Human Health and Wellbeing Climate Adaptation Plan for Queensland (H-CAP)

Discussion Paper

National Climate Change Adaptation Research Facility (NCCARF) and Climate and Health Alliance (CAHA)

February 2018
Introduction

This paper introduces the purpose, process and rationale for the development of the H-CAP for Queensland. It provides an overview of the literature in relation to risks and opportunities associated with the health impacts of climate change. It outlines existing relevant policy, identifies current and predicted barriers and opportunities associated with responding to the health impacts of climate change, and points to key stakeholders in this process.

The H-CAP development is being led by National Climate Change Adaptation Research Facility (NCCARF) and Climate And Health Alliance (CAHA), but ultimately the responsibility for implementation, monitoring and evaluation lies with the health and wellbeing sector, including health departments, the public and private providers of health, aged care, early childhood education and child care, public health and mental health services, health professional associations etc. - indeed all those organisations who identify as part of the health and wellbeing sector in Queensland. Project partners also represented on the steering committee include Queensland Health, Queensland Council Of Social Services (QCOSS), Regional Groups Collective Queensland and Department of Environment and Science (DES).

The plan aims to support, empower, guide, and inform the efforts of the sector to adapt to climate change, where possible to take steps to limit its own contribution to climate change, and to build capacity for the sector in Queensland to be well prepared and climate-resilient, able to provide safe, high quality services that protect and promote health and wellbeing among the Queensland population across their lifespan.
Climate change presents a significant challenge to the health and wellbeing sectors. This includes impacts on the health, aged care and early childhood workforce and on health related infrastructure, as well as in the broader community, and on the upstream determinants of health and wellbeing generally. Climate change is contributing to changes in weather patterns, leading to more intense and frequent extreme events such as heat waves, floods, storms and drought. It is affecting water, air, food quality and quantity, and impacting ecosystems, agriculture, livelihoods and infrastructure.

Climate change is a risk multiplier in that it amplifies existing threats to health, undermining the basic foundations for health and wellbeing i.e. clean air, soil and water – and exacerbating inequality, since those with the least available resources have a lesser capacity to cope with these changes. All these factors have an impact on human health, happiness and wellbeing, and create challenges for the health and wellbeing system.

Climate change is affecting human health both directly – through extreme weather events, food and water insecurity and infectious diseases – and indirectly – through economic instability, migration and as a driver of conflict (inter group and interpersonal). These impacts will affect all populations, but those particularly vulnerable include children, women, disadvantaged and elderly people, as well as some geographically vulnerable communities e.g. remote or isolated communities.

The health sector and all those services focused on the health and wellbeing of the community (including hospitals, primary healthcare services, public and community health, aged care, early childhood education / childcare, mental health, disability support and other services) are in the frontline in responding to the health impacts of climate change. It is vital our systems are climate-resilient in order to remain operational and continue to provide safe, quality care during extreme weather events or at times of surging demand. The sector also needs to respond to the longer-term, climate-induced changes in disease patterns.

These threats to population health and care related infrastructure pose significant immediate and longer-term challenges for Queensland - and require the establishment of a coherent and coordinated set of policies and plans to build the capacity of the sector to prepare for and respond to those risks.
Social vulnerability

Many climate change plans and strategies are limited to physical vulnerabilities. Social vulnerability takes account of differing levels of access to resources to prepare for, cope with, and recover from, disasters and climate change. It is influenced by factors such as poverty and inequality, marginalisation, education, food security and diet, access to insurance, transport options, community and family networks, gender, race, socioeconomic status, age and language, geography and housing quality. How these social vulnerabilities interact will lead to variable human impacts that are often not discussed. Social vulnerability is best understood along a continuum. While low-income families and disadvantaged communities contribute the least to climate change, they are also most at risk of being impacted by climate change and climatic events and are least able to respond effectively.

Consideration of social vulnerability must underpin the evolution climate adaptation planning.

Ecological foundations for health and wellbeing

With many populations now living in urban environments, many people are increasingly removed from a connection with the natural world and with it, the understanding that our health and wellbeing is profoundly dependent on healthy ecological systems as a life support system (35). Population health depends on ecosystem ‘services’ which provide us with food, and ensure the availability of fresh water, clean air and fertile soil.

Increasingly however humans are shaping the natural environment (as well as the climate), and our influence is causing harm to those natural systems on which our health depends. In considering this plan to support health and wellbeing in Queensland, it is important to remember that human health and wellbeing is intimately connected to the state of the natural environment, and thus environmental protection an important element in planning for human health.
How this plan relates to the Queensland Climate Adaptation Strategy

To address some of these challenges, as part of the Queensland Climate Adaptation Strategy, the Queensland Department of Environment and Science (DES) has engaged the National Climate Change Adaptation Research Facility (NCCARF) and the Climate and Health Alliance (CAHA) to facilitate the development of a Health and Wellbeing Climate, Adaptation Plan (H-CAP) with the health and wellbeing sector in Queensland.

