Ethos heat-health 65+ Qld Survey

Technical Report

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Ethos Survey 2022- Technical Report

Author

Ethos Project Team- Aaron Bach, Connor Forbes, Ella Jackman, Mehak Oberai, Shannon Rutherford, Sebastian Binnewies, Steven Baker, and Zhiwei Xu

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Contents

This document serves as a comprehensive guide tailored for researchers, academics, and policy makers. It offers a detailed exposition of the methodology employed during the survey tool's development process, aimed at facilitating the nuanced comprehension of the survey outcomes.

For information on demographics and sample representativeness please see Ethos Project: Policy Maker Report for the 2022 Heat Health and Digital Technology Survey (11-12).

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The survey described in this report was commissioned by Griffith University's Ethos Research Team. The survey was conducted by mainly Ethos core team members, Aaron Bach, Connor Forbes, Ella Jackman, Mehak Oberai, Sebastian Binnewies, Shannon Rutherford, Steven Baker, and Zhiwei Xu. Other members of the Ethos whole of team who provided valuable contributions to the content of the questionnaire included Sarah Cunningham, Dung Phung and Son Nghiem.

Graham Bradley and Louis Houston gave excellent expert feedback in their relevant areas. The team from Qualtrics played a vital role in survey build, recruiting participants from their panel, and implementing the survey. Their diligence and flexibility in performing these roles is very much appreciated.

"Appreciation is also extended to the 547 Respondents who completed the online and paper-based questionnaire".

Executive summary

The escalating impact of extreme and unprecedented heatwaves, attributed to global climate change, has resulted in adverse consequences, including increased mortality and morbidity across various regions worldwide. Notably, Spain, Portugal, and Europe have witnessed significant casualties due to recent heatwaves. Australia, experiencing a 1.5°C temperature rise since 1910, faces escalating challenges, particularly for older populations, contributing to heightened mortality rates during heatwaves.

The survey was a planned activity of the first year of the Ethos (Extreme Heat in Older Persons) project, a comprehensive initiative in Queensland. The project aims to identify vulnerability among older Queenslanders by developing an in-home solution to monitor heat exposure, assess risks, and support appropriate responses. The report centres on a sub-study conducted during the first year—a user survey targeting Queenslanders aged 65 and above.

Aligned with the theoretical framework proposed by Garcia and Fearnley, the Ethos project revolves around four key elements: risk knowledge, monitoring, communication, and response capability. To understand the perspectives of the target population, a state-wide survey was conducted, covering key areas such as knowledge and attitudes towards heat as a health problem, behaviour during heat events, and the attitude and use of personal and monitoring technologies.

The survey design and administration process are crucial components highlighted in this report. By addressing critical questions related to heat knowledge, coping strategies, and technology accessibility, the survey serves as a valuable tool to gather insights from older Queenslanders. The ultimate goal is to enhance preparedness and response capabilities, ensuring the well-being of vulnerable populations during extreme heat events.

This report offers a concise overview of the survey's purpose, emphasizing its relevance for researchers, stakeholders, and individuals interested in developing similar surveys or utilizing the survey tool employed by the Ethos project.

Acronyms and abbreviations

EWS	**Early Warning System**
Ethos	**Extreme heat and older persons**
ABS	**Australian Bureau of Statistics**
AIHW	**Australian Institute of Health and Welfare**
UCLA	**University of California, Los Angeles**
CAS	**Climate Action Survey**
STAM	**Senior Technology Acceptance model**
OEQs	**Open ended questions**
CEQs	**Close ended questions**
ATT	**Attitude towards usage of technology**
BNE	**Brisbane**
QLD	**Queensland**
CATI	**Computer assisted telephonic interviews**

Introduction

Extreme and unprecedented heatwaves leading to hot days, warm nights, and extended periods of elevated temperatures have been witnessed across different parts of the world, from Europe, Asia, North Africa to Middle East during the last few summers. This is a consequence of rising earth temperatures due to climate change[1,2]. These heatwaves have resulted in increased mortality and morbidities among our populations[3]. For instance, in Spain and Portugal, 1700 deaths have occurred solely due to the recent heatwaves of 2022[1,2] and over 70,000 excessive deaths occurred in whole of Europe for the 2022 summer[3].

Australia has warmed by 1.5°C up since 1910 and the number, frequency, and intensity of heatwave days in the country is increasing[4]. Rising temperatures result in increased morbidity and mortality rates particularly in older people (especially among those with pre-existing health conditions and aged above 65yrs)[5]. Indeed, risk of mortality increased by 5% during heatwaves, putting increased pressure on healthcare services including emergency department visits, hospital admissions, and ambulance dispatches in Queensland between 2010 and 2019[6]. Understanding vulnerability is key to adequately preparing and responding to extreme events, including heat. Older populations are one group of our society who are particularly vulnerable to heat. This vulnerability is driven by a combination of physical, socio-economic, and physiological factors[5,7]. The Ethos (Extreme Heat in Older Persons) project aims to better identify vulnerability among older Queenslanders by developing an in-home solution to monitor heat exposure, identify risk, and support appropriate response to heat associated risks. This report focuses on a year 1 sub-study of the larger study - a user survey of older Queenslanders (65 and above), which sits under the umbrella of the larger project.

Core to the Ethos project is the theoretical concept proposed by an early warning systems framework by Garcia and Fearnley[8]. This tested framework commonly utilised at a population level to manage disaster and extreme weather risks, is framed around four key elements: risk knowledge, monitoring, communication, and response capability[8]. To achieve the Ethos project goals, it is critical to understand views and perspectives of our target population. To this end we undertook a state-wide survey of older people in Queensland to understand their heat and health risk knowledge, heat coping strategies, and accessibility to and use of digital technologies. The key areas addressed by this survey to fulfill this aim include:

- **Knowledge and attitude towards heat as a health problem**: this section focussed on knowledge, attitudes, perception, and experience of extreme heat conditions and the impact of the heatwaves on health of the respondents.
- **Behaviour when responding to heat stress and heat event messaging:** The survey questions in this section were formulated around: How do people currently respond to increased heat? What messaging are they currently receiving, and does it change their behaviour? How do older people in Queensland monitor and respond to heat as a health problem?
- **Attitude and use of personal and monitoring technologies:** The key research questions used to formulate survey questions in this section were: Do they have access to and use personal or monitoring technologies? and What are their perceptions of use (and barriers to use) of current and emerging personal and monitoring technologies?

