Actions to address health literacy and equity in social housing, Victoria

Shandell Elmer, Richard Osborne, Christina Cheng, Ranjit Gajendra Nadarajah

August 2022
Technical report

SWINBURNE UNIVERSITY OF TECHNOLOGY

Acknowledgements

Acknowledgement of Country

We respectfully acknowledge the Wurundjeri People of the Kulin Nation, who are the Traditional Owners of the land on which Swinburne's Australian campuses are located in Melbourne's east and outer-east, and pay our respect to their Elders past, present and emerging.

We are honoured to recognise our connection to Wurundjeri Country, history, culture and spirituality through these locations, and strive to ensure that we operate in a manner that respects and honours the Elders and Ancestors of these lands.

We also acknowledge and respect the Traditional Owners of lands across Australia, their Elders, Ancestors, cultures and heritage.

Research team

The research team has brought together people with expertise across Swinburne to contribute to different aspects of this research endeavour. The investigators are Dr Shandell Elmer, Professor Richard Osborne, Dr Christina Cheng, Dr Melanie Hawkins, Mr Ranjit Gajendra Nadarajah, Dr Hilary Davis, Professor Jo Williams, Professor Rachael McDonald, Professor Dean Lusher, Associate Professor Liz Hoban, Ms Caitlin Workman and Ms Nyssa Ferguson.

The research team also included interviewers, who conducted the fieldwork under extraordinary conditions in the midst of a pandemic.

Research partners

The research team thank Connect Health and Community, Merri Health, Star Health and Peninsula Health for their foresight to fund this research and Bendigo Community Health Services for supporting the project.

Moreover, the research team are grateful to the following representatives from these services who participated in the project team:

- Connect Health and Community – Sally Hoffmann, Ian Symmons
- Star Health – Alice Godycki, Sam Winnall
- Peninsula Health – Iain Edwards
- Merri Health – Nessa Pastoors, Vivianne Watson, Clara Adams
- Bendigo Community Health Services – Dale Hardy, Kaye Graves

These representatives (and their delegates) shared their insights, wisdom and passion for improving health and equity.

Research participants

The research team are grateful to those people who live in High-Risk Accommodation Response (HRAR) accommodation settings who took part in the research. Thank you for sharing your insights and your lived experience. The research team also wishes to thank the staff from Connect Health and Community, Merri Health, Star Health and Peninsula Health who supported the recruitment of people living in HRAR accommodation settings.

The research design and procedures were approved by the Swinburne University of Technology (reference: 20215835-8042) and the Peninsula Health Human Research Ethics Committees (reference: HREC/77306/PH-2021).

Artists

The following artists contributed to the mural tiles that are featured throughout this report.

Merri Health: Nessa Pastoors, Vivianne Watson, Amber Preston, Sadia Khalid, Samuel Lam, Narisa Schepis, Kelly Drury, Susy Yumulu, Mariam Mgoter, Della Robb, Tommy Constantinou, Lisa Knott, Renee Griffiths, Jillian Dent, Fiona Smith, Clara Adams

Moreland Council: Tanya Taylor, Shiona Novkovic-Heaven

DFFH: Phaybian Penita

Swinburne University: Shandell Elmer

DFFH Housing: Steve White

VHA: Joanna Hatcher

Note

The term social housing is inclusive of most, but not all, of the settings within the scope of the High Risk Accommodation Response program. The scope of these settings is defined within the report where they are referred to as HRAR accommodation settings.

This research was completed in June 2022.

Publisher

Swinburne University of Technology
453–77 Burwood Road
Hawthorn Victoria 3122 Australia

www.swin.edu.au

First published 2022

ISBN 978-0-6454548-0-2
DOI 10.26185/r20t-np23

Designed by Nikki M Group

Recommended citation

Elmer, S., Osborne, R., Cheng, C., & Nadarajah, R. G. (2022). *Actions to address health literacy and equity in social housing, Victoria*. Swinburne University of Technology. https://doi.org/10.26185/R20T-NP23

Contents

Tables

Figures

Foreword

> **The experience of residents will be heard and acknowledged, with a focus on repair and healing. Communities will be supported to recover, recognising the ongoing impact of the stress and disruption the pandemic has caused.**
>
> High-Risk Accommodation Response Service Specifications, 7 September 2020

During the coronavirus (COVID-19) pandemic in Victoria, a significant number of COVID-19 cases and outbreaks occurred in high-risk accommodation settings. In general, each high-risk setting is characterised by shared common spaces and high-density living.

The High-Risk Accommodation Response (HRAR) program was established in 2020 for high-risk accommodation settings including public housing, community housing, rooming houses, supported residential services and other sensitive settings. These are referred to as 'HRAR accommodation settings' throughout this document.

The HRAR program was delivered through community health Lead Providers. The core functions included community engagement, prevention and preparedness activities, support for outbreak response, and active linkages.

The Department of Family, Fairness and Housing commissioned community health agencies (referred to as Lead Providers) to deliver the HRAR program. The core functions included community engagement, prevention and preparedness activities, support for outbreak response, and active linkages.

During delivery of the HRAR program, a group of Lead Providers – Connect Health and Community, Star Health, Merri Health, Peninsula Health and Bendigo Community Health Services – engaged with the research team to capture the lived experience and voices of our communities during what continues to be one of the most chaotic and disruptive periods of our lifetime.

This report, *Actions to address health literacy and equity in social housing, Victoria*, describes the research processes, findings, analysis and recommendations.

Our collective learnings have made each of our organisations stronger and better prepared to respond to public health emergencies. While the research was conducted in the context of a pandemic, the underlying significant health and social inequity experienced by many people living in these HRAR accommodation settings cannot be ignored.

It's important to note that while the research was initially intended to inform service provision, communication and engagement during the COVID-19 pandemic, the findings and recommendations can and should be applied broadly to improve health literacy and equity for residents of social housing in Victoria, beyond the HRAR program, and COVID-19.

We thank the residents living in HRAR accommodation settings who participated in this research. Their trust and willingness to tell their stories during the peak of the 2021 COVID-19 outbreak is testament to their desire to be heard. We are collectively committed to represent their experiences accurately and authentically.

We thank the research team from Swinburne's Centre for Global Health and Equity. Their commitment, rigorous research design and collaborative approach enabled us to learn from them and each other. Most importantly, the research team provided us with access to real-time data that supported the translation of research into evidence-based practice at an unprecedented pace.

This research and the new evidence base that it has generated allows us to:

- describe the many and diverse populations living in HRAR accommodation settings
- quantify the significant levels of social and health inequities experienced when compared to the Australian population
- better understand residents' health and wellbeing needs and behaviours
- identify people's strengths and articulate the different types of vulnerabilities
- design evidence-based strategies to support communication and behaviour-change in a public health emergency and learn lessons relevant to 'business-as-usual' periods.

As stated in this report:

> **Data collected in this research provided a combination of COVID-19 specific variables and variables that provided insights into the mechanisms required to inform and generate context-specific interventions and policies, especially relevant to people experiencing vulnerability and disadvantage ... (p. 24)**

> **This is important, because it is this diversity that helps us understand why public health messages and engagement strategies, designed to reach the average person, can still leave so many behind. Health services need to better understand the information and support that people, their families and communities as a whole need for health actions. (p. 22)**

This research project has provided a platform for transformational change at every stage of service delivery including:

- resident trust and nurtured relationships with and between people living in HRAR accommodation settings
- skilled staff ready to continue implementation of the ideas and actions identified as needed through this research
- internal processes that have been streamlined through action research
- partner agencies committed to local system transformation
- Informing strategic government partners regarding system improvements

The significant health and social inequity experienced by people living in HRAR accommodation settings cannot be ignored. We recognise that the evidence base has the potential to be the blueprint for building resident, community, organisational and system capacity, capabilities and confidence to address these inequities and complex issues. The engagement and research processes have provided a once-in-a generation opportunity to continue to nurture relationships with residents and key stakeholders, and to co-design meaningful local, tailored solutions to these complex issues.

We have seen the success of this research through the development of a complete pandemic preparedness, response and recovery system. Moreover, we have seen this research translated and applied through the realignment of policy, practice and resources allocation to address the significant health and social inequity experienced by people living in HRAR accommodation settings. This is heartening, as the cost of inaction is simply too high.

Together we (Connect Health and Community, Star Health, Merri Health, Peninsula Health and Bendigo Community Health Services) acknowledge and thank the Department of Families, Fairness and Housing .

Sally Hoffmann
Connect Health
and Community

Daniel Alizzi
Star Health

Nessa Pastoors
Merri Health

Iain Edwards
Peninsula Health

Kaye Graves
Bendigo Community
Health Serivces

Research and Project Governance Team, June 2022, Melbourne

Research context

This research was initiated by Dr Shandell Elmer and Professor Richard Osborne, in line with our centre's commitment to developing practical, community-informed actions that directly improve health and redress health inequity. We promoted and provided options for governments, services and researchers to undertake much-needed bottom-up research to accelerate improvements in communication and service provision for marginalised groups that are frequently not reached.[1] We subsequently partnered with Connect Health (through Sally Hoffmann, Chief of Services), which led to a substantive partnership across several community health services.

The research was undertaken during a critical stage of the COVID-19 pandemic. All activities had to be undertaken in accordance with public health restrictions, which included specific design and re-design of data collection and fieldwork methods. Field staff were required to be safe, which included donning personal protective equipment (PPE), and ensuring contact times with residents and health personnel were optimised, yet minimised.

Importantly, the data gathered from residents, settings and frontline workers needed to be turned into usable knowledge immediately, as services were under extreme pressure to be as effective as possible in the public health emergency. Consequently, action learning research processes were applied and weekly project command meetings (attended by service executives and managers, researchers, analysts and interviewers) took place to ensure rapid iterative sense-making of data.

Rapid cycles of data synthesis and real-time implementation in the field meant that research findings were iteratively validated in diverse health services. At times, they were also rapidly embedded into usual practice to improve service efficiency, safety, health and equity across 5 of the 26 community health services in 2021–22 and beyond.

Representation

The project sought to capture faithfully the knowledge environment and the lived experience of residents. A wide range of engagement processes were employed, including approaches through trusted local entities, incentives, and repeat targeting (with incremental trust development) with people living in social housing, some in highly marginalised housing settings.

The research sought to engage and be informed by a very wide range of people living in different types of social and public housing settings. It was not an epidemiological survey to produce prevalence estimates. The descriptive and qualitative analysis enabled carefully considered profiling of groups (some large, some quite small), including people who are usually not reached by researchers. Analysis of the interactions between and within individuals and groups, given their specific living contexts, demographics, knowledge environments, health literacy and socio-emotional circumstances, provided nuanced interpretation of residents' situations.

Many more people participated than expected. This likely reflected the quality of the engagement efforts, including the incentive of a $30 supermarket voucher – a small but meaningful incentive for those experiencing hardship.

---

1. Burgess R.A., Osborne R.H., Yongabi K.A., Greenhalgh T., Gurdasani D., Kang G., Falade A.G., Odone A., Busse R., Martin-Moreno J.M., Reicher S., McKee M., 'The vaccine rush: in this stage of the COVID-19 response, "community" matters more than ever.' *The Lancet,* December 10, 2021. DOI: https://doi.org/10.1016/S0140-6736(20)32642-8

About the Centre for Global Health and Equity

The Centre for Global Health and Equity undertakes programs of research and development to improve health and equity for individuals and communities, and to influence health systems and policy. Our multidisciplinary team makes a difference to public health methodology through inventing, testing and implementing tools and processes that are used throughout the world. The Centre is actively engaged in research in more than 30 countries, implementing and embedding effective actions and interventions. This work is undertaken in many different contexts, including in both low-income and high-income countries.

Our approach is highly collaborative and based on strong principles of equity. To systematise and accelerate the building of effective and implementable interventions, we previously developed the Ophelia (Optimising Health Literacy and Access) process. Ophelia ensures the voices of diverse community members, health workers, managers and policy-makers are heard and included in meaningful co-design and implementation processes. Ophelia, and a wide range of health-literacy-informed tools and processes, was developed in 2012–16 in partnership with the Victorian Government and 9 health services. Ophelia has been highly successful and implemented in diverse countries. The Ophelia process forms the basis of the WHO National Health Literacy Demonstration projects implemented in 16 countries across 23 projects.

Selected relevant research currently being undertaken or completed by the team is outlined in the table shown below.

Centre for Global Health and Equity – overview of related research

Victoria	
Gippsland Regional Integrated Cancer Service, Victorian Department of Health (ongoing)	**Improving cancer screening in under-screened Aboriginal and Arabic/Italian-speaking women,** BreastScreen Victoria, Victorian Department of Health
Karen community health literacy, AMES Australia (refugee settlement) (ongoing)	**Ophelia Grampians** (service improvement initiative for the Grampians Regional Integrated Cancer Service) Victorian Department of Health
Other Australian states and territories	
NSW Mental Health Literacy Responsiveness Initiative, Mental Health Commission of NSW (ongoing)	**HealthLit4Kids** (primary school health literacy program), Tasmania (ongoing)
Health Literacy in young Aboriginal men in the Northern Territory, Menzies School of Health Sciences	Application of the **Health Literacy Questionnaire** in the **ABS National Health Survey**
Training physiotherapists to be responsive to their clients' health literacy needs, Motor Accident Insurance Board, Tasmania	**Development of health-literacy-informed interventions to meet the needs of NSW prisoners,** Justice Health and Forensic Mental Health Network, NSW
National	
Consumer Education and Awareness of Inflammatory Bowel Disease, Crohn's and Colitis Association (ongoing)	**Digital Ophelia** (improving uptake of MyHealthRecord), Australian Digital Health Agency
Australian Health Literacy Community of Practice (ongoing)	**Identifying and responding to the health literacy needs of people living with MND/ALS – a coordinated national approach,** MND Australia
International	
WHO Report Health Literacy Development for the Prevention & Control of Noncommunicable Diseases, WHO Geneva (Ongoing)	**Community Health Literacy in the Mekong: Laos and Cambodia,** DFAT/Swinburne (Completed)

Executive summary

This report provides unabashed insight to the situations many Victorians find themselves in. It also reveals the strength and resilience that have helped many prevail, despite significant societally embedded adversities.

The report documents the multidisciplinary efforts of Victorian frontline services providers who have found and implemented – as best they can – innovative solutions in difficult engagement circumstances. It must be stressed that every resident has a different history and a different set of challenges, which is why concerted effort by service provider teams to be responsive is vital.

FIELDNOTES

People have fallen through the cracks who aren't educated or have language barriers.

Notes from fieldworker in high-rise public housing

Wouldn't bother talking to doctors ... wouldn't make an appointment for information.