This project aims to facilitate the development of a plan to support the sector to be innovative and resilient in managing the risks associated with a changing climate, and to harness the opportunities provided by responding to the challenges.

The plan will build on existing health disaster planning, and other State Government planning for extreme events in Queensland, such as cyclones and heatwaves, to establish key directions for action and ongoing planning by the sector and its members, aligned with the Queensland Climate Adaptation Strategy (QCAS) 2017 – 2030.

The plan will be informed by existing Australian and international work on this topic, including:

- The Framework for a National Strategy on Climate, Health and Well-being for Australia which was released in June 2017 by an alliance of 34 Australian health sector organisations, following two years consultation and collaborative planning and development.
- The Lancet Countdown on Health and Climate Change, a global interdisciplinary project to monitor the impacts of climate change on human health, and track national and global progress to respond.
Purpose of this discussion paper

The purpose of this discussion paper is to provide an outline of the proposed process and outcomes of this project, and in particular to:

a. briefly review what is known about current and future climate change impacts on health and wellbeing in Australia, specifically in Queensland
b. consider the issue of social vulnerability in planning to address the issue climate change and health and wellbeing
c. introduce the process to engage with relevant health and wellbeing stakeholders (survey and workshops)
d. identify and align with relevant Queensland and Australian policy and guidelines, to build on them to ensure the health and wellbeing climate adaptation plan best meets the needs of services and the community in Queensland
e. help identify the priorities and concerns of stakeholders, as well as barriers and opportunities in relation to climate adaptation through consultation and engagement

Process and expected outcomes

The project has a short timeframe (January to April 2018). Figure 1 outlines the project timeline and milestones.

<table>
<thead>
<tr>
<th>February</th>
<th>Initial stakeholder identification and consultation</th>
<th>Circulation of stakeholder survey</th>
<th>Progressive outreach to stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>Stakeholder Workshops: Toowoomba 6th, Brisbane 8th, Cairns 9th.</td>
<td>Preparation and circulation of Draft H-CAP to project steering committee and stakeholder reference group.</td>
<td></td>
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<tr>
<td>April</td>
<td>Finalisation of H-CAP with stakeholder reference group advice</td>
<td></td>
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<tr>
<td>31 April 2018</td>
<td>Submission of H-CAP</td>
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*Figure 1: Project timeline and milestones*
Stakeholder identification

The health and wellbeing plan will engage with stakeholders from health and healthcare, aged care, early childhood and childcare organisations, professional associations, peak bodies, academia, community and not-for-profit organisations, unions, government and industry.

The H-CAP will be relevant to and directed towards:

- health facilities such as hospitals and clinics, critical primary and preventative services for both physical and mental health
- and social organisations representing vulnerable or marginalised community members including people with a disability
- retirement / aged care
- and early childhood education and childcare services including kindergartens, pre-schools, and childcare (centre-based and family day care).

A preliminary stakeholder mapping exercise has been undertaken to identify stakeholders in the above groups, but sector-led nominations to participate in the project stakeholder groups are vital to ensure that all appropriate stakeholders are engaged and can participate in shaping the plan.

Summary of climate change impacts on human health and well-being

Climate change is a health risk multiplier, with some hazards such as heatwaves and floods impacting human health and wellbeing directly, while others affect health indirectly, by changing environmental and socioeconomic conditions important for health, e.g. ecological change affecting water quality, food security, prevalence of infective agents. Social dynamics such as age and gender, social capital and public infrastructure also influence or mediate vulnerability to climate health hazards.

Figure 2 (below) gives an overview of the links between greenhouse gas emissions, climate change and human health.
Table 1 outlines some of the known and expected impacts of climate change on health in Queensland. However, Queensland has a diverse range of geographical, social and climatic variables, across regions, each with their own strengths, vulnerabilities and differing expected climate impacts and challenges. Future planning will need to be locally tailored to suit.

Unpredictable health outcomes and emergencies are also likely, such as the severe thunderstorm asthma event in Victoria in 2016, which killed nine people and caused ambulance and emergency services to be overwhelmed by thousands of people suffering from acute respiratory problems.

The impacts of climate change on health and wellbeing in Queensland includes damage to healthcare and other infrastructure associated with extreme weather events e.g. flooding directly affecting access to services; power failures associated with outages in the electricity network during extreme heat events; and interruptions to the healthcare supply chain preventing delivery of essential medical supplies e.g. oxygen and pharmaceuticals. Services for the elderly, early childhood, disability and other support will face similar challenges. As members of the wider
community, the health and other service workforce can also be affected by climate-related disasters, outbreaks of disease etc., limiting their availability and thus service provision at a time of increased demand.