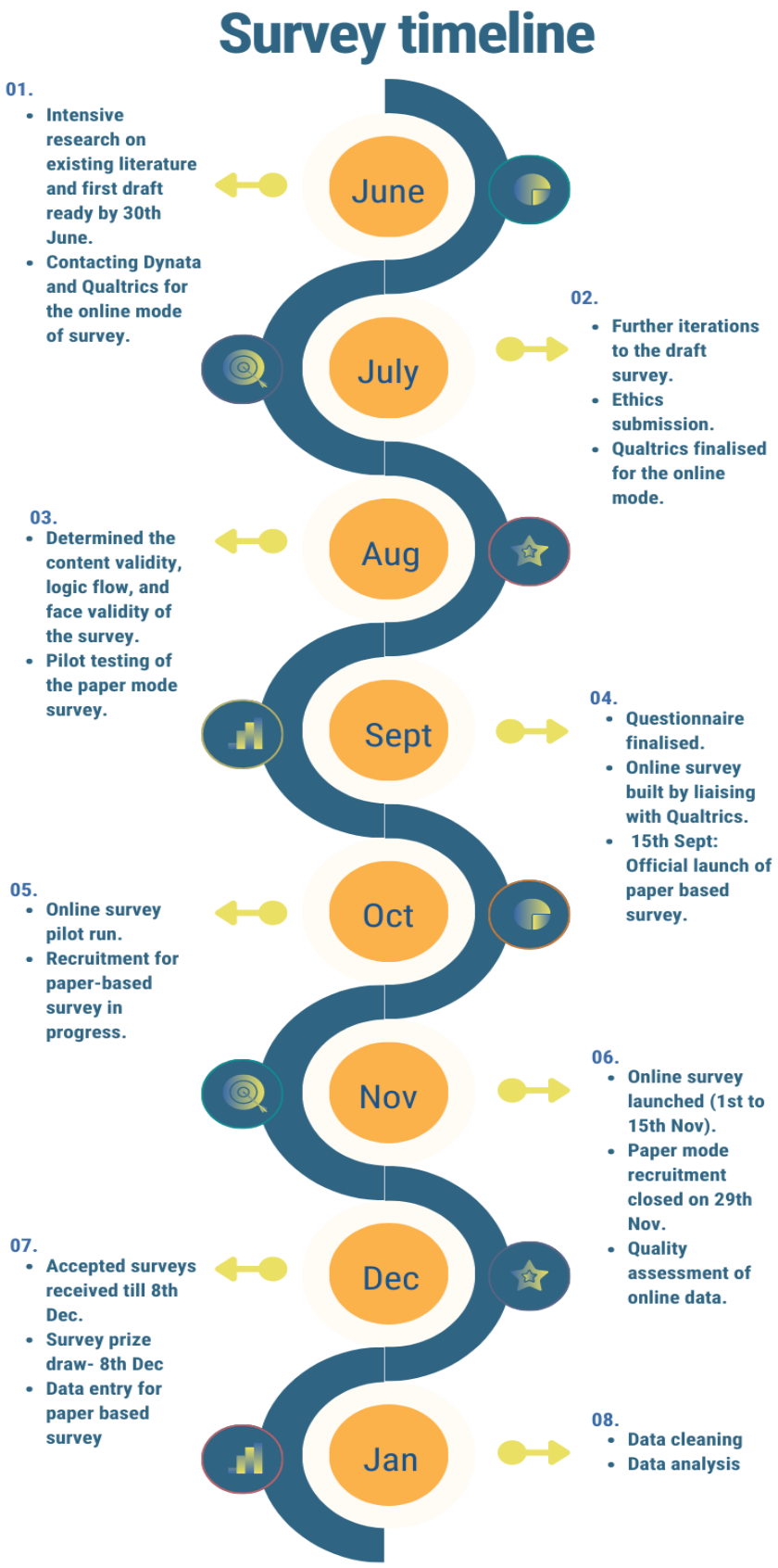

Figure 1. Timeline of survey processes

1. Sample size: target population

Sample size determination is an important aspect to consider for attaining accuracy with the data collected, as sample is an approximate microcosm of the population. According to Australian Bureau of Statistics (ABS), population in Queensland is around 5.2 million with older people accounting for 16-17% of this population[9]. Assuming the population of older Queenslanders to be approximately 850,000, a survey sample of at least 384 was required for the results to meet 95% confidence level with 5% margin error.

Queensland, the third largest state in Australia, has varied climate zones ranging from tropical to hot arid[9]. With different climatic conditions the impact of heatwaves can be felt differently, and people may be using different behavioural strategies to cope with heat. To capture these nuances in our survey we applied climate zone quota to our online sample. This was based on the proportion of population in each zone- 11% for climate zone 1, 81% for zone 2, 3% for zone 3, and 5% for zone 5[9].

No age or gender quotas were applied as it is very challenging to target respondents over the age of 65 or above in online panels. Applying these quotas would have had a negative impact on the feasibility and data collection times for the survey. Instead, only climate zone quotas were applied.

2. Survey design and development

As the primary goal of the Ethos project is to develop an individualised early warning system (EWS) for people aged 65 and above, collecting information from this age group was one way to improve our understanding of the potential user group, with regards to heat, health, and digital technology. Using this survey as a tool helped us gain an insight of the perspectives and views of older Queenslanders regarding the problem under study.

The survey was loosely structured on Garcia's and Fernley's[8] EWS framework (Figure 1). Early warning systems are used in disaster risk management to provide timely warnings to populations at risk. These warning systems are people centred with four key components: i) risk knowledge, ii) detection, monitoring, and forecasting, iii) building response capacity and preparedness, and iv) communication or dissemination of information. The Ethos survey was an omnibus survey designed with no specific hypothesis, but rather to collect data on the four key areas including demographics. The sections were designed with three key objectives to determine: i) knowledge and attitude towards heat as a health problem, ii) attitudes and use of personal and monitoring technologies, and iii) behaviours in responding to heat stress and messaging so as to inform the development of our designed system.

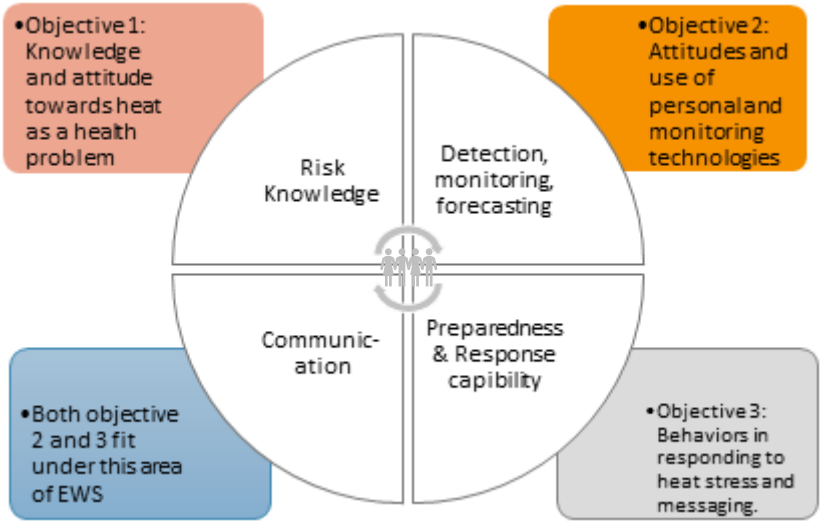

Figure 2. EWS framework linked to the survey objectives.

2.1 Section I – Demographics

This section included background information about the respondents incorporating social, economic, and physiological factors. It also included a subsection on individual health and co-morbidities so as to develop an increased understanding of our target population's health status. The questions in this section were based of standard questionnaires of ABS, Australian Institute of Health and Welfare (AIHW)[11], adapted from Griffith University's Climate Action Survey (CAS)[12], National Seniors Australia[13], and Queensland household energy surveys[14-15]. The UCLA loneliness[16] scale was also used to assess the level of social engagement in the respondents. Existing literature underscores the significance of all these factors as key determinants shaping individual responses during periods of very or extremely high temperatures.

2.2. Section II – Heat health risk knowledge and experiences

Section II of the survey was linked to the risk knowledge component of the EWS framework. The questions in this section were designed to access the level of knowledge that people have relating to extreme heat or very hot weather, to identify their perceptions about heat as a problem in general and heat as a problem to them personally (i.e., affecting their lives and living circumstances), and to gather information about their heat/extreme heat related experiences (targeted towards their health).

This section was mainly derived or adapted from surveys conducted by van Loenhout and Guha-Sapir[17], Nitschke et al [18-19], Soebarto et al[20], Hansen[21-22], Van Hoof et al[23], National Health Australia Survey (2020-21)[24], CAS survey[12], Sweltering Cities Summer Survey[25], ASHRAE SCALE (Bills et al[26]), and Kosatsky at al[27].

