issues for consideration by health promotions staff engaged in project planning, project delivery and evaluation.

The ongoing challenge for WWHS health promotions staff is that this approach is built as an additional layer of consideration to be applied in their project planning. After an initial evaluation period of twelve months, it would be appropriate to consider a more streamlined approach for staff in using the lens as part of their normal project planning.

Recommendation for future action: It is recommended that by July 2025 the WWHS Health Promotions team, in collaboration with the Department of Health, review their project planning documentation to formally incorporate the climate lens, rather than using the lens as an additional set of considerations to add on to planning activity. This would streamline activity for WWHS Health promotions staff around project planning and normalise climate considerations within planning activity.

References

Adapt Grampians (2022). Grampians Region Climate Adaptation Strategy. Retrieved from:
https://adaptgrampians.com.au/

Banwell, C., Dixon, J., Bambrick, H., Edwards, F., & Kjellström, T. (2012). Socio-cultural reflections on heat in Australia with implications for health and climate change adaptation. *Global health action*, *5*(1), 19277.

Bell, E (2008) Climate change: is Australian rural and remote medical education and training ready for the age of consequences? University of Tasmania, 10th National Rural Health Conference.

Campbell, S., Remenyi, T. A., White, C. J., & Johnston, F. H. (2018). Heatwave and health impact research: A global review. *Health & Place*, *53*, 210-218.

Chastonay, P., Zybach, U., Simos, J., & Mattig, T. (2015). Climate change: an opportunity for health promotion practitioners?. *International Journal of Public Health*, *60*(7), 763-764.

Davies, H. T., Nutley, S. M., & Mannion, R. (2000). Organisational culture and quality of health care. *BMJ Quality & Safety*, *9*(2), 111-119.

de Nazelle, A., Roscoe, C. J., Roca-Barceló, A., Sebag, G., Weinmayr, G., Dora, C., ... & Negev, M. (2021). Urban Climate Policy and Action through a Health Lens—An Untapped Opportunity. *International Journal of Environmental Research and Public Health*, *18*(23), 12516.

DiClemente, R. J., Crosby, R., & Kegler, M. C. (Eds.). (2009). Emerging theories in health promotion practice and research. John Wiley & Sons.

Elsmore, P. (2017). *Organisational Culture: Organisational Change?: Organisational Change?*. Routledge.

Fischer, F. (2019). Knowledge politics and post-truth in climate denial: On the social construction of alternative facts. Critical policy studies, 13(2), 133-152.

Frumkin, H., Hess, J., Luber, G., Malilay, J., & McGeehin, M. (2008). Climate change: the public health response. *American journal of public health*, *98*(3), 435-445.

Change, G. E. (2016). Place, well-being, and fairness shape priorities for adaptation to climate change. *Glob Environ Chang*, *38*, A1-A3.

Gillison, F. B., Rouse, P., Standage, M., Sebire, S. J., & Ryan, R. M. (2019). A meta-analysis of techniques to promote motivation for health behaviour change from a self-determination theory perspective. Health psychology review, 13(1), 110-130.

Government of South Australia (2022). Health Lens Analysis Projects. Retrieved from:
https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/about+us/about+sa+health/health+in+all+policies/health+lens+analysis+projects/health+lens+analysis+projects

Government of Victoria (2022). Municipal public health and wellbeing planning and climate change. Retrieved from: https://www.health.vic.gov.au/environmental-health/municipal-public-health-and-wellbeing-planning-and-climate-change

Harris, P., & Spickett, J. (2011). Health impact assessment in Australia: a review and directions for progress. *Environmental Impact Assessment Review*, *31*(4), 425-432.

Hashemzadeh, M., Rahimi, A., Zare-Farashbandi, F., Alavi-Naeini, A. M., & Daei, A. (2019). Transtheoretical model of health behavioral change: A systematic review. Iranian journal of nursing and midwifery research, 24(2), 83.

Hess, J. J., Malilay, J. N., & Parkinson, A. J. (2008). Climate change: the importance of place. *American journal of preventive medicine*, *35*(5), 468-478.

Holden, L. M. (2005). Complex adaptive systems: concept analysis. Journal of advanced nursing, 52(6), 651-657.

Infrastructure Canada (2020) https://retooling.ca/resources/infrastructure-canada-climate-lens/ https://retooling.ca/taking-action/

Johnson, S. S., Constible, J., Knowlton, K., Gifford, B., Roberts, J. D., Ada, M. S., & Jette, S. L. (2021). Knowing Well, Being Well: well-being born of understanding: Climate Change & Well-Being: The Role for Health Promotion Professionals. *American Journal of Health Promotion*, *35*(1), 140-152.

Johnson, A., Nguyen, H., Groth, M., Wang, K., & Ng, J. L. (2016). Time to change: A review of organisational culture change in health care organisations. *Journal of Organizational Effectiveness: People and Performance*.