Table 1. Expected impacts of climate change on health in Queensland

<table>
<thead>
<tr>
<th>EXTREME WEATHER EVENTS</th>
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<tbody>
<tr>
<td>Increased intensity, duration and frequency of extreme weather events such as floods, storms, droughts, bushfires and heatwaves, are putting more Queenslanders and visitors at risk of injury, illness, death and post-traumatic stress and placing increasing pressure on health services and infrastructure (1,2,3,4). Such events may also interrupt other essential services such as electricity, water and sewerage treatment. The economic costs of extreme weather events is significant: for example, the health and social costs (from fatalities, exacerbation of chronic illness, physical injury and disability associated with 2011 Qld floods amounted to $7.4 billion, exceeding the costs to infrastructure and commerce ($6.7 billion) (28).</td>
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<thead>
<tr>
<th>INCREASING TEMPERATURE AND HEATWAVES</th>
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<tr>
<td>Heatwaves have caused more deaths in Australia since 1890 than bushfires, cyclones, earthquakes, floods and severe storms combined. Queensland is experiencing increasingly hotter weather, with an increase in exposure to higher temperatures and heatwaves causing heat stress and illness, including deaths. Extreme heat increases the risk of heat related illness across the whole population, and can also exacerbate pre-existing conditions such as cardiac and respiratory conditions. Children, the elderly and workers exposed to high heat (i.e. outdoors or indoors without adequate cooling) are most at risk (5,6).</td>
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<tr>
<th>INFECTIOUS DISEASES AND VECTOR-BORNE THREATS</th>
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<tr>
<td>A warmer climate and changing rainfall patterns will increase the range and prevalence of food, water and vector-borne diseases such as dengue fever (which is expected to reach northern NSW by 2100), parasitic (zoonotic) diseases (e.g. leptospirosis), and the prevalence of illnesses resulting from exposure to pathogens (e.g. gastroenteritis, respiratory illnesses following exposure to moulds and fungi after floods) (3,8,9,10). Dengue is transmitted by <em>Aedes aegypti</em> and <em>Aedes albopictus</em> mosquitoes. <em>Aedes aegypti</em> is also the vector of zika and chikungunya viruses which are both potential threats to Queensland (11). Changes in ocean temperatures, acidity and currents also mean that marine organisms such as irukandji jellyfish may increase their range southwards to areas where they have not been seen previously (12).</td>
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<tr>
<th>FOOD AND WATER SECURITY</th>
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<td>Changes in prevailing weather patterns threaten the security and quality of water sources and the productivity of major agricultural regions in Queensland, with implications for ensuring food and water security for a growing population (3,9,13,14). Severe weather events like floods and cyclones may interrupt water and sewerage treatment services and interrupt transportation of food, medicines and other supplies. Food spoilage and water safety impacts will increase.</td>
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OCCUPATIONAL HEALTH IMPACTS

Hotter temperatures place outdoor and manual labourers at increased risk of heat related illnesses, work accidents and death, while the increased incidence of extreme weather events increases occupational risks for emergency services (15,16,17). Heat stress in the workplace resulting in reduced productivity and absenteeism is estimated to cost the Australian economy $6.2 billion per annum (27).

MENTAL ILLNESS AND STRESS

Ongoing environmental change and more frequent and severe weather events, combined with the social and economic impacts of climate change, increase the risk that Queenslanders will experience mental illness and stress (13,14,18,19). Increased levels of anxiety, depression, family violence, alcohol and drug abuse often follow weather disasters, and can have ongoing effects on children and adults.

AEROALLERGENS AND AIR POLLUTION

Increases in atmospheric temperatures lengthen the pollen season and alter chemical reactions of some air pollutants such as ozone and particulate matter, increasing exposure to aeroallergens and aggravating conditions such as allergic rhinitis, as well as heart and lung conditions including asthma, while increasing the risk of mortality. Longer bushfire seasons and more frequent and severe bushfires also increase air pollution and respiratory illnesses such as asthma (13,20,21,22).

VULNERABLE POPULATIONS

Vulnerable populations will suffer disproportionately the adverse health impacts of climate change in Queensland (as in Australia and overseas), with people with pre-existing medical conditions, older people, young, disabled, socioeconomically disadvantaged, isolated and Indigenous Australians are identified as being particularly vulnerable (1,4,8,9,16,19,24,25).