Notes regarding a participant living in low-rise public housing

I don't have much social support, so I can't answer for that. I had COVID before with mild cold and loss of taste. I was very scared and I received a lot of conflicting information. Government need to make sure that there is no conflicting information.

Participant living in medium-rise public housing

I have used COVID hotline before which was not very helpful because I got confused and lost follow-up.

Participant living in medium-rise public housing

I don't always know what to believe. There's too much conflicting info. If I hear of a breakout I avoid going out.

Participant living in low-rise public housing

The Centre for Global Health and Equity at Swinburne University of Technology partnered with Lead Providers of the High-Risk Accommodation Response (HRAR) program of Victoria's Department of Family, Fairness and Housing. The aim was to gain a deep understanding of the experiences of people living in HRAR accommodation settings to inform service provision, communication and engagement during the COVID-19 pandemic. Connect Health and Community, Merri Health, Star Health and Peninsula Health jointly funded the research partnership, with additional support from Bendigo Community Health Services.

By applying the Ophelia (Optimising Health Literacy and Access) process, the research partnership gave a voice to 865 residents living in public and community housing, rooming houses, caravan parks, supported residential services, disability services and homeless hotels. These accommodation settings were defined by the program and are referred to throughout this document as 'HRAR accommodation settings.'

Some people living in these settings were experiencing such vulnerability and disadvantage that they had few (or no) resources available to them to be able to find, access and engage with health information and services. The kinds of resources they needed included social support, money, physical health, mental health, emotional wellbeing, and support to navigate complex systems.

The research process mapped what residents knew and thought about COVID-19 and COVID-19 vaccination. It also revealed profound diversity in people's circumstances, thereby identifying the services and support required to optimise their safety and equity of access to services and information.

Using an action learning research approach, these data were iteratively synthesised to uncover existing local innovation and new ways to improve engagement with individual residents, health workers and organisations (Lead Providers and other community services).

The 5 Lead Provider research partners reported that the ongoing and rapid cycles of data collection, synthesis and sense-making discussions led to numerous practical service innovations and improvements.

These multi-level innovations were systematically collated to formulate recommendations to guide service development (co-design), as well as future practice and policy responses to public health emergencies. The diversity across the 5 Lead Provider catchment areas, the rigorous incremental validation of the study's data, and co-designed service innovations mean the study's outcomes can be readily taken up across Victoria.

KEY FINDINGS

- The sociodemographic data from 865 residents from diverse HRAR accommodation settings reveal much higher rates of chronic and complex health needs, including much higher anxiety and depression than the general population (as per the 2018 ABS National Health Survey[2]).
- The health literacy profiles generated from the data provided information about the intricate web of underpinning mechanisms (or characteristics) of people living in these settings, including how and why they did (or didn't/couldn't) access or engage with health information, practitioners and services.
- There was striking diversity in the health literacy strengths and challenges of people across and within HRAR accommodation settings (known as 'tiers' in the HRAR program).
- Residents recorded lower mean scores for the health literacy dimensions of the Health Literacy Questionnaire (HLQ) than the general population (as per the national and Victorian data in the 2018 ABS National Health Literacy Survey).
- The sociodemographic data revealed that the social, physical and economic determinants of health impacting on the residents were challenging, or impossible, for many residents and service providers to overcome. Residents with greater health literacy challenges (i.e. lower health literacy scores) experienced higher levels of emotional distress (as measured by the Health Education Impact Questionnaire – heiQ).
- Many people living in these settings required targeted, tailored and trusted communication and engagement strategies to enable them to have equitable access to services.
- Health and social support systems needed to be relevant and flexible; that is, responsive to diverse and changing health literacy needs and challenges, and highly varied social, economic and physical needs.
- Many people required ongoing services of varying, or even intermittent, intensity to optimise their knowledge of and access to the resources they needed. This service provision approach, observed and described by the Lead Providers as 'assertive outreach', emerged as health workers increasingly engaged with residents not yet known to or reached by services. HRAR program staff reported that this assertive outreach approach fostered incremental development of trust and rapport, and therefore greater understanding of residents' needs.
- Digital exclusion was frequently reported. This exclusion prevents access to services entirely, or places high personal and financial strain on residents, potentially leading to suboptimal care and access.
- There was wide variability in whether digital technology was used to access health information, as well as in the type of technology used. Older people frequently reported more challenges and barriers. However, different barriers and challenges existed across all age groups and settings. For older people, a common challenge was lack of know-how, whereas for younger people, cost and access to devices were common barriers.
- The exponential growth in digital technology as the principal pathway for access to health and social support during the pandemic has widened the digital divide between people living in HRAR accommodation settings and people with more resources and opportunities for equitable healthcare.

The costs of piecemeal responses to the current and future needs of residents may well exacerbate inequities and intergenerational poverty. Careful planning is needed to address social determinants (and related causes) to optimise environments so residents can readily access, understand, appraise, remember and use health information (that is, improve their health literacy) for themselves, their families and their co-residents. This is vital to redress the observed significant health gaps and inequities.

The health literacy development approach to this study has generated 8 key recommendations, described in the following section. These represent a synthesis of inputs from 865* residents, together with hundreds of committed frontline workers and their managers.

*While a total of 1148 people took part, there were 283 incomplete responses, removed at the data cleaning stage.

---

[2] Australian Bureau of Statistics (ABS), National Health Survey: Health Literacy, 2018 (cat. no. 4364.0.55.014) from the ABS website https://www.abs.gov.au

Recommendations are made for 8 areas to support Victorian public and community housing residents and enable them to achieve greater health outcomes and equity

1

Health literacy responsiveness

Making the health sector friendlier and easier to access

2

Assertive outreach/in-reach

To engage with people proactively, bringing the connection to support to their doorstep

3

Multidisciplinary and inter-sectoral approach to services

Justice, health, community, housing and other services working together in ways to help people overcome multiple challenges

4

Service navigation

Taking a ‘no wrong door’ approach to help people find the right place

5

Continuity of care

Helping people to have continued support and engagement with services

6

Digital inclusion

Co-design of local community-based strategies for digital capacity building

7

Social connection

Creating opportunities for connection to family, friends and community members

8

Investments for continued health sector development

Improving health outcomes and equity in social housing

1 Health literacy responsiveness: Making the health sector friendlier and easier to access

The staff involved in the HRAR program have developed skills and knowledge to be able to effectively communicate and engage with people in HRAR accommodation settings. Their approach is non-judgemental, and they often have prior experience working with people with similar issues – for example, people with a lived experience of mental health and substance abuse issues and people experiencing vulnerability and disadvantage.

These skills, knowledge and experience help staff establish rapport and trust, and respond appropriately to the varied and immediate needs of residents. This way of approaching and responding to residents is a critical enabler, because trust is a fundamental starting point when seeking to engage marginalised communities and individuals.

The Action Learning Workshops highlighted many, often nuanced, ways that the HRAR program staff assist residents in HRAR accommodation settings to connect with health services (see 2.2 Action research). Successful engagement requires residents to have the capacity to navigate the health system and to know what services are available and appropriate, as well as the capacity to be able to access services.

Different approaches to resources for support and ways of building capacity to navigate the system are required. Some residents can independently engage with services if they have the relevant information and contact details. Others with more complex needs may require more intensive support, such as a 'warm referral,' whereby staff assist the person (with their consent) to access and engage with services. This process may include making contact with a service on a person's behalf, sharing their basic personal information with the service, and assisting with active referral pathways.

Figure 1 represents the levels at which people may be filtered out of the health system through systemic and structural barriers. The COVID-19 pandemic exacerbated barriers because many community-based services withdrew or reduced services, and many services could only be accessed remotely by digital means.

During the Action Learning Workshops, the HRAR program staff identified ways to address these barriers to help facilitate more equitable access to services. Community health services need to work with external organisations and agencies to:

1.1 Connect residents with required health and social services and social supports that are local, accessible, relevant and responsive

1.2 Establish collaborative processes in support of follow-up care and support and continuity of care, which may also include communication/training for the community health workers about what other services provide and their intake/referral pathways

1.3 Partner with additional diverse stakeholders and agencies (e.g. libraries, community hubs) that are accessible to the residents to support active linkages and strategies to connect residents to services and information

1.4 Co-design and pilot structures and systems to support active linkages for residents to connect with required services that are tailored to both the intensity of support required to access services, as well as the types of services required

1.5 Consider when a warm referral (with client consent) may be appropriate to increase the likelihood that people will attend the first appointment (client monitoring systems)

1.6 Provide training and skill development to staff to ensure they are well equipped to work with people experiencing vulnerability and disadvantage, including skills in de-escalating conflict and establishing rapport (see also recommendation 2.2)

Figure 1 Access and Health Literacy Responsiveness Matrix

Stage of engagement with the health system	Mechanisms to optimise access and responsiveness
When people approach a service	• Let people know what they are entitled to • Make appointments for people • Assist people with telehealth appointments • Give people information about how the service might be relevant to them • Make warm referrals • Provide transport options • Follow through (check how the appointment went from the person's perspective) • Arrange for family/carer support
↓	↓
When people are in the process of being accepted into a service (intake and assessment)	• Advocate on behalf of people when making referrals • Provide support with self-referrals • Facilitate access by helping to bypass/expedite intake procedures • Book vaccine or medical appointments • Seek alternatives when referrals are refused • Help clients navigate the system
↓	↓
When the service is engaging with each person to meet their needs	• Ensure 'no closed door'/'no wrong door' policy • Provide tailored support • Actively seek to apply opportunistic services (identify need for treatment, education and information etc.) • Be curious about what will make the difference to someone • Proactively initiate support with planned follow through
↓	↓
When the person and service providers are fully engaged in optimal care; the person has optimised understanding of own health needs	• Apply persistence (e.g. 4-weekly visits, plan for continuity of support) • Provide business cards with specific contact numbers for problem-solving • Provide information in preferred language and format (e.g. easy to read and understand, digital) • Have conversations as a means of building trust • Find contingency and alternative service providers to manage change • Establish routines to build health habits and patterns of self-management

2 Assertive outreach/in-reach: To engage with people proactively, bringing the connection to support to their doorstep

The HRAR program has worked proactively, approaching people living in HRAR settings to provide information and support relevant to COVID-19. The HRAR program staff door-knocked residences to make contact, bringing the connection to support to their doorstep.

It is important to note that many residents contacted through the HRAR program were not existing clients of a community health service. The assertive outreach (in-reach) led to targeted, tailored and trusted engagement, helping to build and sustain connection.

Assertive outreach in this context goes beyond the planned home visits and prearranged outreach that may already be offered by some community-based services. However, this approach was taken as part of a public health emergency response, and careful consideration is needed as to how it is incorporated into an engagement-based model of usual service provision.

This assertive outreach approach also highlights the need for experienced and well-trained staff capable of providing support in challenging circumstances and for people experiencing vulnerability and disadvantage. Repeated visits and contact with the resident (a sometimes slow but steadfast process) establish initial familiarity and understanding about the benevolent purpose of the outreach service. This is more likely to lead to trust, which is essential in many settings. Assertive outreach led to many residents becoming willing to accept the support offered and get their (often significant) needs met.

Community health services need to work with external organisations and agencies to:

2.1 Develop, pilot and refine service delivery models to provide assertive outreach to people living in public and community housing. This may include door-knocking (with care and when appropriate), as well as pop-up health hubs

2.2 Train staff employed to work in these public and community housing settings, giving them opportunities to gain experience and develop skills that are effective in working with people experiencing vulnerability and disadvantage. This recommendation is integral to all 8 areas for recommendations

3 Multidisciplinary and intersectoral approach to services: Justice, health, community, housing and other services working together in ways to help people overcome multiple challenges

People living in HRAR accommodation settings experience chronic conditions at a higher rate and greater complexity than the general community, and therefore require tailored, individual support. To understand and overcome these challenges, multidisciplinary and multi-pronged approaches are needed.

Community health services need to work with external organisations and agencies to:

3.1 Work in multidisciplinary ways to provide health and social services, which may involve integrated multidisciplinary teams, referrals to other services and holistic assessment

3.2 Resource health hubs and other pop-up health clinics where multiple service provider disciplines are co-located to identify and respond to health and social support needs (e.g. vaccination and COVID-19 information) as well as chronic and acute physical, mental and social conditions and circumstances

3.3 Involve the local community in discussions and surveys about local areas of needs and priorities to ensure services (such as those recommended in 3.2) are responsive to needs

4 Service navigation: Taking a 'no wrong door' approach to help people find the right place

The patterns of trust and information flow for people living in HRAR accommodation settings indicate reliance on a limited range of resources. Residents most frequently reported trusting community health services and GPs, mainly through face-to-face encounters, conversations and endorsed written materials. Victorian Government reporting or mainstream media were not widely reported as key information sources. Social media were less commonly reported as trusted sources of information.

Residents often attended community agencies for social support and emergency relief (including financial and food relief). This indicates a need for a more integrated, diverse and deliberate approach to connecting people with services and information. For example, someone attending a service for emergency food relief each fortnight could be provided with information and support to access other services, such as financial counselling, a community garden, or Centrelink, to build their capacity to develop alternatives to emergency relief and increase their knowledge of other services available to them. These kinds of strategies ensure that people are referred to the right service in the right place, at the right time, and that there is 'no wrong door.' In other words, people are supported to access services, no matter which door they walk through first.

Community health services need to work with external organisations and agencies to:

4.1 Engage more holistically with residents when they attend community and health services (e.g. medical and housing services and Centrelink) by providing information about other services that they may need and offering a suite of support (where appropriate), rather than focusing on a single issue

4.2 Provide information about health and social support services to the managers/proprietors of specific residential settings, such as rooming houses and supported residential services, to facilitate access for residents

4.3 Build connections between services (such as through multi-agency network meetings) to facilitate information-sharing across agencies and promote better health across the wider community

5 Continuity of care: Helping people to have continued support and engagement with services

The complex interplay of social determinants of health lead to often unpredictable and unstable circumstances for residents of HRAR accommodation settings. These factors are significant barriers to continuity of care and support. For example, changing accommodation, acute exacerbation of health conditions, financial difficulty, lack of transport and changing service providers are all factors that can be profoundly unsettling and may lead to reduced trust, missed appointments and related consequences. For these reasons, many people living in precarious circumstances benefit from initiatives that establish solid and ongoing continuity of support.

These initiatives may include longer-than-usual program delivery whereby programs are offered over an extended period, in recognition that attendance may be sporadic. It may also take some people longer to establish trust and rapport before they feel sufficiently safe and comfortable to continue accessing services.

Changes may also be required to case management models to provide for case management over extended timeframes and to enable people to re-connect to case management in an expedited way.