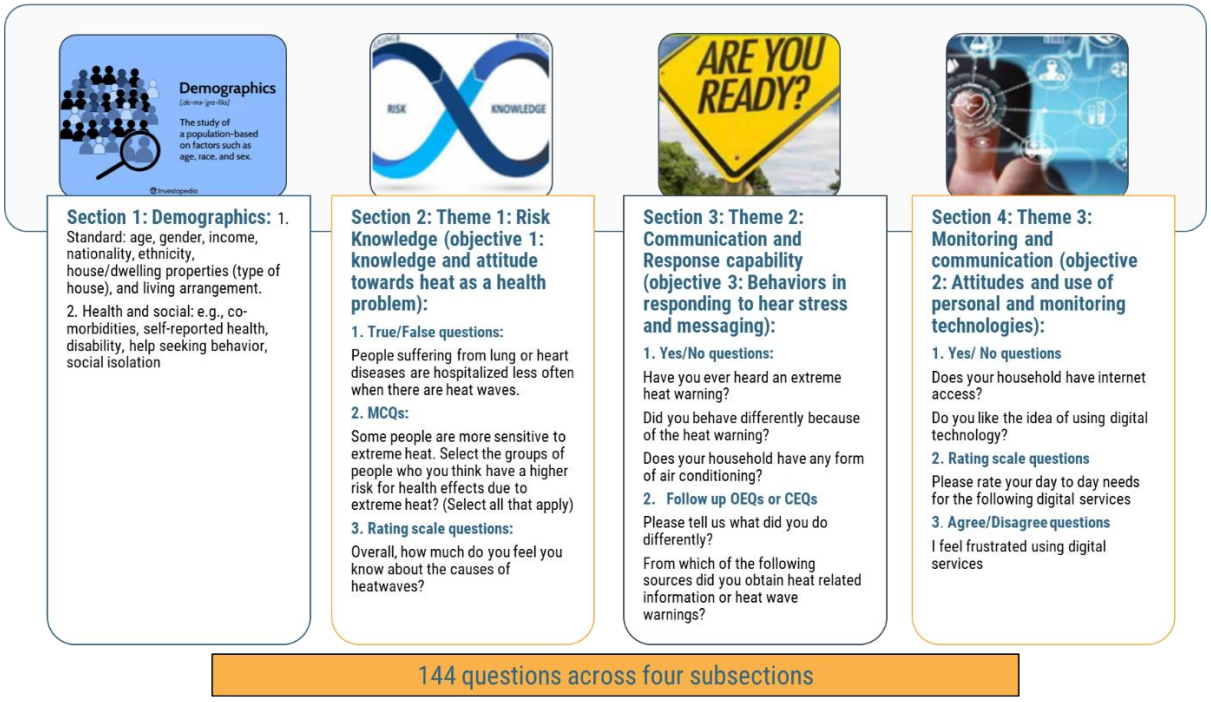

Figure 3. Overview of the four key sections of the survey linked to objectives and EWS framework.

2.3. Section III – Communication and cooling behaviours

Section III was based on the response capability, warning, and communication component of the EWS framework. The section gathered information about the respondent's knowledge of the existing systems of heatwave warnings and their preferences regarding sources for disseminating heatwave warnings and heat preparedness information.

It also includes a subsection aimed at identifying information about behaviour and response to heat and heat warnings. These questions aimed to collect information about help seeking behaviour, who they contacted during their time of need, heat adaptive modifications that they have installed or would like to install, and any factors or issues that prevented them from making changes to their home. These sections were based on the research of Soebarto et al[20], Sweltering Cities summer survey[25], Van Hoof et al[23], Sheridan (2007)[28], Nitschke et al[18-19], Madrigano et al[29], Erens et al[30], Howe et al[31], Khare et al[32], Lefevre et al[33], Loughnan et al[34-35], Lane et al[36], Lee & Shaman[37], and adapted from the CAS survey[12].

The final subsection focussed on air conditioning use. This section is important as air conditioner usage is a common solution to deal with extreme heat but has negative effects on the environment as it requires a high amount of energy and contributes to greenhouse gas emissions. Further it is expensive to run. The questions in this section focussed on various aspects of air-conditioning use- what time of day, at what temperature, and if they did not have, or did not using air-conditioning, exploring the reasons for this (Lee and Sharman[37], Richard et al[38]).

2.4 Section IV – Digital technology usage and acceptance

A key part of the Ethos system is an in-home device that issues alerts. Section IV of the survey was based on the monitoring, and communication component of the EWS framework. The aim of the questions in the section was to understand experiences and interest of the target group around technologies. It drew on the Senior Technology Acceptance model (STAM)[39] to gather data about frequency, trends, ability,

barriers, comfort, and confidence of older people in using digital technology and services. Table 1 describes the linkage of each question in section IV to STAM theory (Li 2016[40], ACMA 2018[41], Anderson 2017[42], National Senior Australia[43], Thomas et al[44], He et al 2013[45], Vaportzis et al[46], Sun et al[47], Heponiemi et al[48], Chen et al[49]).

Table 1. Linkage of each question in section IV to STAM theory

Questions	Factors of STAM accessed
K1, K3, K18A	Attitude towards using technology (ATT)
K2, K4, K5, K14, K16	Usage of technology
K6, K8	Frequency of usage
K7	Perceived usefulness, attitude towards technology usage
K9, K15	Gereontechnology self-efficacy
K10, K11	Confidence and perceived ease of use
K12, K18B, K18F	Perceived usefulness
K13	Facilitating conditions
K17, K19	For our designing component
K18C, K18D	Perceived ease of use
K18E, K18G	Facilitating conditions
K20, 21	Economics component
K22	OEQ

2.5 Validity: construct validity and survey piloting.

The survey was piloted with the user group (6 respondents for paper-based survey and 30 people from the panel of Qualtrics for the online mode). The survey was estimated to take approximately 25 minutes to complete online and 35-40 minutes when done on paper. During the piloting phase, the survey questionnaire was developed and shared with the stakeholders/experts across the fields of public health, heat-health epidemiology, sociology physiology, and digital technology to determine the content of the survey. This process contributed to the confidence in the content and face validity of the survey. Additionally, the survey was developed based upon already existing surveys[11-23] and adapted to the Queensland context, with the addition of further questions specific to this context developed in collaboration with major stakeholders.

Construct validity was determined by arranging a few questions in descending and ascending order scales. This according to literature is useful in reducing the response bias, especially in Likert scale questions[53]. All this process resulted in the development of a 144 questions long survey tool with 141 closed ended questions (CEQ) and 3 key open-ended questions (OEQ).

3. Survey Conduct (Administration method)

The Ethos Heat-health survey of older Queenslanders was administered through two modes:

1. **Online via panel (conducted in Early November 2022):** A survey company was contracted to implement the online survey using its panel method. The company was chosen because of the quality processes it offers around data collection with bot screening in place along with its commitment to provide the desired sample size using climate zone quotas. First, to test and refine the survey questionnaire to be used for the main study, a pilot study was conducted on 43 Older Queenslanders selected randomly from the professional survey provider's volunteer panel. The results helped us refine the final questionnaire before continuing the main study. A sample of 412 Queenslanders aged 65 and above completed the online questionnaire modified after the pilot testing. These people were randomly selected from the company's volunteer panel.
2. **Paper-based (Mid-September till Early- December 2022):** The aim was to recruit a sample size of around 120 Queenslanders aged 75 and above to complete the same paper-based version of the online questionnaire following pilot testing of 5 people in the target population, then refinement. The main sample was recruited through formal networks with project partners (by advertising using flyers [see Appendix 1] with requests to contact the project team to facilitate the posting of questionnaires to a mailing or email address) and informal networks. This sample was also recruited through newspaper advertisements as highlighted in the next section. This mode and age focus was chosen:
    - to reduce bias around digital technology use, as this was a key component of the survey, and
    - digital technology and the internet usage is less prominent in Australians over the age of 75, compared to Australians aged 65-74[50].