SOCIAL INSTABILITY, NATIONAL SECURITY AND CONFLICT

With millions globally at risk of becoming environmental refugees (10, 16) and with the low-lying islands of the Asia-Pacific region being particularly vulnerable to the effects of climate change (3) despite their minimal contribution to causing climate change and its consequences, the most vulnerable and those least able to adapt, suffer earliest and hardest. Displacement of populations in the region as sea levels rise, leading to inundation of human settlements and/or loss of productive land may see increasing population pressures in Queensland. The accompanying demands on infrastructure, and subsequent economic and social pressures, may lead to future conflicts over scarce resources. (29) and place increasing pressure on Australia and its defence force (3,13,3,26).
The role of mitigation in supporting effective adaptation

To build resilience to climate change and to prepare for a low carbon world, the health and wellbeing sectors need to consider their own contribution to climate change, and begin to address the sector’s contribution to national emissions, estimated to be around 7% of total national emissions (31). There is significant scope and opportunity for the health sector to improve health system resilience, strengthen public health and wellbeing, and support adaptation to climate change by transitioning to low carbon, environmentally responsible operations. Investing in this transition will also deliver economic benefits, ensure the ongoing delivery of safe, high quality care, and support the health and wellbeing workforce to appropriately respond to the challenges of a changing climate (34).

In its Action Agenda at the 2016 Global Conference on Climate and Health, the World Health Organization called on the health sector to, “lead by example, advancing models of low-carbon healthcare that improve access to healthcare services, reduce occupational and environmental health risks and save energy costs across high-, middle-, and low-income settings. This includes reducing carbon emissions associated with healthcare in large facilities in high- and middle-income countries, and implementing sustainable, low-carbon procurement, energy efficiency, transportation, and healthcare waste management policies in all settings.”

The opportunities to respond to this call are many. Health services across the world are responding to this challenge by investing in renewable energy and energy efficiency, reducing waste through careful procurement strategies and recycling, improving food quality and patient outcomes through the provision of locally sourced, chemical free, whole foods, supporting public and active transport options for staff, and switching to anaesthetic gases with lower global warming potential.

Many of these are part of the rapidly growing Global Green and Healthy Hospital (GGHH) network, an international network of hospitals, health care facilities, health systems, and health organizations dedicated to reducing their environmental footprint and promoting public and environmental health. The network connects and supports people leading the environmental agenda in healthcare institutions so they can share best practices and find solutions to common challenges. The GGHH network has more than 997 members in 51 countries on 6 continents representing the interests of over 32,300 hospitals and health centres.

There are 39 GGHH members in Australia and New Zealand (Pacific region), representing 787 hospitals and health services. St Vincent’s Health Australia, Mater Health and Princess Alexandra...
Hospital in Brisbane, and Uniting Care Qld, are some of the GGHH members who are benefitting from the lessons, tools and resources available in this global network as they work to strengthen their climate resilience, reduce their emissions and environmental footprint, and in so doing, protect and promote health and wellbeing.

**Current climate adaptation including existing policy and guidelines**

Queensland has become practiced in dealing with extreme weather disasters and their health impacts, particularly in the past decade which has seen multiple major events including drought, cyclones, heatwaves, bushfires and floods. Queensland Health adopts an all-agencies and all-hazards approach to disaster and emergency incident management across the prevention, preparedness, response and recovery phases (30). These phases also guide planning for climate adaptation within a longer term and integrated framework, to ensure best outcomes for Queenslanders. This H-CAP will reflect and build on existing policy as it outlines policy directions and priority action areas to support the sector in meeting its goal of protecting and enhancing the health and wellbeing of Queenslanders.

**Existing Queensland Policy**

The Queensland Climate Change Response is outlined in two key strategies.

- [Queensland Climate Transition Strategy](#) outlines how we will transition to a zero net emissions future that supports jobs, industries, communities and the environment.
- [Queensland Climate Adaptation Strategy](#) outlines how we will prepare for current and future impacts of a changing climate that reduces risk and increases resilience.

There are a number of other plans and strategies for Queensland which outline responses to extreme events, and which are relevant to a climate affected future. These cover a range of aspects including: increasing resilience to disasters, food safety, disaster and emergency, mass casualty, blood supply emergency and contingency, pandemics, heatwave response, and human and social health in relation to disasters.
Previous work - the Framework for a National Strategy on Climate, Health and Well-being for Australia

In June 2017, 34 health organisations published the Framework for a National Strategy on Climate, Health and Well-being for Australia. The Framework was developed following extensive consultation with health and policy stakeholders, and responds to the priorities and concerns of healthcare stakeholders in relation to the health impacts of climate change.

This national consultation identified limitations and gaps in both adaptive and mitigation policies to respond to the impacts of climate change on human health and on the health sector. It also revealed a strong appetite among healthcare stakeholders to be involved in collaborative policy development, and strong support for a national strategy.

The Framework provides a high-level policy framework against which jurisdictions can measure and demonstrate progress on the Lancet Countdown indicators (a global project tracking progress on climate and health). It is intended to support and guide the implementation of programs and initiatives to respond, which will in turn help produce data to evaluate against such indicators.