Community health services need to work with external organisations and agencies to:

5.1 Co-design, pilot and refine service delivery models to facilitate continuity of support over extended timeframes, inclusive of periods when attendance is less frequent, sporadic, or interrupted

5.2 Facilitate sharing of information (with client consent) and develop working relationships with other organisations so that services follow the resident if there is a change of circumstance (see also recommendation 4.3)

6 Digital inclusion: Co-design of local community-based strategies for digital capacity building

Widespread digital exclusion was observed: many people living in HRAR accommodation settings experienced daily, intermittent and long-term separation from standard and essential digital services. During the crisis periods of COVID-19 pandemic, digital health proliferated, and digital pathways became the only avenues for access to many services. Many people were not able to benefit from this, with some becoming even more digitally marginalised. We found that 49% of participants experienced significant, often insurmountable, challenges to using digital health due to lack of local infrastructure, material resources, safe and confidential settings, and individual physical capabilities and skills.

Community health services need to work with external organisations and agencies to:

6.1 Understand and advocate for the digital health literacy needs of public and community housing residents

6.2 Establish a (non-shaming) procedure for quickly assessing the digital literacy of residents at initial contact to avoid trial-and-error and to tailor communication and referral processes

6.3 Co-design practical, fit-for-purpose digital health literacy solutions with community members and service providers

6.4 Create spaces (virtual or physical) for building digital capacity and capability (including by providing Wi-Fi access and broadband, as well as equipment)

6.5 Ensure services can be accessed without reliance on digital technology

7 Social connection: Creating opportunities for connection to family, friends and community members

Social isolation increased dramatically for many people living in HRAR accommodation settings amid the restrictions imposed to combat the COVID-19 pandemic and, for many, the isolation has continued. People's connection to friends, family and others who they rely on for social support has been impacted by public health restrictions as well as by ongoing concerns about COVID-19 contagion. Almost half of the participants in this research live alone. Social connection and re-connection are required for people's wellbeing and to increase their access to resources within their personal and community networks.

Community health services need to work with external organisations and agencies to:

7.1 Co-design information (messages) with residents and provide resources (e.g. masks and hand sanitiser) for being safe and to minimise the risks of contracting communicable diseases in social settings, to increase residents' confidence and willingness to socialise

7.2 Support residents with information about community groups and opportunities to make social connections relevant to their needs and situations

7.3 Advocate for safe (including COVID-safe) community meeting spaces and improved properties (e.g. reopening of community rooms in high-rise public housing)

7.4 Co-design new opportunities for residents to discover and lead community activities in common spaces to increase social interaction

8 Investments for continued health sector development: Improving health outcomes and equity in social housing

This research has taken place within the context of the COVID-19 pandemic and in collaboration with Lead Providers of the HRAR program. However, the findings and recommendations have broader applicability and relevance.

This report should also be used to develop and implement a training and quality improvement process to upskill all Victorian community health services to ensure they optimise their reach and service provision.

Successful implementation will ensure services are prepared and ready for other public health emergencies, as well as equipped to support and enable communities through the response and recovery period.

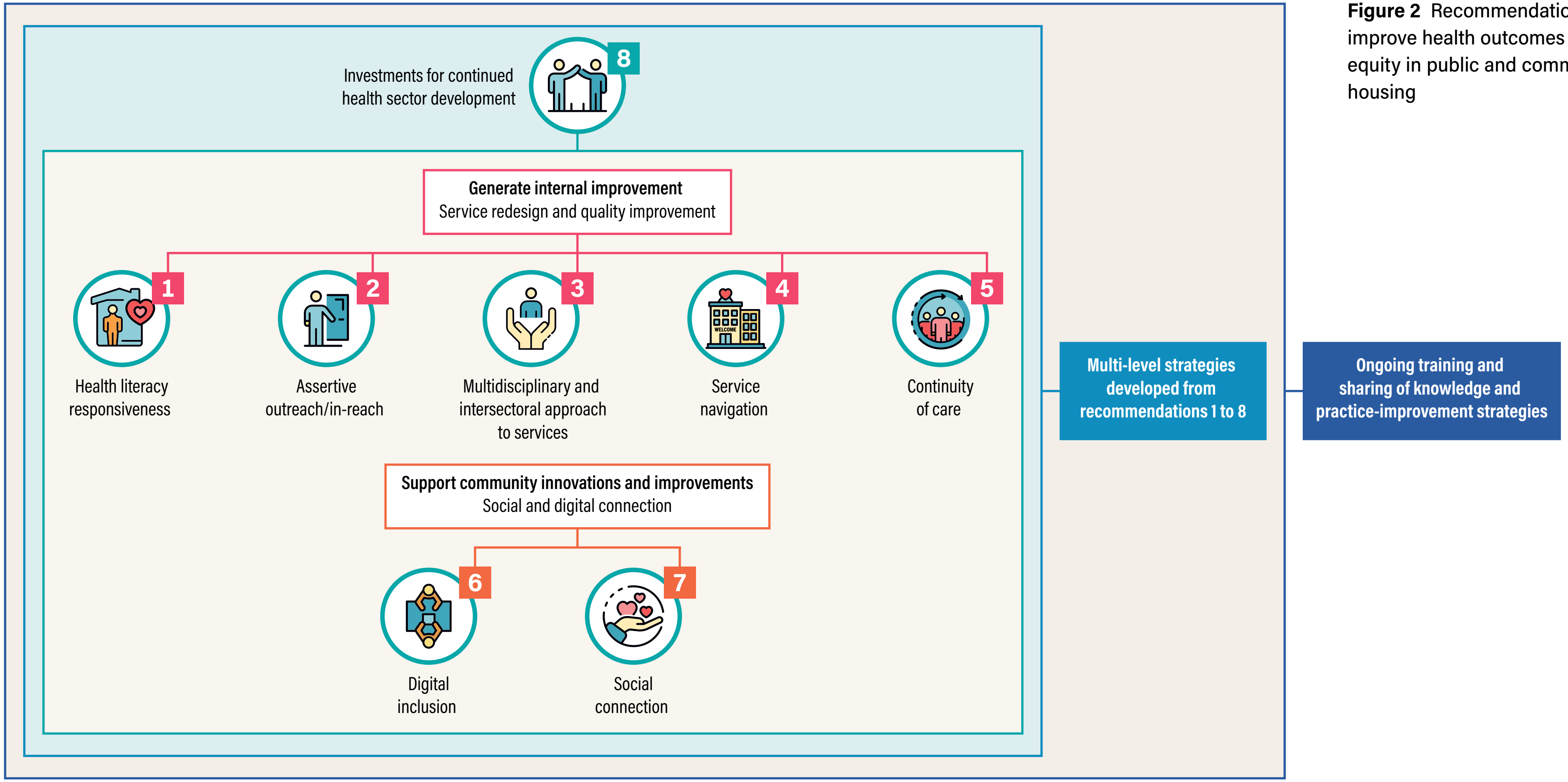


Figure 2 Recommendations to improve health outcomes and equity in public and community housing

1

Introduction

This project aimed to develop a nuanced and granular understanding of the needs and experiences of people residing in social housing settings (including public and community housing) during the COVID-19 pandemic. The aim was to optimise communications and engagement with these communities in activities for COVID-19 prevention and safety.

The Centre for Global Health and Equity, Swinburne University of Technology, had observed that people living in high-risk settings experiencing vulnerability and disadvantage were being disproportionately impacted by the pandemic. The Swinburne team analysed these kinds of circumstances from a service quality, social justice and equity perspective. In response, the team developed a research approach to understand the community in all its diversity and engage community-based health and social services in processes to immediately translate these insights into action.

Late in 2020, the High-Risk Accommodation Response (HRAR) program was being established by the Victorian Government's Department of Family, Fairness and Housing (DFFH). This program aimed to proactively reduce the risk of COVID-19 transmission by preparing for and responding early to infection or outbreaks in high-risk accommodation settings. Connect Health recognised that an external evaluation of the HRAR program would be required to capture the voices of residents and provide scientific rigour. Following initial discussions with Swinburne, Connect Health shared the proposal with DFFH and other community health partners, inviting their participation in the research project.

Four Lead Providers of the HRAR program subsequently partnered with Swinburne's Centre for Global Health and Equity to fund the initiative: Connect Health and Community, Peninsula Health, Star Health and Merri Health. In addition, Bendigo Community Health Services also provided support to the project through data collection opportunities and by contributing to ongoing discussions with the project team.

These five providers are among 26 Lead Providers across Victoria. Through the delivery of the HRAR program, these 26 organisations work to ensure appropriate public health measures are in place to protect the health and wellbeing of residents of high-risk accommodation settings. They also ensure that adequate, culturally appropriate, and accessible services and supports (including health and social services, food and essential supplies), and community engagement strategies are available to residents and landlords/proprietors, as required.

People within HRAR accommodation settings have vastly different backgrounds, life experiences, and health and social support needs. The urgent demands and complexity of COVID-19 public health information and services meant that addressing barriers to accessing and receiving services was paramount.

This project determined the health literacy and knowledge environment of the people living in HRAR accommodation settings. That is, how people accessed, understood, appraised, remembered and used information and services in relation to COVID-19-safe imperatives, such as personal and community hygiene, vaccination knowledge and readiness (see Table 1).

The knowledge environment includes people's:

- social practices
- access to digital technology
- living environments

that support them to build their knowledge, and make decisions, inferences or discoveries.

Health literacy includes people's:

- knowledge
- confidence
- comfort

which accumulates through daily activities, social interactions and across generations.

This allows them to:

- access
- understand
- appraise
- remember
- use

information about health and healthcare.

In this project, in-depth research into the HRAR program context was undertaken, with a focus on the mechanisms (or processes) through which people did (and didn't) understand and act on health information. One of the key features of this study was the action learning research process, which enabled Lead Providers to use live data and inferences from the data to inform the HRAR program's implementation, continuous improvement and evaluation in real-time.

The findings enabled Lead Providers to identify communication and engagement strategies at the levels of the individual resident, service provider, community health service and wider community, to maximise readiness for COVID-19 outbreaks and the uptake of vaccinations.

Table 1 Components of health literacy

Component	Access	Understand	Appraise	Retrieve/remember	Use
Examples of how health literacy needs differ	People have different preferred learning styles and need to access different sorts of information at different times.	There are many levels of ability in understanding health information, ranging from no understanding to problem-solving abilities.	Appraising health information is more than just believing or judging something is scientific. It also involves working out whether the information is relevant and how it applies in their own life.	There are different forms and levels of remembering knowledge for future use.	Healthcare decisions need to be made repeatedly – they are rarely one-time decisions.
Examples of how to respond to different health literacy needs	For specific health issues, people need timely 'what to do', 'why to do' and 'how to do' information.	Break down the information so people don't get lost in the discussion. Others can understand principles sufficiently to undertake problem-solving.	People need to know if information is trustworthy or relevant – or if what's being discussed is even possible for them.	People can be helped to remember with prompts and questions.	Practical knowledge and problem-solving is very important, as is trial-and-error decision-making.

1.1 Background to the High-Risk Accommodation Response (HRAR) program

During the COVID-19 pandemic, communities were asked to rapidly respond with little notice. The effects on populations experiencing vulnerabilities, such as reduced access to employment, education and health and social services, are not yet fully understood. The community voice is yet to be heard in a manner that can unlock the enablers and barriers for identifying opportunities for excellence in service provision, and the required system changes in policy and practice, at local and state level, to maximise community care and safety.

The public health emergency directives and restrictions left many people feeling threatened, frustrated, insecure, fearful and at times angry about their future and the future of their families. These feelings were often inflamed by media and misinformation. In addition, chronic insecurity and a sense of lost control led in many people to poor management of existing and emerging acute and chronic conditions and development of mental health problems.

For many people living in HRAR accommodation settings, the strain of the pandemic and its associated restrictions was exacerbated by substantial vulnerability. This included living in unsafe/insecure settings, experiencing chronic financial distress, food insecurity and unemployment. These factors reduced people's ability to understand, participate in or follow the required COVID-19 public health practices and/or restrictions.

Phase 1 of the HRAR program commenced in August 2020, at the height of the COVID-19 pandemic emergency response in Victoria. At the time, metropolitan Melbourne was under 'Stage 4' COVID-19 public health restrictions (set by the Victorian Government), while the rest of Victoria was under 'Stage 3.'

Public health restrictions at various times for different Victorians included stay-at-home orders, with some exceptions for medical care or compassionate grounds. This meant:

- working from home where possible
- remote learning for school students (with some exceptions)
- only leaving home once a day for necessary goods or services (one person per household at a time)
- only leaving home once a day for exercise (for a maximum of one hour per day)

In addition:

- no visitors were allowed to the home
- public gatherings were limited to 2 people from the same household.

Additional restrictions in metropolitan Melbourne included an evening curfew from 8pm to 5am, and only being able to leave the home for shopping and exercise within a 5km radius from home.

The primary focus of HRAR Phase 1 was preventing, preparing for, and responding early to COVID-19 infection, and minimising transmission in these accommodation settings.

The mission of the HRAR program was:

a. Providing a COVID-19-safe environment for residents, workers and visitors to facilities, and supporting non-government providers to deliver this for their residents, including through proactive prevention and rapid response to outbreaks

b. Working with community leaders, community health, local council, community services and other agencies to provide culturally safe supports across health, social services, material aid and other supports

c. Making culturally safe and appropriate health and support services readily available to residents across in-scope accommodation settings, either through targeted social supports in public housing, or connecting to existing services in other settings

d. Providing timely access to food and other essential supplies for coronavirus (COVID-19) positive residents and those who must self-quarantine, who have no other means of support

e. Providing and reinforcing public health messaging, or supporting agencies to do so

f. Educating confirmed cases, close contacts and others about COVID-19 and how to prevent it harming individuals, families and communities

g. Referring people in a timely manner to emergency accommodation options where they are unable to isolate in their homes[3]

While delivering these services during Phase 1, Lead Providers had the opportunity to gather additional insights about the behaviours, experiences and responses of people living in vulnerable communities. However, there were little formal data available about the cascading impact of this ongoing, inherently chaotic environment.

This project is in keeping with two of the principles governing the HRAR program. The first principle is 'Respect and transparency,' which gives the participants 'a chance to input into the ongoing care and support available in their community.'[4] The second principle is 'Learning and Improvement,' which stipulates 'a commitment to learning that incorporates the experience of residents and responds effectively to those lessons.'

HRAR Phase 2 commenced on 1 March 2021, when Victoria was transitioning to COVIDSafe settings, and as the COVID-19 vaccination program rollout began. This was also the time when this project commenced.