Table 2. Survey administration overview

TARGET POPULATION	Queenslanders aged 65 and above.
FINAL SAMPLE SIZE	412 (online) & 135 (paper-based)
ADMINISTRATION	Self-Administration through online and paper-based modes
SURVEY LENGTH	25 minutes (approximately)
SURVEY TIMING	Sept- Nov ,2022

3.1 Survey (paper-mode) Recruitment Methods

On the 15th of September, the paper-based survey was officially launched at the 2022 Brisbane Care Expo. Following the Expo, the survey was promoted to personal networks of the whole Ethos team, which included family, friends, colleagues, and the network of our reference group member.

Griffith University networks were also utilised, promoting the survey through the Griffith staff newsletter and the Griffith volunteers' page. Survey flyers were distributed and displayed on campus notice boards, Griffith Health Clinics, and Griffith Dental Clinics. Care was taken to meet all ethical guidelines while promoting the survey.

A variety of media channels were used to promote the survey and increase awareness of heat as a health issue for older Queenslanders. These included printed media such as newspapers, magazines, and local newsletters, as well as online news and social media outlets and radio interviews reaching all areas across Far- North to Western parts of Queensland. The most successful recruitment channels (media outlets) used were the Senior, Your Time, Ipswich Local news, and 50 & Better magazines (refer to Table 3). For a complete list of news outlets, see appendix C. Survey was also promoted on social media channels mainly, LinkedIn and Facebook. This resulted in 202 surveys sent out and 138 surveys received.

Table 3: Most successful media outlets for recruitment

Gold Coast's Over Fifties' Magazine	Your Local Newsletters | Read Online
Griffith Staff Newsletter	Older participants needed for survey into the effects of extreme heat (sharepoint.com)
Your Time Magazine (Sunshine Coast and BNE)	Your Time Magazine | November 2022
The Senior Newspaper (QLD)	The Senior | Read Online

Figure 4. Ethos survey recruitment i) article in Your Time (left), and iv) article in Over 50's magazine (right)

4. Data collection, cleaning, and consolidation

Data collection and entry are vital steps in the survey process that impact the quality, reliability, and usability of the survey results. By ensuring accuracy, validity, and ethical considerations, researchers can leverage survey data to derive valuable insights and make informed decisions. Steps taken to ensure data quality included:

- For paper-based questionnaire, data was entered using the data codes set for the online questionnaire. This maintained uniformity and assisted the merging process of online and paper data.
- Data entry was conducted by numerous members of the research team- 10% of data was double checked.
- Quality checks were conducted via a Python program to find any outliers or records that did not meet match the quality check criteria.
- The online data collected by Qualtrics were subjected to bot checks and validity checks as per company explanatory notes and the research team also ran quality checks to find outliers or responses that did not meet the desired criteria.

Following these steps, the online and paper-based data was merged for data analysis. This merging was considered appropriate because the survey questionnaire was identical for both modes of survey administration and data collection. Moreover, few questions (K2 and K4) from the digital section were utilised to find if there were key differences in characteristics of paper and online respondents before merging the datasets.

5. Lessons learnt

Various lessons were learnt through the Ethos survey process (timeline in Figure 1) from design to data cleaning. The key lessons learnt are highlighted below:

Survey design & development

- There was a lack of validated survey tools to measure heat health risk knowledge and perception.
- Questions and survey scales required adaption based on older Australians.
- Surveys need to be designed in a way that is clear to understand of an appropriate length considering the target population.
- Providing an "*other*" as option helped to capture some nuanced responses in the population.
- Piloting with experts and target sample was key to the development of an easy-to-understand survey which captures the required information.

Recruitment and Reach

- Partnering with a trusted panel company for an online mode of the survey was important. They had appropriate quality checks and bot checks in place, which ensured high quality in data collected.
- While paper-based surveys allowed us to reduce bias, the strategy required significant investment in communication team resources and required more time to ensure that target numbers are met.
- Radio interviews were not deemed as a successful way to recruit participants for the survey, instead newspaper articles were major channels that helped with recruiting participants for the paper-based survey.
- Fear of scamming was an issue for our population due to the data collection phase coinciding with a carrier data leakage problem.
- Timeliness is key: Have a recruitment plan and connect with media sources in timely manner. Know deadlines for publications as timelines for most media channels are pre-determined. Additionally, it is good to start connecting with the right people before recruitment. Start reaching out approximately 2 months in advance from the date you want your article to be published. This is important in the case of time-based studies where surveys or research is open for a limited time period.

- Communication is key: Be clear and adaptable: Adapting your communication depending on the target population and their knowledge. For instance, we had to be mindful in using terms such as “climate change” as this led to disinterest in some with comments like: *“love the heat”, “it has always been hot”*.

Hard to reach parts of Queensland

- It was hard to reach the local newspapers in regional areas, specially in climate zone 3.
- Because of the lack of support from media channels to publish about our research, the survey and the general disregard of heat as an issue (for example, *“not issue, as they can turn on their air conditioner”, or “heat is not something they were concerned of” or “they don’t need digital devices”*) it was very difficult to recruit people from climate zone 1, 3, and 5.

Heat not being considered as an issue- Need to increase heat-health risk awareness and perception.

- Cool summers over the past 2-3 years led to more concern about the cold, floods or Covid 19.
- Lack of awareness regarding heat being a health issue.

This is likely to change since 2023-24 summer has been hot and humid as evident from 15 BOM heatwave alerts being issued this summer.

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Appendices

Appendix 1 (Flyers used for recruitment)

Griffith UNIVERSITY
Climate Action Beacon

ethos USER SURVEY

extreme heat + older persons

GUREF: 2022/627

If you are a Queenslander aged 75 or over, Griffith's ETHOS project group invite you to participate in our survey
We need 25-30 minutes of your time to complete a paper based survey

What are we doing?

We are trying to figure out how heat and age interact and build tools so people can stay at home longer in comfort.

Why is the work important?

We know that heat is worse for us as we get older, but not everyone has the tools to safely cope with the heat, especially with rising energy costs.

Why are we asking you?

We value your views and perspectives & don't want to make any assumptions about the usability of technology solutions to reduce the impact of heat. Your input in this regard is vital.

Why should you participate?

- You can go into a draw to win one of five $100 retail vouchers.
- Contribute to our understanding of how increased heat is impacting older persons and designing solutions to help stay at home comfortably

VOUCHER

Interested to participate contact us!

(07) 5552 7903

ethos@griffith.edu.au

climate-ethos.com

Griffith UNIVERSITY
Climate Action Beacon

ethos
extreme heat + older persons

User Survey

GUREF: 2022/627

If you are a Queenslander aged 75 or over, the ETHOS research team would like to know your views and thoughts about heat and its impact on your health, and technology usage. We invite you to participate in our survey and go into the prize draw of five $100 retail vouchers. If you are interested please contact us at:

(07) 5552 7903

ethos@griffith.edu.au

climate-ethos.com

Appendix 2 (Survey questionnaire)

Survey Participant Information Sheet

ETHOs heat-health 65+ Qld Survey

GU ref no: 2022/627

Research Team:

Chief Investigator	**Associate Professor Dr. Shannon Rutherford** **School of Medicine and Dentistry** **Phone: 0412 911 206** **Email: s.rutherford@griffith.edu.au**
Internal Investigators	Dr. Steven Baker, Lecturer in Social Work, School of Health Sciences and Social Work, Griffith University
	Mehak Oberai, Research Assistant, ETHOS Project, School of Medicine and Dentistry, Griffith University
	Student Researcher: Sarah Cunningham, PhD candidate, School of Medicine and Dentistry, Griffith University
External Investigators	Dr. Dung Phung, Senior Lecturer in Environmental Health, University of Queensland

Purpose of the research

ETHOS Project team is conducting a state-wide survey in Queensland to find out about the heat and health risk knowledge, heat coping strategies, and accessibility to and use of digital tools among our target population of Older Queenslanders. The survey forms the component of a student's academic program. The research team is based at Griffith University.