Crucially, this document provides tangible strategies with measurable outcomes. It also identifies key structural and organisational opportunities to mitigate climate change.

The Framework identifies seven key areas of policy action, underscored by eight fundamental principles (see figure 3 below). It advocates for climate change action from health and economic perspectives, and recommends the adoption of climate change mitigation and adaptation strategies, which represent immediate and long-term benefits to human health and the local economy.

One of the questions in the stakeholder survey (see Appendix) asks for feedback on current gaps in policy and whether these nationally identified policy action areas should be prioritised/included in the H-CAP.
<table>
<thead>
<tr>
<th>Area of Policy Action</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1. <strong>Health-Promoting and Emissions-Reducing Policies</strong></td>
<td>Policies that reduce the risks to people's health and well-being while simultaneously reducing greenhouse gas emissions.</td>
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<tr>
<td>2. <strong>Emergency and Disaster-Preparedness</strong></td>
<td>Supporting the identification of vulnerable populations and gaps in infrastructure in order to adequately prepare for the impacts of climate change.</td>
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<tr>
<td>3. <strong>Supporting Healthy and Resilient Communities</strong></td>
<td>Enhancing the capacities of communities to anticipate their climate risks and reduce impacts on health and wellbeing in their communities.</td>
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<tr>
<td>4. <strong>Education and Capacity Building</strong></td>
<td>Educating and raising awareness of the health impacts of climate change within the health workforce, and the wider Australian community.</td>
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<tr>
<td>5. <strong>Leadership and Governance</strong></td>
<td>Establishing effective governance arrangements which facilitate horizontal and vertical collaboration in implementing climate change and health initiatives at the national level, and advocating and demonstrating leadership internationally on action to address the health impacts of climate change.</td>
</tr>
<tr>
<td>6. <strong>A Sustainable and Climate-Resilient Health Care Sector</strong></td>
<td>A low/zero carbon, environmentally sustainable, climate-resilient health sector which can effectively respond to the health impacts of climate change.</td>
</tr>
<tr>
<td>7. <strong>Research and Data</strong></td>
<td>Supporting Australia's health and climate research capacity to evaluate specific health threats, priority needs and to monitor trends and opportunities for maximising multi-sector benefits.</td>
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</table>

*Figure 3: Seven Areas of Policy Action, Framework for a National Strategy on Climate, Health and Wellbeing for Australia.*
Your feedback and input to the H-CAP

Challenges and Opportunities

Part of the process of developing the H-CAP is to find out from stakeholders what they see as both the challenges and the opportunities for the sector /their organisations, in relation to climate adaptation and mitigation, and how their actions may impact on communities they serve. We are also interested in what steps organisations are already taking in regard to climate adaptation.

The specific aims of the survey feedback are three fold:

- To engage health and wellbeing stakeholders in Queensland to provide feedback on the core elements of the Discussion Paper to and to contribute to the development of a Climate, Health and Wellbeing Adaptation Plan for the Health Sector (Health CAP or H-CAP) in Queensland
- To evaluate awareness among stakeholders concerned with human health and wellbeing regarding current policy settings relevant to climate change and health
- To identify policy gaps, key concerns, barriers, and key drivers or opportunities which may be helpful in implementing the next stages of H-CAP

Your feedback on the challenges, the opportunities and the barriers to action, via the attached survey will inform the direction and development of the H-CAP.

Please discuss the H-CAP with your colleagues and encourage them also to respond to the survey (by Friday 2 March 2018), or contact the H-CAP team at f.tonmoy@griffith.edu.au.

You can read the survey in the Appendix following.

Please visit the following link to complete the online survey: https://www.surveymonkey.com/r/QHCAP
References (including health impacts table)