---

3. DFFH, 'High-Risk Accommodation Response (HRAR) Service Specifications' (Version 1)
4. DFFH, 'High-Risk Accommodation Response (HRAR) Service Specifications' (Version 2)

1.2 Rationale for a health literacy approach to understand and build health equity

A health literacy approach is firmly grounded in the person's lived experience of their surroundings and social practices. In this way, a health literacy approach sheds light on the complex interplay between social determinants of health (including housing, shelter, employment, education and food security) and access to health services and information. A health literacy approach can reduce health disparities and foster health equity and social justice.

A health literacy approach focuses on much more than someone's reading and writing ability. Within the context of this research, the focus is on understanding the experiences of people who are disproportionately affected by health literacy challenges arising from their socioeconomic circumstances.

Appreciating the diversity of health literacy that exists within and across communities allows for the possibility that people are different in the ways that they think, believe and make decisions about health. This is important, because it is this diversity that helps us understand why public health messages and engagement strategies, designed to reach the average person, can still leave so many behind. Health services need to better understand the information and support that people, families and communities need for health actions. Responding to health literacy strengths, needs and preferences is known as 'health literacy responsiveness.'

Health literacy responsiveness is the extent to which health workers, services, systems, organisations and policymakers (across government sectors and through cross-sectoral public policies) recognise and accommodate diverse traditions and health literacy strengths, needs and preferences to create enabling environments. These environments optimise equitable access to and engagement with health information and services, and optimise support for the health and wellbeing of individuals, families, groups and communities.

A health literacy approach seeks to understand:

- people's patterns of health literacy strengths, especially those of people we are not reaching or not being effective with
- the strategies available to work with people with health literacy challenges (including the critical role of community conversations)
- how to implement strategies for community cohorts with the greatest health literacy challenges, or for people with specific health literacy needs
- how to assist health professionals to use careful and sensitive assessments, and to use different strategies based on people's needs.

The reach and impact of campaigns (health messages) is variable. Most are designed for the 'average person,' who will generally respond as intended, no matter how well (or poorly) designed the message is. However, some people will be left behind, because the messages are not designed to reach them.

Figure 3 explains how 'one-size-fits-all' approaches are not effective for everyone. It depicts a theoretical maximum impact at the top. (The goal of health promoters and public health practitioners is to ensure this 100% coverage is no longer theoretical.[5]) The bottom curve shows the progression of a campaign from the 'quick wins' often gained at the start, towards a plateau, when many, but not all people have been reached.

The second (upper) curve is indicative of the impact of strategies to optimise or standardise campaigns/programs based on the average health literacy in the population.

To reduce or eliminate the gap between the theoretical maximum and the actual reach of campaigns, we need to focus on health literacy diversity. This encompasses the different ways that people prefer to find, receive and learn health information.

Ensuring public health campaigns and programs are as effective as possible means incorporating best-practice health literacy co-design principles to reach most people, as well as using more targeted, tailored approaches for people at-risk of being left behind.

---

5. World Health Organization, 'Health Literacy Development for the Prevention and Control of Noncommunicable Diseases.' World Health Organization: Geneva, Switzerland, 2022

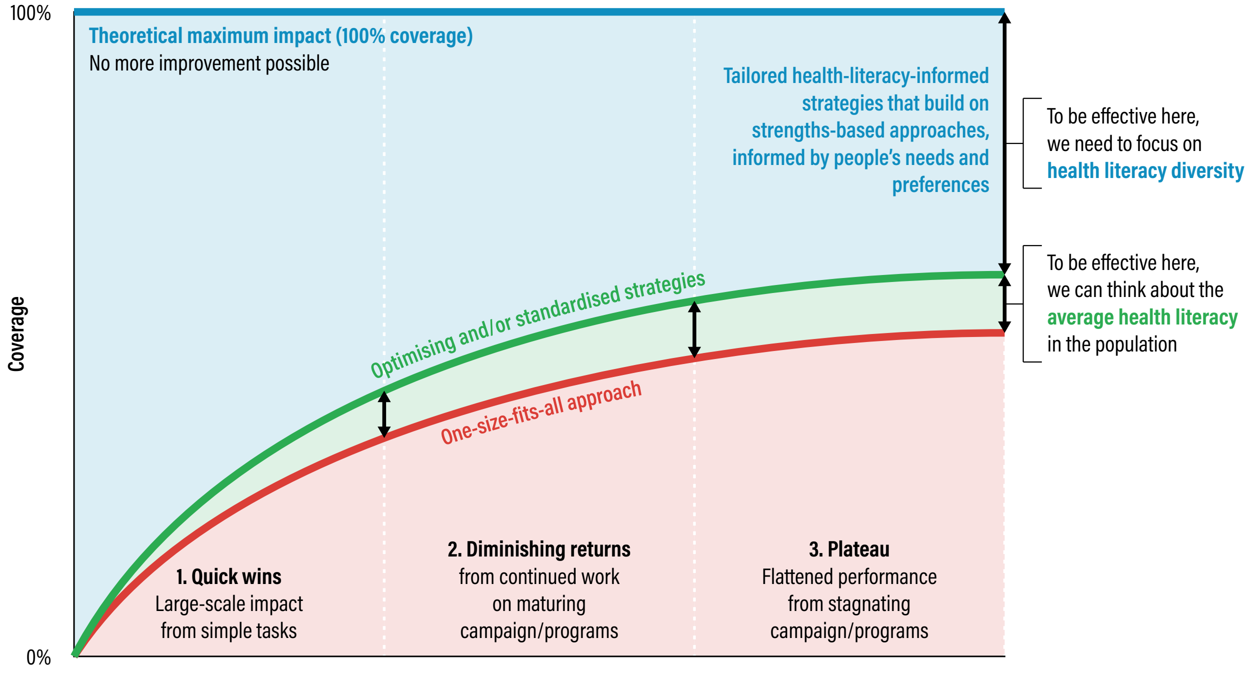


Figure 3 The role of health literacy diversity in explaining why 'one-size-fits-all' programs are effective for some, but not all, members of society

1.3 The Ophelia process

The Ophelia (Optimising Health Literacy and Access) process is a community-based method for intervention development, coupled with co-creation of solutions with stakeholders at all levels of a system. This method was chosen for this research project because it improves the speed at which fit-for-purpose public health interventions are generated and deployed, which is critically important in a public health emergency such as the COVID-19 pandemic.

Through the adaption and application of the Ophelia process we have a methodically selected set of indicators from diversely affected individuals to provide insights to a wide range of strengths and challenges across target groups.[6][7]

Data collected in this research provided a combination of COVID-19-specific variables and health literacy variables that provided insights to the mechanisms that are required to inform and generate context-specific interventions and policies, especially those relevant to people experiencing vulnerability and disadvantage.

Through good governance from the start, all parties were guided to undertake co-design processes to achieve agreed outcomes, and whole-of-systems solutions were identified, prioritised and implemented. Genuine co-design with all stakeholders enabled the program to build on what was already good, to use a strengths-based approach, and to ensure the derived solutions were fit-for-purpose, needed, wanted and readily implementable.

---

6. Batterham, R.W., Buchbinder, R., Beauchamp, A. et al. 'The OPtimising HEalth LIterAcy (Ophelia) process: study protocol for using health literacy profiling and community engagement to create and implement health reform.' *BMC Public Health* 14, 694 (2014). https://doi.org/10.1186/1471-2458-14-694
7. Batterham, R.W., Hawkins M., Collins P.A., Buchbinder R., Osborne R.H, 'Health literacy: applying current concepts to improve health services and reduce health inequalities.' *Public Health*. 2016 Mar;132:3–12. doi: 10.1016/j.puhe.2016.01.001.

2

Research design

The research design approach sought to generate deep engagement between key stakeholders of the HRAR program and the research team. Both qualitative and quantitative methods were used to collect data.

The engagement and data collection methods are outlined below, and described in more detail later in this section. The additional key stakeholder groups engaged are also outlined below.

Resident engagement and data collection methods

Residents of public and community housing (including caravan parks, supported residential services, disability services, 'homeless hotels' and other residences included in the specified catchment areas of the HRAR Lead Providers) were engaged via:

- a comprehensive self-report online survey (quantitative)
- interview – computer (iPad) assisted (quantitative and qualitative)

Date collection also included fieldwork notes on contexts, environments and interactions (qualitative).

Engagement with additional key stakeholder groups

Community health service staff:

- Action Learning Workshops (qualitative) – Merri Health, Connect Health, Peninsula Health and Star Health
- Interviews (qualitative) – Bendigo Community Health Services (including community leaders)

Community health service management:

- Weekly project team meetings (including governance, sense-making, project management/co-design)
- One-on-one discussions

Government organisations and other agencies:

- Victorian Department of Family Fairness and Housing (meetings as requested)
- Victorian Healthcare Association (VHA) (meetings as requested)
- Presentations to the community of practice (facilitated by VHA)

For these agencies with oversight of the HRAR program, the exchanges of information about the research findings and the policy developments ensured currency for both the research and development of the HRAR program.

2.1 Research governance structure and processes

The nature and scope of this project evolved with the pandemic and the ensuing government restrictions. The governance framework and process needed to be agile, ensure the safety, privacy and confidentiality of people engaged in the process, and ensure integrity of research. Devolved governance allowed the health services to make decisions to meet their local needs and priorities within this framework.

Deliberate (purposeful and proactive) governance is key to the implementation of successful Ophelia projects, building local ownerships and involvement of a broad range of stakeholders to strengthen sustainability of the project beyond its timeframe.[8] Core elements include ongoing and iterative clarification of the purpose and scope of the project, alongside tabling of realistic local and central resources available to achieve the intended outcomes and impacts, now and in the near and more distant future.

The project was undertaken amid rapidly changing conditions, including shifting public health restrictions, the haphazard spread of COVID-19 infections and outbreaks, and the deployment of new and altered services. There were diverse risks to research tasks, not only from COVID-19 infection, but through engagement in settings where there was potential risk to personal safety.

Given these conditions, weekly meetings of 1–2 hours were held with members of the research team and representatives from the Lead Providers (the project team), who together identified project and research risks, assessed their likelihood and potential impact, and decided on mitigation strategies and interventions.

The unpredictable ebbs and flows of COVID-19 outbreaks across the community health sites meant that project meetings had to ensure the planning fieldwork activities prioritised the safety of staff and resident safety, and minimised the impost of research on urgent clinical/service provision activities. COVID-19 safety procedure compliance, including fitting and training research staff in the use of personal protective equipment (PPE), was paramount. Meetings also dealt with the logistics of fieldwork, including rostering research team members (interviewers) in accordance with Lead Provider activities.

Communication during the weekly project team meetings was open, transparent and characterised by genuine collaboration and mutual curiosity. This led to sharing of information, understanding, and the generation of sense-making discussions, which intensified as the collected data were shared each week. The research team and the Lead Providers created an environment in the meetings that was highly engaging, stimulating and rewarding for all.

The research design and procedures were approved by the Swinburne University of Technology (reference: 20215835-8042) and the Peninsula Health Human Research ethics committees (reference: HREC/77306/PH-2021).

An important ethical consideration was to acknowledge the efforts of residents from HRAR accommodation settings who participated. It was decided that participants would be given a $30 supermarket voucher for essential items (no tobacco or alcohol).

---

8. Dias, S., Gama, A., Maia, A.C., Marques, M.J., Campos Fernandes, A., Goes, A.R., Loureiro, I., Osborne, R.H., 2021. 'Migrant Communities at the Center in Co-design of Health Literacy-Based Innovative Solutions for Non-communicable Diseases Prevention and Risk Reduction: Application of the OPtimising HEalth LIteracy and Access (Ophelia) Process.' *Frontiers in public health*, p.616.

2.2 Action research

The research design was underpinned by action research methodology: it aimed to contribute to the practical improvement of the HRAR program and generate knowledge, as well as develop the capability of the HRAR teams to effectively engage and communicate with people living in their catchment areas.

The research design incorporated 4 central tenets of action research:

a. Collaboration through participation
b. Acquisition of knowledge
c. Social change
d. Empowerment of collaborators[9]

'Spirals' of action research cycles occurred at two levels: with the members of the project team and with team members of the 4 HRAR Lead Providers. The weekly meetings served many management imperatives including planning, as well as insights about micro and macro elements of their organisations' provision of complex services in diverse settings.

Aggregate data were presented weekly to the project team members during the data collection period. These presentations enabled interrogative-critical conversations for sense-making and the development of inferences from the data. These conversations were unstructured, highly participatory and promoted sharing of knowledge in the quest for deeper understanding and solutions to inform practice. This process of knowledge transition hastened the translation of knowledge to practice.

The action research cycles with staff from the 4 HRAR Lead Providers (including frontline workers and those involved in the delivery of the HRAR program) occurred in a more structured way through Action Learning Workshops. Four workshops were held with each team – a total of 16 – with all but 2 conducted online. Although these workshops were more structured than the sense-making sessions with the project team, they were also characterised as highly participatory and driven by the workshop participants, rather than the research team.

The teams examined the aggregate data and the outputs from the data analysis to share their knowledge and experience to create new knowledge to inform practice. The discussions revealed tacit knowledge and innovations that fellow workers were undertaking, and these informed the research and supported ongoing capacity-building.

---

[9] Sousa, M. J., Au-Yong-Oliveira, M. (2021). 'Action research methodology as a knowledge transition strategy.' Kidmore End: Academic Conferences International Limited. doi:https://doi.org/10.34190/ERM.21.078

2.3 Research questions and objectives

The research questions and objectives were developed in collaboration with our research partners, the Lead Providers of the HRAR program. These questions and objectives guided the development of the research design and synthesis of the data analysis.

It's important to stress that while the questions and objectives were developed in in the context of and in response to the COVID-19 pandemic, they remain relevant – not only to the current management of the pandemic, but also to other public health emergencies and future pandemics, and to health promotion activities, health service delivery and broader initiatives such as the development of the Wellbeing Economy.[10]

Research questions

1. What have people heard and what do they, and their closest (most influential) peers/family/friends, think COVID-19 control and vaccination means?
2. What are the patterns of trust and information flow in communities? (i.e. who are the best people to deliver health information?)
3. What are people's preferred learning styles and types of media?
4. What services and systems can Lead Providers put in place for diverse residents to enable them to be willing to engage in COVID-19 preparedness and vaccine readiness?

Research objectives

The objectives of this action research were to engage with frontline health workers and diverse community members living in HRAR accommodation settings to:

1. understand what a range of Lead Providers delivered in specific HRAR accommodation settings and identify settings in which resident interviews/meetings can be held
2. evaluate the experiences of residents receiving support from HRAR
3. determine the health literacy of the people residing in HRAR accommodation settings; that is, how people access, understand, appraise, remember and use information and services in relation to COVID-19-safe imperatives such as personal and community hygiene, vaccine knowledge and readiness.