What you will be asked to do

We ask you to complete an anonymous paper-based questionnaire pertaining to your knowledge and attitude towards heat as a health problem, your behaviour in responding to heat stress and the related warnings (messaging), your attitude and comfort levels towards usage of personal and monitoring technologies accompanied with a demographic section. The views of people who don't use the Internet/digital technology are just as important as the views of those who do and are critical to the research outcomes. Completion of the questionnaire is likely to take 30 to 35 minutes.

The basis by which participants are selected

Anyone who is 75 years and older and living in Queensland may participate in this study.

The expected benefits of the research

The incidence of heatwaves has increased around the world. The recent heatwaves in Southeast Asia, Europe, and America are making the headlines in terms of the impact they are having on the humans and the environment. We need to be ready to face similar extreme temperatures here in Australia, if not now,

then in the future. Data obtained from the survey will be analysed and used to understand the perspective of the Older Queenslanders regarding heatwaves as a threat to their health. It will help us in understanding their understanding and usage of digital technology and their awareness about the issue of extreme heat. These in turn will help us in developing an individualised early warning system for them which is the main aim of our project.

Risks to you

There are no foreseeable risks associated with participation in this research. The personal information we are collecting is anonymous, except for your name for consent, and your contact details if you choose to share them with us, so you can receive the results of the research and/or choose to participate in future research.

Your confidentiality

This is an anonymous survey. Your participation in the survey is voluntary. Any personal information provided in any form will be de-identified before storing the data in electronic form. All paper copies will be stored in a lockable cabinet in a locked room accessible only to the research team. They will be stored for minimum 5 years before being destroyed via appropriate security bins. Aggregated results from this study may be published in reports, conference papers and academic journals, and/or in the mass media.

Questions / further information

For additional information about the project, please contact Associate Professor Shannon Rutherford using the email address provided above.

The ethical conduct of this research

Griffith University conducts research in accordance with the *National Statement on Ethical Conduct in Human Research*. Should you have any concerns or complaints about the ethical conduct of the research project, please contact the Manager, Research Ethics on 3735 4375 or research-ethics@griffith.edu.au.

Feedback to you

No individual feedback will be provided to participants because we will not be able to identify individual answers. However, if you would like a summary of the overall findings from this research once it has been completed, please contact Shannon Rutherford using the email address provided above.

Expressing consent

Please retain this information sheet for your later reference.

COMPLETION/MAILING OF THE QUESTIONNAIRE WILL BE TAKEN AS YOUR INFORMED CONSENT TO PARTICIPATE IN THIS STUDY.

Date of completion: ____/____/2022 **Start time: _____**

Please read all questions carefully because no two questions are identical. Sometimes two questions may seem similar, but this is essential for reliability purposes.

Section I

It will be good to know about you to begin with, let's start 😊

A1 Gender (Please select the correct option)

- ☐ Male
- ☐ Female
- ☐ Other
- ☐ Prefer not to say

A2 In which age category do you fit (Please select the correct option)

- ☐ 65-69 yrs.
- ☐ 70-74 yrs.
- ☐ 75-79 yrs.
- ☐ 80-84 yrs.
- ☐ 85 and above

A3 Your postcode _____

A4 Were you born in Australia?

- ☐ Yes, go to A5
- ☐ No, go to A7

A5 In which Australian state or territory were you born?

- ☐ NSW
- ☐ WA
- ☐ SA
- ☐ ACT
- ☐ QLD
- ☐ NT
- ☐ VIC
- ☐ TAS

A6 Do you identify as:

- ☐ Neither Aboriginal nor Torres Strait Islander
- ☐ Aboriginal
- ☐ Torres Strait Islander
- ☐ Both Aboriginal and Torres Strait Islander

A7 In which country were you born? (skip if born in Australia)

- ☐ New Zealand
- ☐ Indonesia
- ☐ United Kingdom
- ☐ India
- ☐ China
- ☐ South Africa
- ☐ Brazil
- ☐ Other, please specify_____

B1 Which language(s) do you usually speak at home? (Please select all that apply)

- ☐ English
- ☐ Mandarin
- ☐ Italian
- ☐ Cantonese
- ☐ Vietnamese
- ☐ An Aboriginal language, please specify_____
- ☐ A Torres Strait Islander Language, please specify_____
- ☐ Other, please specify_____

B2 What is your highest education level?

- ☐ Postgraduate diploma/ certificate/degree
- ☐ Bachelor's degree
- ☐ Diploma or Advanced Diploma
- ☐ Certificate Level III or IV
- ☐ Secondary school education
- ☐ Primary school education
- ☐ None of the above

B3 Which of the following describes your living situation? Please select all that apply.

- ☐ Living alone
- ☐ Living with partner
- ☐ Living with other family members (e.g., parents, extended family, adult/ children)
- ☐ Living in a shared household
- ☐ Living in an aged care facility
- ☐ Other _____

C1 Which of the following best describes how you spend your time? (Please select all that apply)

- ☐ Working – full time (35+ hours per week)
- ☐ Working – part time

- ☐ Working on a casual basis
- ☐ Unemployed and seeking work
- ☐ Retired
- ☐ Unpaid work- looking after house/children/dependents
- ☐ Not in paid employment due to a disability
- ☐ Student- not in paid employment
- ☐ Other, please specify____

C2 What is your individual after tax income?

- ☐ Less than $10,399 per year
- ☐ $10,400-$15,599 per year
- ☐ $15,600-$20,799 per year
- ☐ $20,800-$31,199 per year
- ☐ $31,200-$41,599 per year
- ☐ $41,600-$51,999 per year
- ☐ $52,000-$64,999 per year
- ☐ $65,000-$77,999 per year
- ☐ $78,000 – $103,999 per year
- ☐ More than $104,000 per year

C3 How would you describe your current financial situation?

- ☐ I am struggling financially
- ☐ I am doing okay
- ☐ I am comfortable
- ☐ I am financially well off

C4 Is your home (Please select the appropriate option)

- ☐ A separate house
- ☐ A semi-detached house/townhouse
- ☐ Flat/apartment/unit
- ☐ Aged care facility (if this is selected go to D1)
- ☐ Other, please specify _____

C5 Do you live in (Please select the appropriate option)?

- ☐ Your own house/dwelling/home (go to C7)
- ☐ A rented house/dwelling/home (go to C6)
- ☐ Do not have a home/dwelling to live in (go to D1)
- ☐ Other, please specify _____

C6 If you rent, is it?

- ☐ Government rental (e.g., public housing)
- ☐ Private rental

C7 For how long you have been living in this dwelling/house?

- ☐ Less than 1 year
- ☐ 1-5 years
- ☐ 6-15 years
- ☐ More than 15 years

C8 What was your estimated electricity bill in the most recent quarter? (Please select the closest option)

- ☐ Less than equal to $160
- ☐ $161-$200
- ☐ $201-$240
- ☐ $241-$280
- ☐ $281- $320
- ☐ $321- $360
- ☐ $361- $400
- ☐ $401- $440
- ☐ More than $440
- ☐ Do not directly pay for electricity
- ☐ Do not know

D1 How would you rate your health?