33. See https://cpd.org.au/2016/10/directorsduties/
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>H-CAP</td>
<td>Human Health and Wellbeing Climate Adaptation Plan for Queensland</td>
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<tr>
<td>NCCARF</td>
<td>National Climate Change Adaptation Research Facility and</td>
</tr>
<tr>
<td>CAHA</td>
<td>Climate And Health Alliance</td>
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<tr>
<td>QH</td>
<td>Queensland Health</td>
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<tr>
<td>QCOSS</td>
<td>Queensland Council Of Social Services</td>
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<tr>
<td>DES</td>
<td>Department of Environment and Science</td>
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<tr>
<td>GGHH</td>
<td>Global Green and Healthy Hospitals Network</td>
</tr>
<tr>
<td>Adaptation</td>
<td>The steps governments, businesses, communities and individuals take to deal with risks from climate change impacts.</td>
</tr>
<tr>
<td>Adaptive capacity</td>
<td>The ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.</td>
</tr>
<tr>
<td>Climate</td>
<td>Climate relates to the average weather over a period of months to thousands or millions of years.</td>
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<tr>
<td>Climate change</td>
<td>Any significant change in the measures of climate lasting for several decades or longer, including changes in temperature, precipitation, or wind patterns. Historically, the Earth’s climate has changed over time but there is strong scientific consensus that the recent observed changes, over the past 50 years or so, have been primarily caused by human activities.</td>
</tr>
<tr>
<td>Climate risk</td>
<td>The potential for adverse consequences on lives, livelihoods, health, ecosystems and species, economic, social and cultural assets, services (including environmental services), and infrastructure</td>
</tr>
<tr>
<td>Climate legal risk</td>
<td>Climate legal risk is the risk of exposure to legal action that accompanies a decision that relates to climate change impacts. It encompasses the above elements of factual and legal uncertainty, and specifically concerns the risk arising from legal duties and obligations as they relate to the impacts of climate change.</td>
</tr>
<tr>
<td>Term</td>
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<tr>
<td>Disaster resilience</td>
<td>Disaster resilience is the capacity to prevent, mitigate, prepare for, respond to, and recover from the impacts of disasters.</td>
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<td>Hazard</td>
<td>In the context of climate change, hazard refers to any potential occurrence of a natural or human-induced physical event that may cause damage to property, infrastructure, livelihoods, service provision, environmental resources etc.</td>
</tr>
<tr>
<td>Heatwave</td>
<td>Three or more days of unusually high maximum and minimum temperatures in any area.</td>
</tr>
<tr>
<td>Mitigation</td>
<td>Climate change mitigation includes actions taken globally, nationally and individually to limit changes in the global climate caused by human activities. Mitigation activities are designed to reduce greenhouse emissions and/or increase the amount of greenhouse gases removed from the atmosphere.</td>
</tr>
<tr>
<td>Resilience</td>
<td>The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation</td>
</tr>
<tr>
<td>Risk assessment</td>
<td>A systematic process of evaluating the potential risks that may be involved in a projected activity or undertaking</td>
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<td>Social capital</td>
<td>Links, shared values and understandings in society that enable individuals and groups to trust each other and so work together.</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a result of the type, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its ability to adapt.</td>
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Survey Questions

The Queensland Department of Environment and Science (DES) has engaged the National Climate Change Adaptation Research Facility (NCCARF) and the Climate and Health Alliance (CAHA) to facilitate the development of a Climate, Health and Wellbeing Plan with the Health Sector (H-CAP) in Queensland. This survey seeks feedback from health and wellbeing stakeholders in Queensland about their priorities and concerns regarding the impact of climate change on their services and the population more broadly. This may include challenges in adapting to climate change, and opportunities for the sector from climate action, to inform the development of effective responses.

This survey has 31 questions. Please feel free to skip those parts of the survey that don’t apply to you. If you do complete the whole survey, we estimate it will take you about 20 minutes.

Section A. About the respondent (10 questions)

1. Are you responding as an individual or as a delegate of an organisation? [Please select one]
   - Individual
   - Delegate of an organisation

   [If responding as a delegate of an organisation, please respond to the remaining questions with respect to your organisation]

2. If you are responding as a delegate of an organisation, please select the type of organisation(s) you represent:
   - General Practitioner
   - Specialist
   - Primary healthcare service
   - Rural / remote health clinic
   - Health promotion
   - Community health
   - Women’s health
   - Health or other union
   - Research institution
   - Academic institution
   - Health consumer organisation
   - Public aged care facility
   - Private aged care facility
- Public childcare facility
- Private childcare facility
- Early childhood education and/or childcare
- Professional association for aged care
- Professional association for early childhood education or childcare
- Professional association for of health care practitioners
- Professional development / education provider
- Health department (Local)
- Health department (State)
- Health department (Federal)
- Health advocacy organisation
- Health insurance providers
- None – I am responding as an individual
- Other (please specify)

3. What size of organisation do you represent?  [If appropriate, please respond according to the subset of the organisation or department of the organisation on whose behalf you are responding]
- 1-5 staff
- 6-20
- 21-49
- 51-100
- Over 100
- None – I am responding as an individual

4. If you are a member based organisation, how many members do you represent?
- 1-100
- 101-1,000
- 1,001-10,000
- 10,001-100,000
- 100,000+
5. Who are your clients / constituents? Please describe

- older people
- people with a disability
- children
- general public
- socioeconomically vulnerable groups
- service provider organisations
- others, please specify

6. Please give an indication of the number of people in your care.

- 1-50
- 51-100
- 101-1,000
- 1,001-10,000
- 10,001-100,000
- 100,000+

7. What role do you hold in the organisation?

- Senior management
- Mid-level management
- Junior position
- Advisor
- Board member
- Other (please specify)

8. In which of the following region you or your organisation operate?

- Cape York
- Central Queensland
- Central West Queensland
- Eastern Downs
- Far North Queensland
- Gulf Region
- Maranoa and District
• North Queensland
• North West Queensland
• South East Queensland
• South West Queensland
• Whitsunday, Hinterland and Mackay
• Wide Bay-Burnett
• Whole Queensland
• Other (please specify

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9. Did you get a chance to read the Discussion Paper before completing this survey?