Kalogirou, Maya R., Sherry Dahlke, Sandra Davidson, and Shelby Yamamoto. "Integrating planetary health into healthcare: A document analysis." *Health Policy* 125, no. 6 (2021): 799-806.

Kearney, G. D., Jones, K., Bell, R. A., Swinker, M., & Allen, T. R. (2018). Climate change and public health through the lens of rural, eastern North Carolina. *North Carolina medical journal*, *79*(5), 270-277.

Keim, M. E. (2008). Building human resilience: the role of public health preparedness and response as an adaptation to climate change. *American journal of preventive medicine*, *35*(5), 508-516.

Khan, S., Vandermorris, A., Shepherd, J., Begun, J. W., Lanham, H. J., Uhl-Bien, M., & Berta, W. (2018). Embracing uncertainty, managing complexity: applying complexity thinking principles to transformation efforts in healthcare systems. *BMC health services research*, *18*(1), 1-8.

Kickbusch, I., & Buckett, K. (2010). *Implementing health in all policies: Adelaide 2010* (pp. 11-24). Adelaide: Health in All Policies Unit, SA Department of Health.

Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing*. sage.

Mansaray, H. E. (2019). The role of leadership style in organisational change management: A Literature Review. *Journal of Human Resource Management*, *7*(1), 18-31.

Marks, D., Bayrak, M. M., Jahangir, S., Henig, D., & Bailey, A. (2022). Towards a cultural lens for adaptation pathways to climate change. *Regional Environmental Change*, *22*(1), 1-6.

Menon, T., & Smith, E. B. (2014). Identities in flux: Cognitive network activation in times of change. Social science research, 45, 117-130.

Nisbet, M. C. (2009). Communicating climate change: Why frames matter for public engagement. *Environment: Science and policy for sustainable development*, *51*(2), 12-23.

Norgaard, K. M. (2019). Making sense of the spectrum of climate denial. Critical Policy Studies, 13(4), 437-441.

OECD (2022). The well-being lens: An innovative process for net-zero strategies. Retrieved from: https://search.oecd.org/climate-change/well-being-lens/

Ollila, E. (2011). Health in all policies: from rhetoric to action. *Scandinavian journal of public health*, *39*(6_suppl), 11-18.

Parker, E., & Fleming, M. L. (2020). Health promotion: Principles and practice in the Australian context. Routledge.

Rietveld, E. (2022). Change-ability for a world in flux. Adaptive Behavior, 30(6), 613-623.

Rural Health Information Hub (2023). Retrieved from: https://www.ruralhealthinfo.org/toolkits/health-promotion/2/theories-and-models/ecological

Salas, R. N., Friend, T. H., Bernstein, A., & Jha, A. K. (2020). Adding A Climate Lens To Health Policy In The United States: Commentary explores how health care policy makers can integrate a climate lens as they develop health system interventions. *Health Affairs*, *39*(12), 2063-2070.

Schill, C., Anderies, J. M., Lindahl, T., Folke, C., Polasky, S., Cárdenas, J. C., ... & Schlüter, M. (2019). A more dynamic understanding of human behaviour for the Anthropocene. Nature Sustainability, 2(12), 1075-1082.

Sihto M, Ollila E, Koivusalo M. Principles and challenges of Health in All Policies. In: Ståhl T, Wismar M, Ollila E, Lahtinen E, Leppo K (eds), 'Health in All Policies: prospects and potentials'. Ministry of Social Affairs and Health and European Observatory on Health Systems and Policies, Helsinki, 2006, pp. 3–20.

Smith, J. A., Canuto, K., Canuto, K., Campbell, N., Schmitt, D., Bonson, J., ... & Stephens, D. (2022). Advancing health promotion in rural and remote Australia: Strategies for change. Health Promotion Journal of Australia: Official Journal of Australian Association of Health Promotion Professionals, 33(1), 3-6.

The Health Foundation (2010). Evidence scan: complex adaptive systems. Retrieved from: https://www.health.org.uk/sites/default/files/ComplexAdaptiveSystems.pdf

Thomas, J. (1993). Doing critical ethnography. SAGE.

Tonmoy, F. N., Cooke, S. M., Armstrong, F., & Rissik, D. (2020). From science to policy: Development of a climate change adaptation plan for the health and wellbeing sector in Queensland, Australia. *Environmental Science & Policy*, *108*, 1-13.

Van Beurden, E. K., Kia, A. M., Hughes, D., Fuller, J. D., Dietrich, U., Howton, K., & Kavooru, S. (2011). Networked resilience in rural Australia—a role for health promotion in regional responses to climate change. Health Promotion Journal of Australia, 22(4), 54-60.

Watts, N., Amann, M., Arnell, N., Ayeb-Karlsson, S., Beagley, J., Belesova, K., ... & Costello, A. (2021). The 2020 report of the Lancet Countdown on health and climate change: responding to converging crises. *The Lancet*, *397*(10269), 129-170.

World Health Organization. (2018). COP24 special report: health and climate change.

WSP (2018) https://www.wsp.com/en-CA/services/climate-lens-assessments.