Given 2 and 3, above:

4. evaluate, from the perspectives of diverse residents, what worked, didn't work, in what circumstances, and why, regarding transferring to and adhering to COVID-19-safe behaviours and settings
5. identify potential communications and engagement strategies that maximise readiness for COVID-19 outbreaks and uptake of the vaccine.

Given 1 to 5, above:

6. generate recommendations to inform future HRAR program implementation, continuous improvement and evaluation.

---

[10] Jones, A, Morelli, G, Pettigrew, S., Neal, B. (2021). Integrating wellbeing into the business of government: The feasibility of innovative legal and policy measures to achieve sustainable development in Australia, Victorian Health Promotion Foundation by The George Institute for Global Health, Melbourne.

2.4 Recruitment and data collection procedures

The fieldwork procedures were co-designed with ongoing input and advice from the project team. As noted in the Introduction, the project commenced in June 2021. At this time, Victoria was transitioning to 'COVID-normal' settings, the vaccine rollout was in its early stages and variants Delta and Omicron had yet to take hold.

The public health restrictions introduced in July 2021 in response to the 'third wave' of the virus, triggered by the more infectious Delta variant, necessitated modifications to the research design, and also caused some delays, as key staff at Lead Providers were diverted from the project to outbreak response and management. The spread of the Omicron variant in December 2021 and January 2022 further impacted the availability of resources for this research project.

The research design originally proposed face-to-face interviews with up to 30 people residing in HRAR accommodation settings within the catchment areas of each of the Lead Providers (120 participants in total). Additional participants were to be people residing in the catchment area of a rural Lead Provider. However, the re-introduction of public health restrictions meant fieldwork was not permitted, so the research design changed to include use of remote (online and telephone) data collection. Procedures to recruit participants and collect data are described below.

2.4.1 Interviewers

The research team from Swinburne appointed 9 additional people to assist with conducting the interviews. In total, 11 were trained as interviewers. Four of these interviewers were already employed to work in the HRAR program by a Lead Provider (1 from Connect Health, 2 from Star Health and 1 from Merri Health). This was a deliberate strategy by the project team, which had identified the mutual benefits for these staff to have an in-depth understanding of the research, as well as to bring to the research an in-depth understanding of the field.

Prior to undertaking fieldwork, the interviewers were trained to ensure that they were adequately prepared for conducting research in these settings. This training included a 3-hour webinar, jointly attended by the interviewers and staff from the community health teams who supported the fieldwork. The community health team staff attended the first half of the training session, which was designed to ensure they understood the purpose of the research and their role in supporting the interviewers in the field. Staff roles included:

- 'shepherding' the interviewer to navigate the setting – avoid unsafe spaces, gain local knowledge (e.g. of parking and transport)
- helping with the informed consent process (e.g. identifying if a community member was cognitively or otherwise impaired)
- exercising discretion around whether a community member is capable of completing the survey
- supporting community members with any non-survey-related issues or support needs (e.g. link to services – within scope of role)
- supporting community members in relation to any COVID-19 directives.

The interviewers were required to comply with the COVID-19 directives of the Lead Providers when conducting fieldwork. Interviewers and others on the research team engaging in fieldwork were required to complete training in the use of personal protective equipment (PPE) and infection control practices, in line with Victorian Government requirements for community health settings. This training was completed online, using the training resources recommended by the Lead Providers, and also onsite before fieldwork started. PPE was issued by the Lead Providers and in some instances required the interviewers to be fit-tested to ensure the correct face mask was worn, and worn correctly.

The interviewers were accompanied by community health staff from the Lead Provider, as well as security guards in some settings, when conducting fieldwork. The interviewers also attended briefing sessions with the community health teams prior to conducting the fieldwork.

The interviewers were regularly debriefed by the chief investigator of the research project during the fieldwork, and were provided with information about additional support services available through the Swinburne Employee Assistance Program.

At the conclusion of the fieldwork, the interviewers were invited by email to attend a half-day workshop to share their experiences and identify best practices for conducting research in these settings. This workshop was recorded (with consent) and qualitative data were thematically analysed to identify best-practice recommendations for research to be undertaken in these settings. This component of the research will be reported separately to this report.

2.4.2 Residents of HRAR accommodation settings

While it might be desirable to undertake an in-depth situational analysis and survey of residents in the catchment area of each Lead Provider, this was not practical. Our pragmatic approach ensured that both metropolitan and regional/rural settings were included, along with different accommodation types.

The range of populations and accommodation types within scope of the HRAR program included government and non-government managed sites across Victoria, grouped into four tiers:

- Tier 1: Public housing settings (high-rise, medium-rise and low-rise public housing) where there are shared facilities (e.g. laundry, kitchen) or access points (e.g. lift, stairs)
- Tier 2: Staffed settings (disability residential settings)
- Tier 3: Unstaffed settings (rooming houses – private, community, unregistered where/as known; community housing)
- Tier 4: Other settings (caravan parks and other dwellings identified on a case-by-case basis).

As mentioned earlier, these settings are collectively referred to as 'HRAR accommodation settings' throughout this report. This term is intended to be inclusive of all these settings within the context of this research.

Recruitment

Residents in the metropolitan areas were invited to complete an online survey to provide insights to health literacy, potential predictors of behaviour, and priorities for action. Residents were recruited by a postcard that was designed and distributed by the Lead Providers (see Appendix: Templates for recruitment postcards).

The postcard included an invitation to participate, a QR code to access the survey, phone numbers of the Lead Provider contact person and the chief investigator of the research project, and information about the supermarket voucher to be given to participants.

On request, the survey was administered over the phone by the chief investigator for residents unable to use the QR code to access it, or for those who preferred to complete it over the phone. Some residents also contacted the chief investigator to request a link to the survey, which was sent by email.

The timing of the release of the survey depended largely on the readiness of the Lead Provider to engage with the residents and deliver the postcard invitations. This was affected by the resources available to Lead Providers, which faced increasing demands on and for services amid the COVID-19 pandemic and restrictions.

When fieldwork was possible, metropolitan residents were invited to participate in a face-to-face interview. A postcard similar to that for the online survey was distributed prior to the fieldwork, informing residents that the research team would be visiting the local area. This postcard invited residents to talk to the research team and included phone numbers of the Lead Provider contact and the chief investigator, as well as information about the supermarket voucher. Lead Providers and the proprietors/managers of supported residential services facilities also liaised to distribute information about the fieldwork and support the residents to participate.

As well as recruiting participants using postcards and door-knocking, interviewers also attended community events and vaccination hubs. Interpreter services were used as needed, as were bi-cultural workers, where available.

Residents from a rural area were recruited with the assistance of Bendigo Community Health Services. Recruitment took place in three locations: at a vaccination clinic held at a monastery for members of the Karen community; at a supported residential service; and at a community-based vaccination hub. Residents were invited to participate in an interview only, not the online survey.

In all recruitment settings, telephone interpreter services and bicultural staff provided assistance with the administration of the survey and face-to-face interviews where needed.

Data collection tools

The survey included a mix of questions from standardised questionnaires (see Table 2) and questions about sociodemographic details. The sociodemographic questions were kept to a minimum to ensure anonymity and to minimise respondent burden.

Table 2 Study variables collected according to data collection method (residents)

Variable	Online survey	Interview survey[2]
HLQ (Health Literacy Questionnaire) scales[1]		
1. Feeling understood and supported by healthcare providers	X	
2. Having sufficient information to manage my health	X	
3. Actively managing my health	X	X
4. Social support for health	X	X
5. Appraisal of health information	X	X
6. Ability to actively engage with healthcare providers	X	X
7. Navigating the healthcare system	X	
8. Ability to find good health information	X	
9. Understand health information well enough to know what to do	X	X
eHLQ (eHealth Literacy Questionnaire) scales[1]		
1. Using technology to process health information	X	X
2. Understanding of health concepts and language	X	X
heiQ (Health Education Impact Questionnaire) scales		
2. Positive and active engagement in life	X	X
3. Emotional distress	X	X
Worries Questionnaire		
All 10 items	X	X
Food Insecurity Experience Scale Survey		
All 8 items were included if the respondent indicated they were worried about getting enough healthy food (item 1 of the Worries Questionnaire)		X
Number of people attempting survey[3]	822	326
Complete and usable responses	665[4]	138[4]

Notes

1. Health literacy measurement tool
2. Shorter survey to minimise burden on participants and encourage wider participation
3. Includes all responses from participants
4. Excludes responses from participants who did not complete sufficient health literacy items. 803 responses were included in the cluster analysis of the health literacy data.

The Health Literacy Questionnaire (HLQ)

Health literacy is a complex concept (see definition in the Introduction). When the Health Literacy Questionnaire (HLQ) was developed in Victoria in 2013, through in-depth consultations with community members and practitioners, a wide range of different health literacy attributes were raised.[11] These different attributes were organised into questionnaire scales, each with a minimal number of items to reliably measure the health literacy attributes in people in the community through self-report or interview.

The HLQ has 9 distinct scales that provide direct information about health literacy strengths, challenges and preferences (i.e. the data describe health literacy profiles). The scale names of the HLQ are shown in Table 2. Each scale has between 4 and 6 items, for a total of 44 items across the 9 scales. The HLQ has been included in the ABS National Health Survey and applied in more than 60 countries.

All items from the 9 scales were included in the online survey. Scales 1, 2, 7 and 8 were excluded from the face-to-face interview survey to reduce participant burden and maximise participation rates. This was planned for at study onset, and explains the smaller dataset with 5 rather than 9 scales, hypothesised to be the core elements of a person's health literacy. See Table 3 for an overview of the scales.

The eHealth Literacy Questionnaire (eHLQ)[12]

The 7 scales of the eHLQ were developed from the 7 dimensions of the eHealth Literacy Framework (eHLF). The eHLQ provides insights to users' perceptions and experiences when using digital health solutions and why digital health services implementations work or fail.

Scales 1 and 2 from the eHLQ were chosen for inclusion in the online and the interview survey. Scale 1: 'Using technology to process health information' explores the participants' ability to use technologies to read, write and remember health information, apply basic numerical concepts and understand context-specific language (e.g. health, IT, or English), as well as critically appraise information. Scale 2: 'Understanding of health concepts and language' explores the participants' knowledge about basic physiological functions and their own current health status, as well as whether they are aware of health risk-factors and how to avoid them.

The Health Education Impact Questionnaire (heiQ)[13]

The Health Education Impact Questionnaire (heiQ) has 8 scales that measure the intended outcomes of health education and self-management programs.

Scale 2: 'Positive and active engagement in life' was chosen for inclusion in both the online survey and the face-to-face interview. There are 5 items in this scale that explore a person's engagement with life. Scale 2 is an indication of the extent to which someone is engaged and involved in life, and covers motivation to be actively engaged in life-fulfilling activities.

Scale 3: 'Emotional distress' measures overall health-related negative affect, including anxiety, stress, anger, depression and attitudes to life.

---

[11] Osborne, R.H., Batterham, R.W., Elsworth, G.R. et al. 'The grounded psychometric development and initial validation of the Health Literacy Questionnaire (HLQ).' *BMC Public Health* 13, 658 (2013). https://doi.org/10.1186/1471-2458-13-658

[12] Kayser L., Karnoe A., Furstrand D., Batterham R., Christensen K.B., Elsworth G., Osborne R.H. 'A Multidimensional Tool Based on the eHealth Literacy Framework: Development and Initial Validity Testing of the eHealth Literacy Questionnaire (eHLQ).' J Med Internet Res. 2018 Feb 12;20(2):e36. doi: 10.2196/jmir.8371.

[13] Osborne R.H., Elsworth G.R., Whitfield K., 'The Health Education Impact Questionnaire (heiQ): an outcomes and evaluation measure for patient education and self-management interventions for people with chronic conditions.' Patient Educ Couns; 66(2):192-201 (2007). https://doi.org/10.1016/j.pec.2006.12.002

The Worries Questionnaire

The Worries Questionnaire gauges people's general worries in relation to the pandemic. It was developed by the Swinburne research team and tested among thousands of Australians during the peak of the COVID-19 outbreak in 2020. The questionnaire consists of 10 items and a 4-point response scale comprising 'Not at all worried', 'A little worried', 'Worried', and 'Very worried'.

The questionnaire asks, 'Today are you worried about how you can:

1. get enough healthy food?
2. get the medicines that you or your family need?
3. get healthcare when you need to?
4. care for people who you have a responsibility for?
5. keep in contact with family and friends?
6. care for children and their education?
7. look after your mental wellbeing?
8. look after your physical health?
9. have enough money?
10. do your work or business?' (optional)

The Food Insecurity Experience Scale Survey Module[14]

The Food Insecurity Experience Scale Survey was used with permission from its authors. The survey comprises 8 questions prompting 'yes' or 'no' answers. Together, the items compose a statistical scale designed to cover a range of severity of food insecurity. The items should be analysed together as a scale, not as separate items.

All 8 items were included in the face-to-face interview format, but were only asked if the participant indicated they were worried about food by answering 'A little worried', 'Worried', or 'Very worried' to the Worries Questionnaire item 'Today are you worried about how you can get enough healthy food?'

---

[14] Food security: Ballard, T.J., Kepple, A.W., Cafiero, C. 2013. 'The food insecurity experience scale: development of a global standard for monitoring hunger worldwide.' Technical Paper. Rome, FAO. (available at http://www.fao.org/economic/ess/ess-fs/voices/en/).

Table 3 Health Literacy Questionnaire (HLQ) scale descriptions

HLQ scale	Low scale score	High scale score
1. Feeling understood and supported by healthcare providers	Unable to engage with doctors and other healthcare providers. Doesn't have a regular healthcare provider and/or has difficulty trusting healthcare providers as a source of information and/or advice.	Has an established relationship with at least one healthcare provider who knows them well and whom they trust to provide useful advice and information and to assist them to understand information and make decisions about their health.
2. Having sufficient information to manage my health	Feels that there are many gaps in their knowledge and that they don't have the information they need to live with and manage their health concerns.	Feels confident that they have all the information that they need to live with and manage their condition and to make decisions about their health.
3. Actively managing my health	Doesn't see their health as their responsibility; not engaged in their healthcare and regard healthcare as something that is done to them.	Recognises the importance of health and are able to take responsibility for their own health. They proactively engage in their own care and make their own decisions about their health. They make health a priority.
4. Social support for health	Completely alone and unsupported for health.	Has a social system that provides them with all the support they want or need for health.
5. Appraisal of health information	No matter how hard they try, they cannot understand most health information and get confused when there is conflicting information.	Able to identify good information and reliable sources of information. They can resolve conflicting information by themselves or with help from others.
6. Ability to actively engage with healthcare providers	Passive or inactive in their approach to healthcare (i.e. they do not proactively seek or clarify information and advice and/or service options). Accept information without question. Unable to ask questions to get information or to clarify what they do not understand. Accept what is offered without seeking to ensure that it meets their needs. Feel unable to share concerns. Do not have a sense of agency in interactions with providers.	Proactive about their health and feel in control in relationships with healthcare providers. Able to seek advice from additional healthcare providers when necessary. Keep going until they get what they want. Empowered.
7. Navigating the healthcare system	Unable to advocate on their own behalf and unable to find someone who can help them use the healthcare system to address their health needs. Does not look beyond obvious resources and has a limited understanding of what is available and what they are entitled to.	Able to find out about services and supports so they get all their needs met. Able to advocate on their own behalf at the system and service level.
8. Ability to find good health information	Cannot access health information when required. Is dependent on others to offer information.	Is an 'information explorer.' Actively uses a diverse range of sources to find information and is up-to-date.
9. Understand health information well enough to know what to do	Problems understanding any written health information or instructions about treatments or medications. Unable to read or write well enough to complete medical forms.	Able to understand all written information (including numerical information) in relation to their health and able to write appropriately on forms where required.