- ☐ Extremely Poor
- ☐ Poor
- ☐ Okay
- ☐ Good
- ☐ Very good

D2 Have you been diagnosed with any of the following chronic conditions? (Please select all that apply)

- ☐ Diabetes
- ☐ Heart problems (e.g., heart attack, stroke)
- ☐ High blood pressure
- ☐ Kidney or renal problems
- ☐ Respiratory problems (e.g., asthma, shortness of breath)
- ☐ Depression, anxiety, memory loss, or other mental health issues
- ☐ Alzheimer's disease
- ☐ Arthritis
- ☐ Back problems
- ☐ Any other condition that is not listed above, specify please_____
- ☐ No, I do not suffer from any of the above

D3 Please tick the most appropriate option from hardly ever to often for the following questions:

	Hardly ever	Some of the time	Often
How often do you feel that you lack companionship?			
How often do you feel left out?			
How often do you feel isolated from others?			

D4 Do you need help with household tasks?

- ☐ Yes, go to D5
- ☐ No, go to D6

D5 Who do you normally ask for help? (Please select all that apply)

- ☐ Family member
- ☐ Friend
- ☐ Neighbour
- ☐ Paid Carer
- ☐ No-one
- ☐ Other, please specify _____

D6 Do you have a disability? (A disability includes sensory, intellectual, neuro-diverse, physical and mental illness – where the disability is permanent or is likely to be permanent).

- ☐ Yes, please specify _____
- ☐ No

D7 Do you use any of the following aids for getting around? (Please select all that apply)

- ☐ Walking aid
- ☐ Wheelchair
- ☐ Scooter/ Gopher
- ☐ No aids
- ☐ Other, please specify _____

Great work so far, 25% done, now we would like to hear about your views on heat and heatwaves. A heat wave or an extreme heat event is a period of unusually and uncomfortably hot weather. 😉

Section II

E1 Please answer to the best of your knowledge or belief for the statements below:

a. Health impacts from heat increase, if after a hot day, temperature remains high at night.

□ True □ False □Don't know

b. People suffering from chronic diseases (e.g., lung or heart diseases) are hospitalized less often when there are heat waves.

□ True □ False □Don't know

c. Heat can affect your health even before you feel any of the warning signs.

□ True □ False □Don't know

d. The increased temperatures associated with climate change are resulting in increased deaths and hospitalisations around the world.

□ True □ False □Don't know

e. Health impacts from heat increase following prolonged periods of very hot weather.

□ True □ False □Don't know

E2 When do heatwaves have the greatest effect on people's health? (Please select the most appropriate option to the best of your knowledge or belief)

- In the beginning of the summer season
- At the end of the summer season
- All summer
- Don't Know

E3 Some people are more sensitive to extreme heat. Select the groups of people who you think have a higher risk for health effects due to extreme heat? (Please select all that apply)

- Young adults
- People who work indoors
- People who perform a lot of physical activity (sports, construction workers)
- People aged 65 and above
- Very young children
- Pregnant women
- People who are socially isolated
- People who have a chronic disease

E4 Overall, how much do you feel you know about the causes of heatwaves?

- Nothing at all
- Virtually nothing
- A little
- Quite a lot
- A great amount

E5 Overall, how much do you feel you know about the consequences of heatwaves on your health?

- Nothing at all
- Virtually nothing
- A little

- Quite a lot
- A great amount

How concerned are you that each of the following threats might directly affect you or your family? (Please tick the appropriate box for each of the following)

	Not At All Concerned	Not very concerned	Somewhat concerned	Fairly concerned	Very Concerned
Bushfires					
Cyclones					
Floods					
Crime					
Sea level rise					
Droughts/Water shortages					
Heatwaves					
War/International conflicts					
Food affordability					
COVID-19					
Impacts of climate change, generally					

F1 How serious a problem do you think heatwaves and extremely hot weather are for Australia?

- Not at all serious
- Somewhat serious
- Extremely serious

F2 On an extremely hot day, how would you rate the indoor temperatures of your home on the following scale?

- Cold
- Cool
- Slightly cool
- Neutral
- Slightly warm
- Warm
- Hot

F3 During the middle of a normal summer day, how would you rate the indoor temperatures of your home on the following scale?

- Cold

- ☐ Cool
- ☐ Slightly cool
- ☐ Neutral
- ☐ Slightly warm
- ☐ Warm
- ☐ Hot

F4 How vulnerable do you think the region within 50 km of your home is to the impacts of extreme hot weather?

- ☐ Not at all vulnerable
- ☐ Not very vulnerable
- ☐ Somewhat vulnerable
- ☐ Fairly vulnerable
- ☐ Highly vulnerable

F5 How sensitive are you to heat?

- ☐ Very sensitive
- ☐ Sensitive
- ☐ Not very sensitive
- ☐ Not sensitive at all

F6 Do you feel more at risk of heat than people of similar age to you?

- ☐ Yes, go to F8
- ☐ No, go to F9

F7 Please explain why you feel more at risk.

F8 Have you ever been told by a health professional that your health problems can make you more sensitive to heat?

- ☐ Yes
- ☐ No
- ☐ Don't know
- ☐ Don't have any health problems

G1 *Within the past twelve months*, have you been affected by extremely hot weather?

- ☐ Not affected at all
- ☐ A little affected
- ☐ Somewhat affected
- ☐ Badly affected

G2 ***Prior to the past twelve months*****, have you been affected by extremely hot weather?**

- ☐ Not affected at all
- ☐ A little affected
- ☐ Somewhat affected
- ☐ Badly affected

G3 Have you ever experienced any of the following associated with hot weather (Please select all that apply)

- ☐ Anxiety
- ☐ Loss of balance/feeling dizzy/faint
- ☐ Headache
- ☐ Nausea/Vomiting
- ☐ Shortness of breath
- ☐ Irregular heart rate/rapid pulse
- ☐ Skin issues (e.g., prickly heat rash)
- ☐ Dehydration
- ☐ Muscle cramps
- ☐ Fatigue
- ☐ Changes in urination (e.g., Decreased frequency/ darker colour/smaller amount)
- ☐ Loss of appetite
- ☐ General weakness
- ☐ Lack of sleep/ Trouble sleeping/sleeping disturbance
- ☐ Other, please specify_____
- ☐ Experienced none of the above

Well done😊, you are halfway through. Relax a bit and have a stretch. Next, we would find out how you respond during hot weather.

Section III

H1 Have you ever heard a heatwave warning?

- ☐ Yes, go to H2
- ☐ No, go to H6
- ☐ Don't know, go to H6

H2 When did you hear about the heatwave warning?

- ☐ At least a night before the event
- ☐ Day of the event
- ☐ After the event
- ☐ Heard the warnings repeatedly

- ☐ Don't recall

H3 Did you behave differently because of the heatwave warning?

- ☐ Yes, got to H4
- ☐ No, go to H5

H4 Please tell us what you did differently?

H5 From which of the following sources did you obtain heat related information or heatwave warnings? (Tick all that apply)

- ☐ Television
- ☐ Radio
- ☐ Mobile phone
- ☐ Newspaper (printed)
- ☐ Newspaper (on computer)
- ☐ Internet/computer websites
- ☐ Social media
- ☐ Weather apps
- ☐ Printed material (posted or picked up)
- ☐ State Emergency Services (SES)
- ☐ Family/friends/neighbours
- ☐ Other, please specify_____

H6 We are interested in your ideas about the ways heat warnings and heat preparedness information are provided. To what extent do you prefer each of the following sources for such information? (Please tick the appropriate box for each)

	Not preferable	Somewhat preferable	Very preferable	Don't know
Television				
Radio				
Mobile phone				
Newspaper (printed)				
Newspaper (on computer)				
Internet/ computer websites				

Printed material (posted or picked up)

Family/friends/neighbours

I1 Do you feel confident in seeking help during extreme hot weather if you are not feeling well?

- ☐ Yes, go to I2
- ☐ No, go to I3

I2 Who would you contact for help if you are not feeling well due to hot weather (Please select all that apply)?