▪ Yes
▪ No

10. How did you find out about H-CAP and this survey?

• Call for stakeholder nomination
• Through colleagues/ workplace
• Media
• Other, please specify

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Section B: Awareness of the impact of climate change on health and wellbeing (5 questions)

11. To what extent are you aware of the health /wellbeing risks associated with climate change?

▪ Highly aware
▪ Some level of awareness
▪ Not at all aware

12. Which of the following impacts on health and wellbeing associated with climate change will be relevant to your organisation or the people in its care?

▪ Heat stress
▪ Food insecurity / malnutrition
▪ Impacts on children’s health and development
▪ Deaths and injuries (associated with extreme weather events)
▪ Worsening chronic illnesses
- Mental health issues (social and emotional distress)
- Increased social vulnerability
- Increases in vector borne and infectious diseases
- Increases in cardiovascular and/or respiratory disease
- Impacts on organisational capacity to fulfil its objectives
- Impacts on organisations capacity to deliver services
- Other, please specify

13. To what extent are you aware of the health benefits associated with climate mitigation and adaptation strategies?
- Highly aware
- Some level of awareness
- Not at all aware

14. Which of the following benefits do you think will result from climate mitigation and adaptation strategies?
- Reduced heat stress
- Improved air quality (from cleaner energy and transport)
- More comfortable, climate-sensitively designed buildings, infrastructure, public and urban spaces
- Reduced risk of acute and chronic illnesses (e.g., less respiratory illnesses and cardiovascular disease from reduced air pollution)
- Reduced incidence of non-communicable diseases (obesity, heart disease, diabetes, depression) from more active and public transport options
- Improved mental health, reduced social and emotional distress/worry
- Improved food and water security
- Reduced health/wellbeing inequalities
- Increased climate resilience (individual, community, organisational)
- Stronger communities
- Reduced risk on our organisation’s ability to operate
- Other, please specify
15. Have you ever undertaken any activities to assess the risk of climate change to your organisation and the people in its care?

- Yes
- No
- Not sure
- If YES, Please specify

Section C: Understanding of climate-related challenges for the health and wellbeing sector (11 questions)

16. What are the most important impacts resulting from climate change that you believe organisations related to health and wellbeing must address? (Please tick up to three that you see as the most important.)

- Increased risk of damage to their assets from extreme weather events
- Increased risk of disruption in services as a result of interruption to supply chains
- Threats to safety and quality of care related to the impacts described above
- Impacts on staff and their families
- Impacts on wider population from increased frequency and/or magnitude of extreme climate events such as heatwaves, cyclones and floods
- Increasing spread of infectious or vector borne diseases
- Exacerbation of chronic illnesses from increased air pollution, higher levels of aeroallergens, heat stress
- Increased levels of social, mental or emotional stress
- Increased costs to health and wellbeing organisations of disaster management
- Increasing energy costs
- Increased demand for the services
- Increased difficulty in obtaining/expense of insurance against natural hazards
- Other, please specify

Further comments?

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17. What do you think are the greatest challenges for health and wellbeing organisations in responding to these impacts? (Please tick up to three that you see as the most important.)

- Understanding how climate change will affect your organisation
- Predicting and planning for future costs of adaptation and mitigation
- Developing and implementing strategies to enhance climate resilience in service operations
- Obtaining effective guidance from government organisations about climate change and managing short, medium and long-term climate risks
- Understanding and managing the effects of interaction between climate change and other drivers/pressures that affect your organisation (e.g. changing populations, increasing energy costs, availability of natural resources)
- Dealing with differing priorities, in order to manage the impacts of climate change at the most appropriate scales
- Identifying novel adaptive planning/policy/regulatory options that facilitate effective response to climate change
- Legal liability of stakeholders / services in relation to climate risk
- Relocation of essential services (e.g. hospital, emergency services) and community resources (e.g. nursing homes, age care facilities) in order to reduce exposure to increasing intensity of natural hazards (e.g. relocate services from flood prone areas)
- Cost of infrastructure maintenance or replacement
- Awareness of current and future risks among:
  - the health and wellbeing workforce
  - the broader population
- Access to relevant information, approaches, lessons learned with peers
- Establishing mechanisms for funding the implementation of adaptation options
- Social vulnerability - such as poverty and inequality, marginalisation, education, food security and diet, access to insurance, transport options, community and family networks, gender, race, socioeconomic status, age and language, geography and housing quality
- Other (please specify):
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18. What might prevent the best possible decisions being made about present and future climate-related risks to your organisation?