Qualitative interview questions

The qualitative interview questions were based on the research questions and objectives. They were piloted before administration in the field and refined and revised accordingly. The questions were also designed with reference to the health literacy scales, in order to provide a source of triangulation and to provide a qualitative perspective on some of the attributes examined quantitatively.

The questions were also informed by research literature about vaccine hesitancy, particularly as this survey was designed prior to the vaccine rollout and vaccine mandates, and at a time when vaccine hesitancy was thought to be quite common.

The questions were asked in a conversational manner and included:

1. What are some of the things you do on a daily basis to keep yourself (and your family) safe from getting COVID-19?
2. Has anyone helped you or given you helpful advice about what to do to keep safe?
3. (If yes, who are these people?)
4. What helps people to get and use the information they need?
5. Where do you get health information about COVID-19?
6. How do you decide whether or not to use this information?
7. Are there any sources of information that you don't use or pay attention to?
8. What are the best ways that you like to get information about health?
9. We are interested to understand what people think about the COVID-19 vaccines – what are your thoughts?
10. Have you been vaccinated?
11. What has influenced your decisions or plans to be/not be vaccinated?

While the interview could be ended at any time by the participant, the interview was specifically structured to include 2 points at which the interviewer checked whether the participant would like to continue. The first point was after the completion of the qualitative interview questions, and the second was after the Worries Questionnaire and Food Insecurity Experience Scale items. The interviewers also exercised their judgement in situations in which the respondent may have been uncomfortable with a longer survey, or for other reasons related to literacy, language or cognitive ability.

2.4.3 Staff from Lead Providers: recruitment and data collection

Staff involved with the delivery of the HRAR program at Merri Health, Star Health, Connect Health, and Peninsula Health, as well as staff from Bendigo Community Health Services, were invited to participate in various aspects of the project.

Staff from the Lead Providers (with the exception of Bendigo Community Health Services) were invited to participate in up to 4 Action Learning Workshops. The first workshop focused on the development of vignettes (short stories) using responses to the online health literacy survey completed by residents in their catchment area. The remaining Action Learning Workshops were designed to generate ideas to respond to the issues identified in the vignettes, as per the Ophelia process.

The workshops ran for 90 to 120 minutes and all but two were held online due to COVID-19 public health restrictions. Four workshops were held at each of Merri Health, Connect Health and Star Health, and 3 workshops were held with staff at Peninsula Health (with a further follow-up meeting conducted with stakeholders).

Staff were recruited via email and their consent was obtained electronically via a Qualtrics survey. Participation in the research elements of the workshop was voluntary, and declining to consent to participate in the research did not preclude staff from taking part in the workshops.

Interviews were also conducted with 7 staff and 3 community leaders/volunteers at Bendigo Community Health Services. The participants were recruited via email or phone and each interview lasted from 30 to 60 minutes.

2.5 Data analysis

The data collected have been analysed using thematic qualitative methods and quantitative methods where appropriate. The data collected for this research project are considered as six datasets:

1. Interviewer workshop (qualitative, yet to be fully analysed)
2. Health literacy and sociodemographic data collected online (quantitative)
3. Health literacy and sociodemographic data collected face-to-face (quantitative)
4. Interview questions collected face-to-face (quantitative and qualitative)
5. Action Learning Workshops (qualitative)
6. Interviews with staff and community members from Bendigo Community Health Services (qualitative, yet to be fully analysed).

The responses to the qualitative questions in the face-to-face interviews were analysed thematically, commencing with a process that involved a mix of open and *in vivo* coding. These codes were then grouped to axial codes for the purposes of reporting in the discussion. However, for reporting, it has been informative to use the initial coding with minimal categorisation to provide the level of detail required to demonstrate a nuanced understanding of people's sources and preferred ways of accessing and receiving COVID-19 information.

The Action Learning Workshop data have been thematically analysed to identify ways to effectively communicate with, engage with, and respond to the health literacy needs of people in different settings.

2.5.1 Health literacy measurement (data analysis and interpretation)

The 9 scales of the HLQ represent different elements of a person's life as they go about managing their health. People can have very different combinations of strengths, needs or preferences to other people, so each scale is scored separately. (If all the scores from the 9 scales were added together to produce a single score, the data would tell us nothing about the patterns of people's strengths, needs and preferences. A single score becomes nonsense and would not provide practitioners, managers and researchers with useful information about areas where services can respond more effectively.)

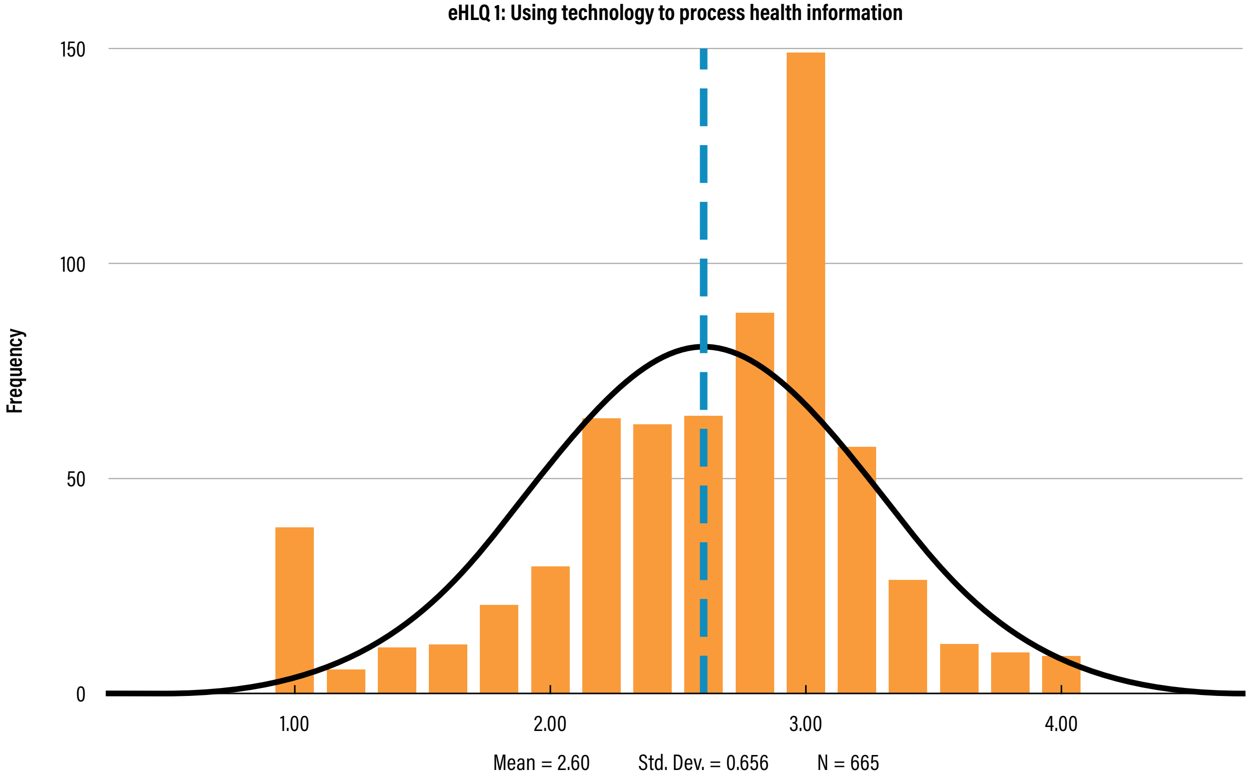
People can have great strengths in, for example, HLQ scale 1: 'Feeling understood and supported by healthcare providers.' Such a good relationship could compensate for other attributes that are a great challenge for them, such as HLQ scale 8: 'Ability to find good health information.' The opposite could also be true if the strength and challenge of these two scales were reversed. Another example is that a person could have severe challenges in all scales, except HLQ scale 4: 'Social support for health.' If a person has outstanding social support, the challenges they may have in the other scales could be largely mitigated.

Health literacy measurement in populations needs to take account of the diversity within and between groups of people. This diversity is illustrated by the comparison of the scores of 2 groups of people over 2 different scales (see Figures 4 and 5). The scores of both groups result in about the same mean scores – Figure 4 mean is 2.59 (SD 0.65), while Figure 5 mean is 2.60 (SD 0.67). However, the distributions of scores within the scales are very different.

The scores range from 1 ('Strongly disagree') to 4 ('Strongly agree') for both scales. Figure 5 (heiQ scale 3: Emotional distress) has a wide distribution of scores (i.e. respondents selected answers from right across the score range). If you look carefully to the left of the mean (yellow line), many more people in Figure 4 score around 2.0 than in Figure 5, indicating a substantial number with high emotional distress.

The important message here is that averages can hide important sub-groups that may require particular focus.

Figure 4 Frequency of mean scores for eHLQ Scale 1



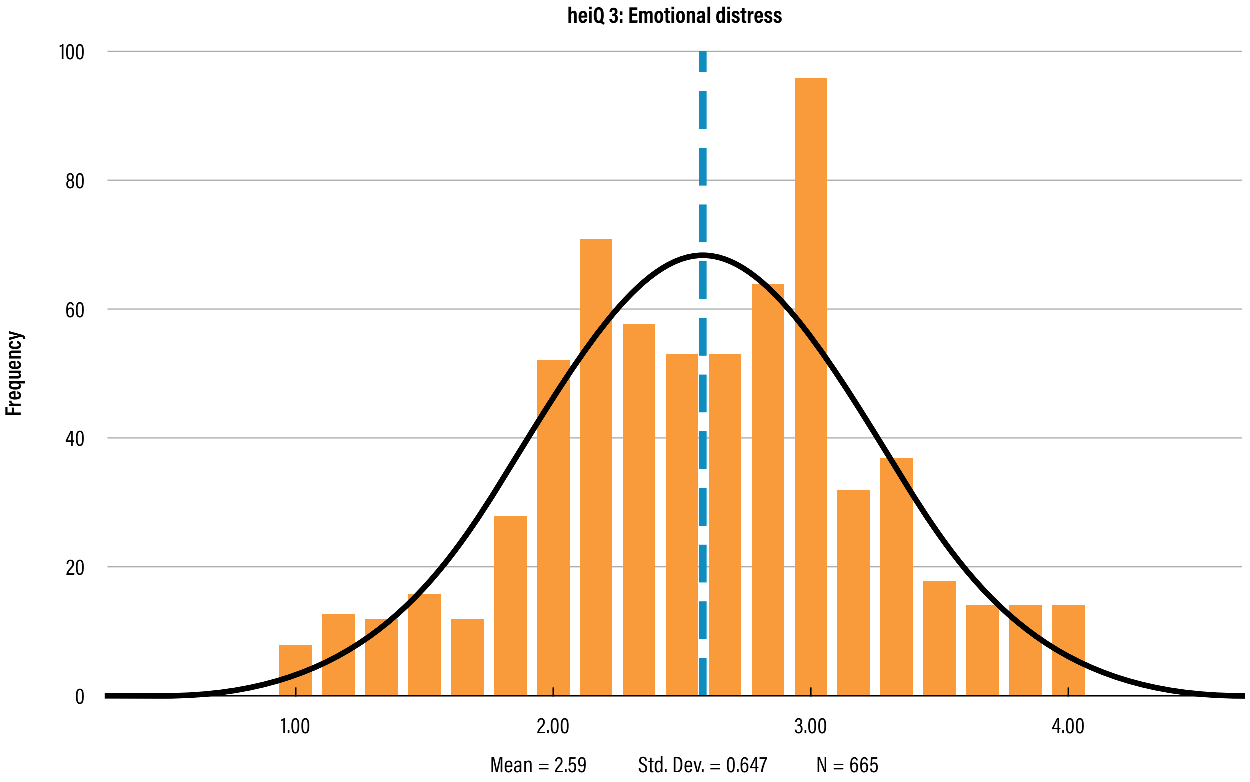


Figure 5 Frequency of mean scores for heiQ Scale 3

We have conducted hundreds of detailed examinations of data using a statistical procedure called 'cluster analysis,' which groups together people who have the same patterns of score responses. We have observed that different sub-populations can have different patterns of strengths and challenges. The different patterns call for practitioners and services to provide different sets or types of services and supports to help individuals (and/or their families) in their journeys towards wellness and equitable access to care.

The data from the scales of the HLQ and eHLQ were included in the cluster analysis (see Table 2). The cluster analysis process was used to identify the diversity (i.e. different patterns) of health literacy strengths, needs and preferences within the sub-groups of residents who have participated.

Cluster analyses were performed for three categories of profiles:

- Lead Provider health literacy profiles: Health literacy data from participants collected online for Merri Health (n=123), Connect Health (n=149), Star Health (n=238) and Peninsula Health (n=155): 4 cluster analyses, 1 for each of these Lead Providers
- combined health literacy profiles: The health literacy data from the online survey and the interview participants from these 4 Lead Providers (n=803) were combined.
- core health literacy profiles: The cluster analysis of health literacy data collected face-to-face during the interviews (n=138) identified 3 core health literacy profiles.

The cluster analyses provided the evidence base for the development of vignettes (short stories) representative of the people in each cluster. The vignettes are a way to present the diversity of health literacy strengths and challenges across the clusters. Each vignette incorporates the health literacy mean scale scores of a cluster, along with the associated sociodemographic data and other survey results (Worries Questionnaire, heiQ, Food Insecurity Experience Scale).

The research team held 4 workshops (one each for Merri Health, Connect Health, Star Health and Peninsula Health) to collaboratively develop the vignettes with each of the HRAR program teams, drawing on their experience and knowledge of local residents and providing care and support in these settings. Vignettes have been developed for each cluster within the Lead Provider Health Literacy Profiles category.