- ☐ Family
- ☐ Friends
- ☐ Neighbours
- ☐ Personal Carer
- ☐ GP or nurse
- ☐ Other, please specify_____

I3 During extremely hot weather, how often do other people contact you to check on your well-being?

- ☐ Often
- ☐ Most of the time
- ☐ Sometimes
- ☐ Never

I4 Which of the following do you have at your home to reduce the effects of hot weather? (Please select all that apply)

- ☐ Air conditioning
- ☐ Fans
- ☐ Blinds and awnings
- ☐ Large windows and doors
- ☐ Large windows and doors with insect and/or security screens
- ☐ Outdoor living areas like Verandas/Decks/ Patios
- ☐ Ceiling insulation
- ☐ Wall insulation
- ☐ Roof overhang/ wide eaves
- ☐ Shady Plants
- ☐ Not any
- ☐ Other, please specify_____

I5 Have you made changes to your home to make the temperature more comfortable during the hot weather?

- ☐ Yes, if yes go to I6 and skip I7
- ☐ No, go to I7

I6 What changes have you made, select from the options below (Please select all that apply)?

- ☐ Installed air conditioning
- ☐ Installed fans
- ☐ Purchased mobile coolers or pedestal fans

- ☐ Installed blinds and awnings
- ☐ Installed insect and or security screens to your windows/doors
- ☐ Added outdoor living areas like verandas/decks/ patios
- ☐ Installed ceiling insulation
- ☐ Tinted your windows
- ☐ Installed a light colour roof
- ☐ Added shady plants
- ☐ Other, please specify_____

I7 What is the reason you did not make any change? (Please select all that apply)

- ☐ Rental dwelling
- ☐ Could not afford it
- ☐ Didn't know how
- ☐ Not physically able
- ☐ Did not feel it was needed
- ☐ Other, please specify_____

I8 On a very hot day, how often do you use the following to maintain comfortable temperatures? (Please tick the appropriate box for each option)

	Never	Rarely	Sometimes	Frequently	Every time	N/A
Turn on the air conditioner						
Turn on fans						
Stay inside your house during the warmest times of the day						
Keep windows closed when outdoor temperature is higher than indoor						
Open doors and windows						
Close blinds and curtains						
Adjust your clothing (light materials, light colours, less clothing, loose clothing)						
Increase intake of fluids (water/soft drinks)						
Cool your body by taking showers or swimming						
Use a wet cloth (on neck or face)						
Reduce alcohol intake						
Change the type of food I eat						
Avoid physical activity						
Avoid outdoors						
Go outdoors at home-shade/veranda						
Visit green areas (forests, park)						

Visit public places with air conditioning (e.g., shopping centre, cinema, library)
Visit friends who live in cooler places

J1 Does your household have any form of air conditioning?

- ☐ Yes, go to J2
- ☐ No, go to J6

J2 During very hot weather, do you use your air conditioning?

- ☐ Yes
- ☐ No, go to J6

J3 During very hot weather, for *how many hours do you usually use* your air conditioner?

- ☐ Never, go to J6
- ☐ Less than 1 hour
- ☐ 1-2 hours
- ☐ 3-4 hours
- ☐ 5-8 hours
- ☐ More than 8 hours

J4 During very hot weather *what time of day do you usually use* your air conditioner? (Please select all that apply)

- ☐ Morning
- ☐ During the middle of the day
- ☐ When visitors are in the house
- ☐ Late afternoon
- ☐ When sleeping during the day
- ☐ When sleeping during the night
- ☐ Evening
- ☐ All day

J5 On a daily basis, when it's hot at what temperature do you usually set the air conditioner to operate?

- ☐ less than 23 °C
- ☐ 23-24°C
- ☐ 25-26 °C
- ☐ Greater than 26 °C

J6 Please tell us about the reasons that stop you from having an air conditioner or using your air conditioner (Please select all that apply):

- ☐ It is too expensive to buy
- ☐ It is too expensive to run

- ☐ It is difficult to adjust the temperature
- ☐ It is not good for my health
- ☐ It is bad for the environment
- ☐ It prevents fresh air from getting in
- ☐ It makes my home too cold
- ☐ It is not comfortable
- ☐ It makes too much noise
- ☐ It's not necessary where I live
- ☐ Other, please specify____

Nearly there, one more section to go!! We would like to know about your experiences and perspectives on digital technology, even if you are not a digital technology user.

Section IV

K1 Please tick the most appropriate option for the following statements:

	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree
I like using digital technology.	ϒ	ϒ	ϒ	ϒ	ϒ
I like the idea of using digital technology.	ϒ	ϒ	ϒ	ϒ	ϒ
I feel apprehensive about using technology.	ϒ	ϒ	ϒ	ϒ	ϒ
I hesitate to use the technology for fear of making mistakes I cannot correct.	ϒ	ϒ	ϒ	ϒ	ϒ

K2 Does your place of residence have internet access? e.g., Wi-Fi, physical cable like NBN, mobile phone hotspot

- ☐ Yes (go to K4)
- ☐ No (go to K3)
- ☐ Don't know (go to K4)

K3 What is the reason for no internet access? (Please select all that apply)

- ☐ No reliable connection in my area
- ☐ Not interested in getting a connection
- ☐ Too Expensive
- ☐ Don't know how to use
- ☐ Other, please specify_____

K4 Which of the following do you have at home for your personal use? (Please select all that apply)

- ☐ Standard mobile phone i.e., a phone with push buttons and limited or no internet access
- ☐ Smartphone i.e., a phone with touch screen and internet access
- ☐ A tablet e.g., iPad or android tab
- ☐ Laptop
- ☐ Desktop computer
- ☐ Smart TV
- ☐ Standalone GPS device e.g., TomTom, Navman
- ☐ Virtual Assistant devices e.g., Alexa, Siri, Google
- ☐ Personal monitoring/wearable devices e.g., Apple watch, Fitbit
- ☐ None of the above
- ☐ Others, please specify _____

K5 Do you use any of the following applications (apps) on a smartphone, tablet, or any other digital device? (Please select all that apply).

- ☐ Social media apps (e.g., Facebook, LinkedIn, Instagram, Twitter)
- ☐ Communication apps (e.g., WhatsApp, Skype, Zoom, Messenger)
- ☐ Virtual Assistants (e.g., Google, Siri)
- ☐ Entertainment apps (e.g., Netflix, Spotify, iTunes)
- ☐ Online shopping apps (e.g., Amazon)
- ☐ Transport apps (e.g., Uber, 123 cabs)
- ☐ Weather apps
- ☐ News apps
- ☐ Banking apps
- ☐ Government apps (e.g., Medicare, Centrelink, MyGov, etc.)
- ☐ Health Apps (e.g., Telemedicine, fitness)
- ☐ Others please specify, _____
- ☐ I don't use any apps, (if this is selected, multiple selection is not allowed, go to K7)

K6 Thinking about of the apps that you use, including at home, at work, or out and about, how often would you say that you use those apps?

- ☐ Multiple times a day
- ☐ Once a day
- ☐ Every couple of days
- ☐ At least once a week
- ☐ At least once a fortnight
- ☐ At least once a month
- ☐ Less often than once a month

- ☐ Never

K7 Now thinking about your app usage, why do you choose not to use some or all the apps? (Please select all that apply)

- ☐ Worried about my privacy
- ☐ Using apps is difficult for me as I would always need someone to guide me
- ☐ I am not confident in using them
- ☐ I don't have access to devices/digital technology
- ☐ I am not interested in finding out things this way
- ☐ I have never needed them before, and I don't need them now
- ☐ Don't know where to start and I am too old to learn now
- ☐ N/A, I am happy to use all apps
- ☐ Other, please specify _____

K8 How regularly would you say you get your friends/family/other person to do tasks online on your behalf, such as check emails, browse the internet, pay bills online or do stuff with digital technology?