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19. What do you consider to be the single most important barrier to progress on addressing climate change impacts for services related to human health and well-being?

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20. Thinking about the most important barrier you identified in Question 19, what could be done to overcome this barrier?

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21. What knowledge gaps prevent the best possible decisions being made about present and future climate-related risks? Lack of knowledge about (please tick any that apply):

- Present-day risks from a changing climate
- Future risks from climate change in your area
- Potential adaptation options or solutions to help mitigate these risks
- Available resources to support adaptation
- Policies, laws and planning regulations to support management of the risks
- Effects of climate change on human health and wellbeing
- Other (please specify):
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22. Are you already engaged in any kind of climate adaptation / mitigation activities in your organisation?

- Yes
- No
- Not sure
- If YES, Please specify
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23. This project is facilitating the development of a climate adaptation plan for services related to human health and wellbeing (H-CAP). In your opinion what are the three top most factors that are essential and should be addressed in the H-CAP.

1. ........................................................................................................................................

27 of 30

To what extent do you think these policy action areas should be prioritised in the Queensland H-CAP?

Rate each one as high, medium or low priority for you or your organisation

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<tr>
<th></th>
<th>Health-Promoting and Emissions-Reducing Policies</th>
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<tbody>
<tr>
<td></td>
<td>Policies that reduce the risks to people’s health and well-being while simultaneously reducing greenhouse gas emissions</td>
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<th>Emergency and Disaster-preparedness</th>
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<td>Supporting the identification of vulnerable populations and gaps in infrastructure in order to adequately prepare for the impacts of climate change.</td>
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<th>Supporting Healthy and Resilient Communities</th>
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<td>Enhancing the capacities of communities to anticipate their climate risks and reduce impacts on health and well-being in their communities</td>
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<th>Education and Capacity Building</th>
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<td>Educating and raising awareness of the health impacts of climate change within the health and wellbeing workforce, and the wider Australian community.</td>
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<th>Leadership and Governance</th>
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<td>Establishing effective governance arrangements which facilitate horizontal and vertical collaboration in implementing climate change and health initiatives at the state level, and advocating and demonstrating leadership at a state level on action to address the health impacts of climate change.</td>
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<th>A Sustainable and Climate-resilient Health and Well-being Sector</th>
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<td></td>
<td>A low/zero carbon, environmentally sustainable, climate-resilient health sector which can effectively respond to the health impacts of climate change.</td>
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</table>
25. To what extent do you think social vulnerability should be included in the H-CAP?
This would entail planning for differing levels of access to resources to prepare for, cope with, and recover from, disasters and climate change, by accounting for factors such as poverty and inequality, marginalisation, education, food security and diet, access to insurance, transport options, community and family networks, gender, race, socioeconomic status, age and language, geography and housing quality.

Please list your suggestions here: __________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

26. Climate change impacts span across multiple sectors, therefore it is important to understand linkages with other sectors. In your opinion, what cross sectoral issues should be considered in a health and wellbeing adaptation plans?
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

Section D. What are the core principles you think should underpin the H-CAP (3 Questions)?
Two examples below may provide some ideas.

27. Following are the eight principles that underpin the Framework for a National Strategy on Climate, Health and Wellbeing for Australia. Please indicate below which of these you consider relevant to the H-CAP.
   - The right to health
   - Community safety and resilience
   - Environmental protection as a foundation for human health and wellbeing
   - Health in All Policies
   - Intergenerational/intra-generational equity
   - Minimising and managing risk
   - Indigenous rights, recognition and reconciliation
   - Citizen engagement

28. Qld Climate Adaptation Strategy (QCAS) presents following principles. Please indicate which of these you consider relevant to the H-CAP.
   - Adaptation programs should be risk-based and people-focused.
   - A healthy natural environment is fundamental to successful adaptation, providing critical ecosystem services and support for community wellbeing.
   - Adaptation involves continuous improvement.
• Adaptation responses should be evidence-based, effective, flexible, equitable, inclusive and able to respond to new information.
• Adaptation is best achieved through collaboration, with responsibility shared across all levels of government, industries and communities.
• Adaptation, resilience and risk management should be integrated into all levels of policy, planning and implementation.
• Adaptation must be sustainable and avoid perverse outcomes, including detrimental impacts on communities, other sectors, the economy or the natural environment.
• Adaptation action is complementary to mitigation action.

29. Are there other principles that you think should underpin the H-CAP for Queensland? Please specify.

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Section E: Final remarks (2 questions)

30. Do you have any final comments related to this survey? Please specify.
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31. If you would like to stay in touch, and be kept informed about the further development of this plan, please provide your name and email address

  First Name……………………
  Last Name……………………
  Email……………………....

Thank you for completing this survey.