3

Overview of participants living in HRAR accommodation settings

This section presents the findings from the research activities, comprising:

- **recruitment of the participants (including their residential setting)**
- **descriptive statistical analysis of sociodemographic characteristics (cultural and linguistic diversity, education and employment, physical and mental health status)**
- **thematic analysis of the participants' COVID-safe practices (including vaccination).**

3.1 Recruitment of people living in HRAR accommodation settings

Participant recruitment yielded 1,148 responses to the online survey and interviews, conducted from 26 September to 22 December 2021 (see Figure 6). Of these, 283 were incomplete responses and were excluded from the analysis. Of the 865 responses included for analysis, 200 were collected through face-to-face interviews.

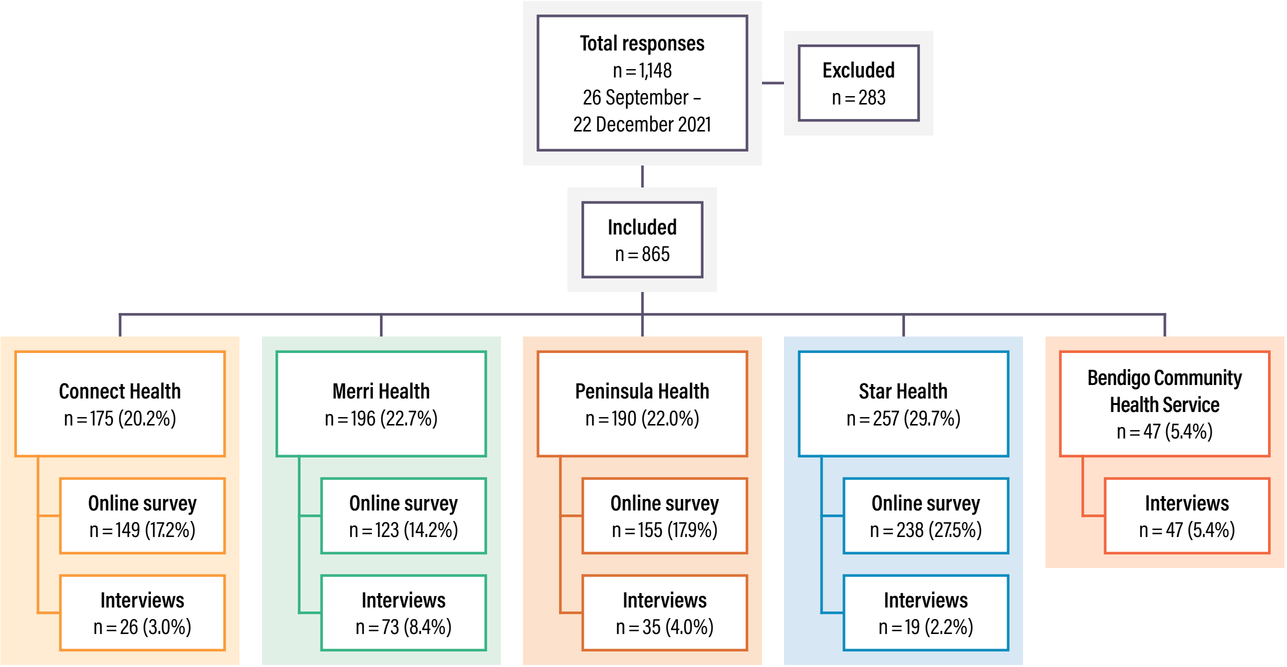


Figure 6 Recruited participants from HRAR accommodation settings

Table 4 displays the number of participants across recruitment methods and over the recruitment period. The number of survey respondents for Star Health is larger than for other sites for two main reasons. First, because the recruitment for the online survey with residents in the Star Health catchment area progressed at a much faster rate than anticipated. Second, because this was the first site to commence data collection, so responses were closely monitored as the surveys were completed to determine when sufficient data were collected, and this continued until no new patterns in the data emerged (this provided the basis for gauging sufficient data collection from the other sites). The interview participants were recruited through door-knocking (n=113) and through the interviewers' attendance at community events (n=45) and vaccination hubs (n=42).

The total number of participants was much larger than anticipated. While there are many potential reasons, it is worth noting that many participants expressed their gratitude for the $30 supermarket voucher provided in recognition of their time and contribution, and indicated it was a major determining factor for their participation.

Table 4 Participants recruited by catchment area, date and method

Health service	No. of participants		Start date (2021)	End date	Length of data collection period
Star Health					
Online survey	Total: 299	Included: 238	12 September	10 October	29 days
Face-to-face interview	19		30 November	22 December	
Merri Health					
Online survey	Total: 158	Included: 123	7 October	30 November	55 days
Face-to-face interview	73		10 November	10 December	
Connect Health					
Online survey	Total: 181	Included: 149	27 October	5 December	40 days
Face-to-face interview	26		2 November	3 December	
Peninsula Health					
Online survey	Total: 168	Included: 155	17 November	15 December	29 days
Face-to-face interview	35		26 November	10 December	
Bendigo Community Health Services					
Karen community (face-to-face interview)	24		27 November	27 November	
HRAR accommodation settings (face-to-face interview)	23		15 December	17 December	

The number of interview respondents for Merri Health was larger than for the other sites because people living in supported residential accommodation were underrepresented in the online survey responses. Therefore, we oversampled people who were living in these settings in the Merri Health catchment area. This oversampling of people living in supported residential accommodation also accounts for the larger proportion of participants from Merri Health who reported living in group households (n=41; 20.9%) (see Table 5). Half (n=449; 51.9%) of all participants from all sites lived alone ('Single person'). Notably, however, single-person households were low among participants from Bendigo (n=8 or 17.0% of participants from Bendigo), and most lived in households with other people, particularly as a 'Couple with or without others' (n=24; 51.1% of participants from Bendigo).

Table 5 Participant household composition

	Total		Connect Health		Merri Health		Peninsula Health		Star Health		Bendigo Community Health Services	
	n=865	n (%)	n=175	n (%)	n=196	n (%)	n=190	n (%)	n=257	n (%)	n=47	n (%)
Single person	449	51.9	88	50.3	105	53.6	113	59.5	135	52.5	8	17.0
Couple with or without others	183	21.1	40	22.9	21	10.7	30	15.8	68	26.5	24	51.1
Single parent/guardian with or without others	81	9.4	26	14.8	13	6.6	17	8.9	21	8.2	4	8.6
Group household	81	9.4	6	3.4	41	20.9	15	7.9	14	5.4	5	10.6
Other family (with adult children, siblings)	21	2.4	3	1.7	4	2.0	6	3.2	6	2.3	2	4.3
Other	50	5.8	12	6.9	12	6.2	94	4.7	13	5.1	4	8.4

Participants were recruited from all four HRAR tiers (settings) as shown in Table 6. Not all tiers were designated as within the scope of the HRAR program for all of the Lead Providers, and not all of these tiers exist within all the catchment areas. For example, the supported residential services settings (Tier 2) within the Connect Health catchment area were supported by Star Health, and Tier 4 settings (caravan parks) were more common in the Peninsula Health catchment area. Therefore, participant recruitment focused on a targeted sample of people from across the tiers and the Lead Providers, rather than a quota of targeted populations.

The settings or tiers where people lived determined the kind of support, communication and engagement that was possible by the HRAR program staff. For example, within Tier 2 and 3 settings, the HRAR staff engaged generally with the proprietor or manager of a residence, and not so much with the residents themselves. Whereas in Tier 1 settings, the HRAR staff engaged directly with residents. Therefore, the setting determined, in part, the kind of engagement strategies that were possible.

Table 6 Recruitment from type of residential setting by Lead Provider

		Total		Connect Health		Merri Health		Peninsula Health		Star Health		Bendigo Community Health Services	
		n=865	n (%)	n=175	n (%)	n=196	n (%)	n=190	n (%)	n=257	n (%)	n=47	n (%)
Tier 1	Public housing settings, including low-rise and high-rise	359	41.5	101	57.7	100	51.0	76	40.0	82	31.9	0	0.0
Tier 2	Staffed settings, including supported residential service	61	7.1	0	0.0	42	21.4	6	3.2	4	1.6	9	19.1
Tier 3	Unstaffed settings, including rooming house and community housing	201	23.2	48	27.4	40	20.4	34	17.9	79	30.7	0	0.0
Tier 4	Other settings, including caravan park	54	6.2	6	3.4	0	0.0	47	24.7	1	0.4	0	0.0
Unclassified or unspecified settings*		190	22.0	20	11.5	14	7.2	27	14.2	91	35.4	38	80.9

*This includes participants who did not report their residential setting or were recruited from community events and vaccination hubs where the residential setting is unknown.

3.2 Sociodemographic characteristics

The participants were asked which age band they fit in. Bands started at '18–24 years' and then increased in 10-year increments up to '85 years and over' (see Table 7). Generally, the largest age groups were the 35–64 years brackets. Most participants (52.8%) were aged 45–74 years. Star Health had a younger cohort, with about 40% aged 18–34 years, while Peninsula Health had an older cohort, with about 40% aged 65 years or older.

There were more female participants from Connect Health (60.6%) and Bendigo Community Health Services (61.7%) than for other cohorts.

The participants were given the opportunity to state their sexuality (see Table 7). Of those respondents who indicated their sexuality, about 10% were sexually diverse – almost triple the estimated Australian average of 3.5%.[15] Overall, more participants stated that they were female (52.0% female; 47.6% male), but these percentages varied for each of the catchment areas. For example, about 60% of the participants in the Connect Health (60.6%) and Bendigo (61.7%) catchment areas stated they were female, whereas Star Health was the only site where more participants stated they were male (43.2% female; 55.6% male).

Table 7 Participant age, gender and sexuality by catchment area

	Total		Connect Health		Merri Health		Peninsula Health		Star Health		Bendigo Community Health Services	
Characteristics	n=865	n (%)	n=175	n (%)	n=196	n (%)	n=190	n (%)	n=257	n (%)	n=47	n (%)
Age												
18–24 years	66	7.6	7	4.0	8	4.1	10	5.3	37	14.4	4	8.5
25–34 years	147	17.0	25	14.3	32	16.3	11	5.8	71	27.6	8	17.0
35–44 years	117	13.5	35	20.0	30	15.3	18	9.5	26	10.1	8	17.0
45–54 years	146	16.9	32	18.3	32	16.3	31	16.3	38	14.8	13	27.7
55–64 years	152	17.6	25	14.3	41	20.9	40	21.1	36	14.0	10	21.3
65–74 years	158	18.3	32	18.3	41	20.9	48	25.3	36	14.0	1	2.1
75–84 years	66	7.6	16	9.1	10	5.1	27	14.2	10	3.9	3	6.4
85 years and older	10	1.1	1	0.6	1	0.5	5	2.6	3	1.2	0	0.0
Gender												
Female	450	52.0	106	60.6	110	56.1	94	49.5	111	43.2	29	61.7
Male	404	46.7	66	37.7	84	42.9	93	48.9	143	55.6	18	38.3
Non-binary or different identity	4	0.4	1	0.6	0	0.0	1	0.5	2	0.8	0	0.0
Sexual orientation												
Straight or heterosexual	695	80.3	144	82.3	146	74.5	171	90.0	191	74.3	43	91.5
Lesbian, gay or homosexual	44	5.1	6	3.4	12	6.1	11	5.8	15	5.8	0	0.0
Bisexual	35	4.0	8	4.6	11	5.6	5	2.6	11	4.3	0	0.0
Queer	9	1.0	1	0.6	1	0.5	0	0.0	7	2.7	0	0.0
Prefer not to say	38	4.4	12	6.9	5	2.6	1	0.5	19	7.4	1	2.1
Unknown (did not answer)	21	5.2	4	2.2	21	10.7	2	1.1	14	5.5	3	6.4

---

15. Wilson, T., Shalley, F. (2018). 'Estimates of Australia's non-heterosexual population.' *Australian Population Studies* (1), pp. 26–38

3.3 Cultural and linguistic diversity

Almost 60% of the participants were born in Australia and 86% spoke English at home (see Table 8). India (n=67; 7.7%) and the United Kingdom (n=45; 5.1%) were the most frequently reported countries of birth other than Australia. Overall, almost 6% of the participants reported that they were Aboriginal or Torres Strait Islander, almost double the national average of 3.3% and much greater than the Victorian average of 0.8%.[16]

The online survey was only available in English. Interpreters and bi-cultural workers assisted with interviews for participants who were not native English speakers.

Among the 11.3% of people who spoke languages other than English at home, there was a great deal of diversity in the languages spoken. More than half of the participants from Bendigo Community Health Services were former refugees who spoke Karen (53.2%). The largest proportion of participants who were born in India (21.0%) were from the Star Health catchment, which also recorded the largest proportion of participants who spoke Hindi (3.9%) and the only participants who spoke Gujarati (6.6%). Among Star Health participants, 9.7% reported that they were born in Nepal, and about half of these (n=13/25) spoke Nepali at home.

Table 8 Participant country of birth, Aboriginal or Torres Strait Islander person, language spoken

	Total		Connect Health		Merri Health		Peninsula Health		Star Health		Bendigo Community Health Services	
	n=865	n (%)	n=175	n (%)	n=196	n (%)	n=190	n (%)	n=257	n (%)	n=47	n (%)
Country of birth*												
Australia	509	58.8	111	63.4	125	63.8	146	76.8	107	41.6	20	42.6
India	67	7.7	4	2.3	9	4.6	0	0.0	54	21.0	0	0.0
Lebanon	10	1.2	6	3.4	3	1.5	0	0.0	1	0.4	0	0.0
Myanmar	21	2.3	0	0.0	1	0.5	0	0.0	0	0.0	20	42.6
Nepal	25	2.9	0	0.0	0	0.0	0	0.0	25	9.7	0	0.0
New Zealand	16	1.8	2	1.1	3	1.5	4	2.1	7	2.7	0	0.0
Poland	10	1.2	6	3.4	1	0.5	1	0.5	2	0.8	0	0.0
UK	45	5.1	9	5.2	6	3.0	28	14.8	2	0.8	0	0.0
Vietnam	10	1.2	1	0.6	1	0.5	0	0.0	8	3.1	0	0.0
Aboriginal or Torres Strait Islander person												
	50	5.8	8	4.6	15	7.7	10	5.3	15	5.8	2	4.3
Language spoken at home^												
English	745	86.1	160	91.4	175	89.3	184	96.3	204	79.4	22	46.8
Arabic	17	2.0	6	3.4	7	3.6	0	0.0	4	1.6	0	0.0
Gujarati	17	2.0	0	0.0	0	0.0	0	0.0	17	6.6	0	0.0
Hindi	16	18	1	0.6	5	2.6	0	0.0	10	3.9	0	0.0
Karen	25	1.5	0	0.0	0	0.0	0	0.0	0	0.0	25	53.2
Nepali	13	1.2	0	0.0	0	0.0	0	0.0	13	5.1	0	0.0
Polish	10	1.2	4	2.3	2	1.1	2	1.1	2	0.8	0	0.0

*Countries with less than 10 participants (i.e. <1%) are not listed ^Languages with less than 10 participants (i.e. <1%) are not listed

---

[16] ABS 2019. Estimates and projections, Aboriginal and Torres Strait Islander Australians, 2006 to 2031. ABS cat. no. 3238.0. Canberra: ABS.