- ☐ Multiple times a day
- ☐ Once a day
- ☐ Every couple of days
- ☐ At least once a week
- ☐ At least once a fortnight
- ☐ At least once a month
- ☐ Less often than once a month
- ☐ Never

K9 When you get a new electronic device, do you usually need someone else to set it up or show you how to use it?

- ☐ Always
- ☐ Very often
- ☐ Sometimes
- ☐ Rarely
- ☐ Never
- ☐ N/A- I do not get new electronic devices

K10 How confident are you in using computers, smartphones, or other electronic devices to do the things you need to do online?

- ☐ Very confident
- ☐ Somewhat confident
- ☐ Only a little confident
- ☐ Not at all confident
- ☐ Don't know

K11 How confident are you to learn a new kind of digital technology or related application?

- Very confident
- Somewhat confident
- Only a little confident
- Not at all confident
- Don't know

K12 Would you say technology has had a mostly positive effect on our society or a mostly negative effect on our society?

- Mostly positive
- Mostly negative
- Equal positive and negative effects
- Don't know

K13 When learning a new digital technology or relevant application, in which ways do you prefer to learn? (Please select all that apply)

- In person- face to face (family member, carer, or a stranger)
- Within a big group (class, library)
- Within a small group
- Websites and YouTube videos
- Printed user guides/manuals
- Learning via talking on the phone
- Learning via video calling apps e.g., Skype, WhatsApp
- Other way, please specify_____
- I don't want to learn about new technology or application (if this selected, no multiple selection allowed)

K14 Please rate your day to day needs for the following digital services:

	not at all	Somewhat	essential	Don't know
Smart bracelet/Smart watch like apple watch, Fitbit,or Samsung Watch	ϒ	ϒ	ϒ	ϒ
Emergency calling	ϒ	ϒ	ϒ	ϒ
Telemedicine-online health consultation	ϒ	ϒ	ϒ	ϒ
Online banking	ϒ	ϒ	ϒ	ϒ

Online appointment registration	ϒ	ϒ	ϒ	ϒ
Making online payments e.g., medical bills, power bills	ϒ	ϒ	ϒ	ϒ
Virtual Assistants like Alexa, Siri	ϒ	ϒ	ϒ	ϒ

K15 How are you completing this survey? (Please select the most appropriate option)

- ☐ On your own
- ☐ With someone else but you are entering the responses
- ☐ With someone else entering the responses for you

K16 When going to a new place where you need directions, select the option that suits: (Please select all that apply)

- ☐ I travel in my own car and use google maps or an electronic navigation device (e.g., Navman, Garmin, Tom Tom) for directions (if this is selected, go to K17)
- ☐ I travel in my own vehicle and use a paper map
- ☐ I travel with someone else
- ☐ I use public transport
- ☐ I don't go to new places

If these options are selected skip K17

K17 While using google maps or other similar electronic navigation devices do you listen to the virtual assistant guiding you?

- ☐ Yes
- ☐ No, I turn off the virtual assistant

K18 Please say whether you agree or disagree with the following statements about using digital services in general:

I feel frustrated using digital services.	ϒ Agree	ϒ Disagree
For some tasks, I prefer to interact online rather than face-to-face or on the telephone.	ϒ Agree	ϒ Disagree
I would like more training using digital services.	ϒ Agree	ϒ Disagree
I worry about the privacy of my information online.	ϒ Agree	ϒ Disagree
Mobile phone and internet costs prevent me from using digital services.	ϒ Agree	ϒ Disagree
Digital services make my life easier.	ϒ Agree	ϒ Disagree
I would like to use digital devices if provided with support on using them.	ϒ Agree	ϒ Disagree

Nearly there, you are doing great job.

K19 How do you feel about the following ways digital technologies could be used in your home for heat-health risk monitoring?

	Very comfortable	Comfortable	Neither comfortable nor uncomfortable	Uncomfortable	Very Uncomfortable	Don't know
Device that monitors temperature and humidity	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ
Device that monitors movements (only motion detection-not involving images)	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ
To 'speak' to you from a device to alert you of something important	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ
To provide a visual alert/recommendation (no sound) on a tablet/screen	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ
That requires interaction and input from you via an app on a tablet/screen (e.g., how you feel on a scale of 1-5?)	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ
Receiving automated text message alerts on your mobile phone/home phone	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ
Automated alerts sent to your approved family, friends, and/or informal carer	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ

K20 Would you be willing to pay for an in-home system that monitors heat and alerts you to act should the home environment present a risk to your wellbeing?

- □ Yes, go to K21
- □ No, go to K22
- □ Not sure, go to K21

K21 How much will you be willing to pay for a one-off purchase?

- □ <$100
- □ $100-299
- □ $300-499
- □ $500-699
- □ $700-$999
- □ >=$1000

K22 Do you have any other comments you wish to add about heat and health or digital technologies?

Thank you for completing the survey. We really appreciate your time.

End time: _____

Appendix 3 (Media channels utilised for survey recruitment)

Media resources	Purpose
Warrego watchman	Survey promo, website
Beaudesert times	survey promo, newspaper, website
North Qld Register, QLD Country Life	Survey promo, website
Anglicare Newsletter	survey promo in newsletter
Feature Magazine (Moreton Bay)	Survey promo, magazine
Toowoomba News	Survey promo, website or newspaper
Mackay News	Survey promo, website or newspaper
Courier Mail	Survey promo, website or newspaper
Australian Senior News	survey promo, website
The Senior (QLD)	survey promo, newspaper
Brisbane Seniors Online	survey promo, newsletter or Social media
Brisbane North PHN	survey promo, newsletter or Social media
University for the 3rd Age Toowoomba	survey promo, newsletter or Social media
Seniors Today	survey promo, newspapers (Star News group)
Longreach Leader	survey promo, newspapers (Star News group)
Dept. Health and Aged Care website	survey promo, website
Seniors Committee, Hills Chamber of commerce	survey promo in newsletter
Uniting Care - Grandparents Newsletter	survey promo in newsletter, website
Uniting Care Seniors Enquiry Line Newsletter	survey promo in newsletter, website
TASC National (llegal advice for vulnerable persons, Goondiwindi, Roma, Stanthorpe, Toowoomba, Ipswitch)	survey promo in newsletter

Sustainable Brisbane	survey promo in newsletter, website
QLD Health - Newsletter and Health Blog	survey promo in newsletter, website
GC Health - Daily News Digest	survey promo, website
Bowls QLD	survey promo, magazine
Your Local Newsletter (GC)	Survey promo
Over Fifties magazine (GC)	survey promo in newsletter
Tropic Now (website)	survey promo, website and social media
The Queenslander (Website)	survey promo, website and social media
Spanner in the Works (Mens Shed Assoc. Newsletter)	survey promo in newsletter
Success NQ Magazine	survey promo, magazine
OPAN Newsletter	survey promo, newsletter
Cape York Weekly	survey promo, website
Australian Rural and Regional News	survey promo in newsletter, website
Australian Community Media (Rural and Remote)	survey promo on website, newspaper, newsletter
Mt Isa City Council	survey promo in newsletter, website
Your Time Magazine (BNE, SC)	survey promo, magazine
60 and Better Ipswich Newsletter	survey promo in newsletter
60 and Better GC	survey promo in newsletter
Liberty Community connect (Newsletter)	survey promo in newsletter
Ipswich - environmental Matters Magazine	survey promo in magazine
Logan Local Magazine and Local Ipswich News	survey promo on website, newspaper, newsletter
Living in Logan Magazine	survey promo in magazine
Our Logan Magazine	survey promo in magazine

ethos
extreme heat + older persons