3.4 Education and employment

The level of education completed by the participants varied across the Lead Providers (see Table 9). Overall, only 19.4% (n=168/865) had completed high school, which is less than half of the Victorian average of 54%.[17] Of the participants from Bendigo (n=47), just over half were from the Karen-speaking former refugee community, which may account for the low numbers of participants who completed school (n=3) or gained further education (n=5).

Of the metropolitan Lead Providers, the Peninsula Health catchment area (n=190) had the most participants who finished some high school only (n=81). The Star Health catchment had the most participants who had completed university (n=87), probably due to its younger cohort.

The participants were asked to state their employment status (see Table 9). Star Health (n=257) had the largest proportions of participants employed full-time (n=44; 17.1% of the Star Health cohort) or part-time (n=59; 23.0%), and the lowest number of participants who were unemployed (n=23; 8.9% of Star Health participants) in the metropolitan area. The Peninsula Health catchment area (n=190) had the inverse, with the greatest number of unemployed participants and the lowest employment numbers, as well as the highest proportion of retired participants (n=74/190; 38.9%). Overall, unemployment among participants was 15.7%, and this ranged from 14.9% (n=7) in Bendigo to 19.5% (n=37) for Peninsula Health. These unemployment figures were 3 times greater than the Victorian unemployment rate during the data collection period of 5.2%.[18] The overall proportion of participants in receipt of a disability support pension was 8.5%, more than double the rate for the Australian population (aged 16–64) of 4.1%.[19]

Table 9 Participant level of education and employment

	Total		Connect Health		Merri Health		Peninsula Health		Star Health		Bendigo Community Health Services	
	n=865	n (%)	n=175	n (%)	n=196	n (%)	n=190	n (%)	n=257	n (%)	n=47	n (%)
Education												
Primary school or below	60	7.0	10	5.7	17	8.7	9	4.8	11	4.3	13	27.6
Finished some high school	267	30.9	47	26.9	65	33.2	81	42.6	49	19.1	25	53.2
Finished high school	168	19.4	37	21.1	36	18.4	37	19.5	55	21.4	3	6.4
Trade Certificate / apprentice / diploma / TAFE	187	21.6	49	28.0	33	16.8	50	26.3	50	19.5	5	10.6
Completed university	163	18.8	26	14.9	39	19.9	11	5.8	87	33.9	0	0.0
Employment												
Full-time	105	12.1	19	10.9	24	12.2	11	5.8	44	17.1	7	14.9
Part-time	130	15.0	27	15.4	23	11.7	18	9.5	59	23.0	3	6.4
Not working but not retired	80	9.2	17	9.7	19	9.7	11	5.8	28	10.9	5	10.6
Student	35	4.0	5	2.9	3	1.5	2	1.1	20	7.8	5	10.6
Retired	215	24.9	40	22.9	47	24.0	74	38.9	51	19.8	3	6.4
Carer	21	2.4	5	2.9	6	3.1	3	1.6	5	1.9	2	0.0
Unemployed	136	15.7	32	18.3	37	18.9	37	19.5	23	8.9	7	14.9
Disability pension	74	8.5	12	6.9	19	9.7	23	12.1	15	5.9	5	10.6

---

[17] Australian Bureau of Statistics (ABS), Census of Population and Housing, 2016 (Usual residence data).

[18] Australian Bureau of Statistics (ABS) (Catalogue No 6291.0.55.001)

[19] AIHW, Analysis of Services Australia administrative income support data to June 2019

3.5 Physical and mental health status

These data indicate many residents were dealing with acute personal, physical, mental, social and economic issues on a daily basis. The overall pattern of findings across the settings showed that the most common and severe worries were about having enough money: 25.5% of participants who answered this question (n=734) reported they were 'worried' and 21.9% reported they were 'very worried', which indicated a substantial daily burden of concern in this area (see Figure 4).

Similar patterns were seen for mental and physical health. Access to healthy food was a problem for many: 9.3% (n=69) of participants who answered the corresponding question (n=740) reported they were 'worried' about getting enough healthy food, and 4.2% (n=31) reported they were 'very worried'. While reported less frequently, this remains a strong determinant of vulnerability.

> **The complexity and chronic nature of health and social challenges experienced by people in these settings means that meeting basic health and physical needs may take precedence over other matters, including preventative health and COVID-safe measures.**

Physical and mental health worries were also reflected in the participants' self-reported depression, anxiety and chronic conditions, which far exceeded the rates reported in the 2018 ABS National Health Survey (see Figure 7 and Table 10).

Participants in the Star Health catchment area reported fewer chronic conditions than those in other areas. This is consistent with the relative youth of the Star Health cohort: the likelihood of living with a chronic condition increases with age. For the remaining catchment areas, at least 70% of participants reported living with a chronic condition.

FIELDNOTES

Lots of issues. Big medical history. Long survey as he liked to justify all his responses. Lonely man struggling to access medical help due to lack of resources and energy. Resents consultations with doctors are only 15 mins. Would be useful to have support workers to organise social activities to distract from inner health dialogue. Was in bad accident and lost use of his body. Difficult to interview due to wanting to talk ... but managed to finish! Had to keep reminding him to give 'yes' or 'no' responses. He appreciated the time spent with him. Needs more support.

Notes regarding a participant living in a caravan park

Australian man. Complex mental health issues as a result of childhood trauma. Depression, PTSD, suicidal ideation. Has extensive team of healthcare professionals including GPs, specialists and psychologists. Also has a range of physical health issues including migraines and chronic pain. Struggles to get out of bed some days. Was interesting to do the scale questions with because he pointed out that his answers would differ depending on how he was feeling mentally on a given day. Mentioned that the housing tower needed 24-hour security to keep non-residents out. Recounted numerous issues with drug dealers in the building, not feeling safe.

Notes regarding a participant living in a public housing estate

Aboriginal woman 70 years old. Couldn't read or write because her grandmother (who she grew up with; never met mother) was too scared to send her to school because she thought she would get taken away. She was very embarrassed about this and is hoping to be able to start government-funded lessons in the new year. Felt disconnected from her Aboriginal heritage because she never knew her mother; struggles with identity. Had a range of health issues, 2 knee replacements, narrowed oesophagus, which gives her difficulties when eating, meaning that she could go periods of time where she didn't eat properly.

Notes regarding a participant living in high-rise public housing

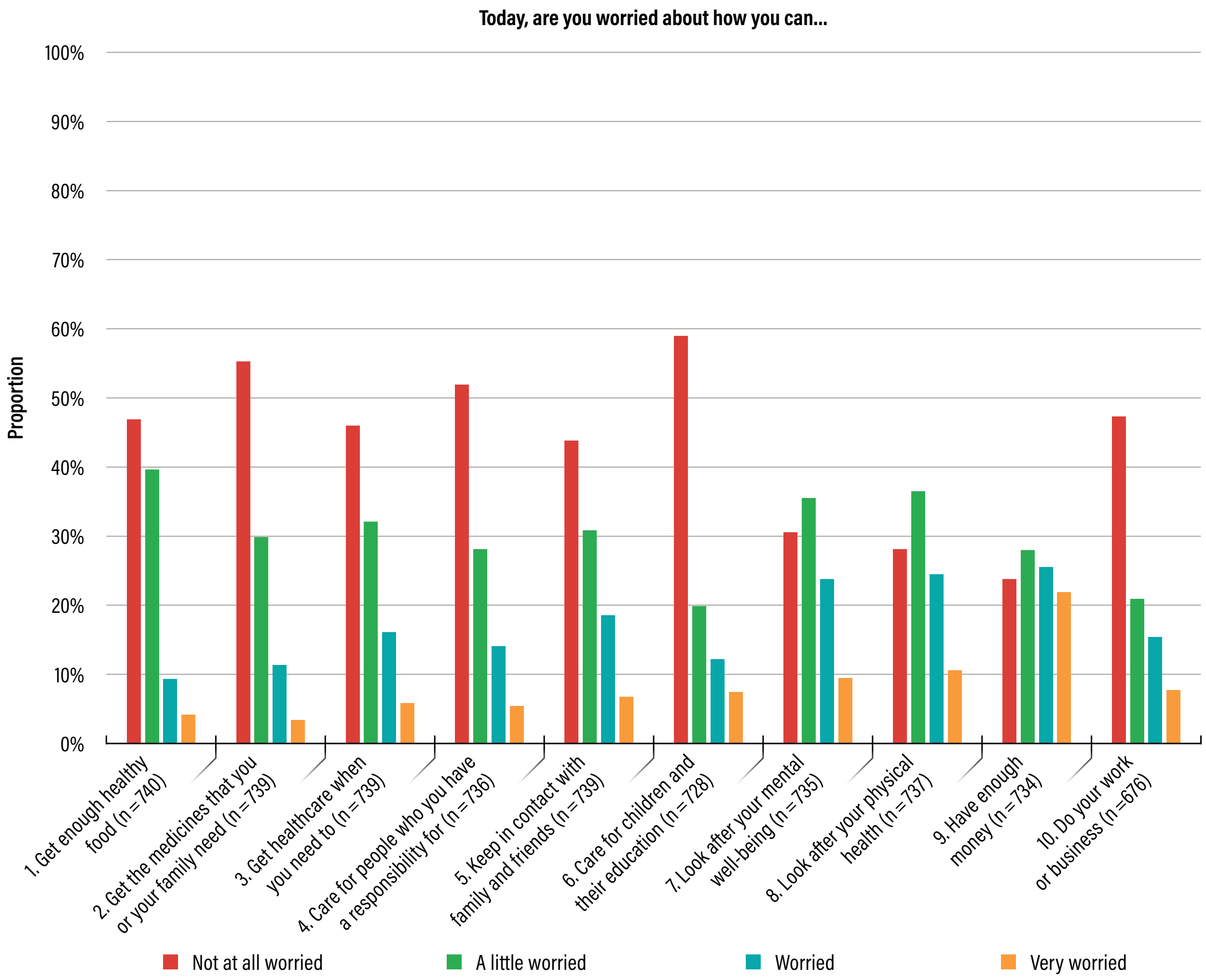


Figure 7 Participants' daily worries

Depression, anxiety and back pain were the most commonly reported chronic conditions. Notably, the proportion of participants who reported consulting a mental health professional was much lower (11%) than the proportion reporting experiencing depression (29.5%) and anxiety (25.8%).

For the Bendigo Community Health Services catchment area (n=47), the proportion of participants who had not accessed a health professional (e.g. GP) in the past 12 months was larger (n=11; 23.4%) than for other areas: Connect Health (n=16; 9.1%); Merri Health (n=20; 10.2%); Peninsula Health (n=9; 4.7%) and Star Health (n=38; 14.8%).

The Peninsula Health catchment area had the highest proportion of participants who reported living with a heart condition, and the highest average number of physical and mental health conditions.

The participants often described their experiences of living with chronic conditions and vulnerability and disadvantage during interviews with the research team. The research team noted that the participants were more often than not very open and willing to talk about their experiences, possibly in the hope that some assistance may be offered, and also due to the loneliness that they were experiencing at this time.

Table 10 Self-reported health conditions and consultations with healthcare providers

	Total		Connect Health		Merri Health		Peninsula Health		Star Health		Bendigo Community Health Services	
	n=865	n (%)	n=175	n (%)	n=196	n (%)	n=190	n (%)	n=257	n (%)	n=47	n (%)
Health condition												
None	257	29.7	45	25.7	37	18.9	34	17.9	127	49.4	14	29.8
Arthritis	157	18.2	33	18.9	30	15.3	43	22.6	43	16.7	8	17.0
Back pain	181	20.9	43	24.6	32	16.3	47	24.7	52	20.2	7	14.9
Heart problems	97	11.2	16	9.1	20	10.2	32	16.8	27	10.5	2	4.3
Lung problems	70	8.1	10	5.7	19	9.7	24	12.6	14	5.4	3	6.4
Cancer	39	4.5	6	3.4	5	2.6	17	8.9	10	3.9	1	2.1
Depression	255	29.5	55	31.4	58	29.6	75	39.5	65	25.3	2	4.3
Anxiety	223	25.8	47	26.9	49	25.0	59	31.1	66	25.7	2	4.3
Other mental health issues	161	18.6	33	18.9	49	25.0	39	20.5	32	12.5	8	17.0
Other chronic health condition(s)	254	29.4	47	26.9	80	40.8	68	35.8	46	17.9	13	27.7
Average number of physical health condition	0.99 (mean)	1.24 (SD)	0.90 (mean)	1.08 (SD)	1.06 (mean)	1.26 (SD)	1.34 (mean)	1.36 (SD)	0.78 (mean)	1.21 (SD)	0.83 (mean)	1.03 (SD)
Average number of mental health condition	0.77 (mean)	1.04 (SD)	0.79 (mean)	1.03 (SD)	0.84 (mean)	1.04 (SD)	0.94 (mean)	1.09 (SD)	0.67 (mean)	1.04 (SD)	0.30 (mean)	0.59 (SD)
Consulted a health professional in the past 12 months												
More than 12 times	213	24.6	29	16.6	63	32.1	47	24.7	61	23.7	13	27.7
7–12 times	172	19.9	39	22.3	37	18.9	49	25.8	43	16.7	4	8.5
2–6 times	300	34.7	75	42.9	61	31.1	76	40.0	75	29.2	13	27.7
Once	71	8.2	14	8.0	9	4.6	6	3.2	37	14.4	5	10.6
Never	94	10.9	16	9.1	20	10.2	9	4.7	38	14.8	11	23.4
Health professional consulted*												
GP	609	70.4	128	73.1	145	74.0	144	75.8	161	62.6	31	34.0
Mental health professional	95	11.0	17	9.7	22	11.2	25	13.2	28	10.9	3	6.4
Specialist	82	9.5	21	12.0	15	7.7	20	10.5	17	6.6	9	19.1
Allied health professional	123	14.2	22	12.6	27	13.8	28	14.7	44	17.1	2	4.3

*participants may have consulted with more than one health professional

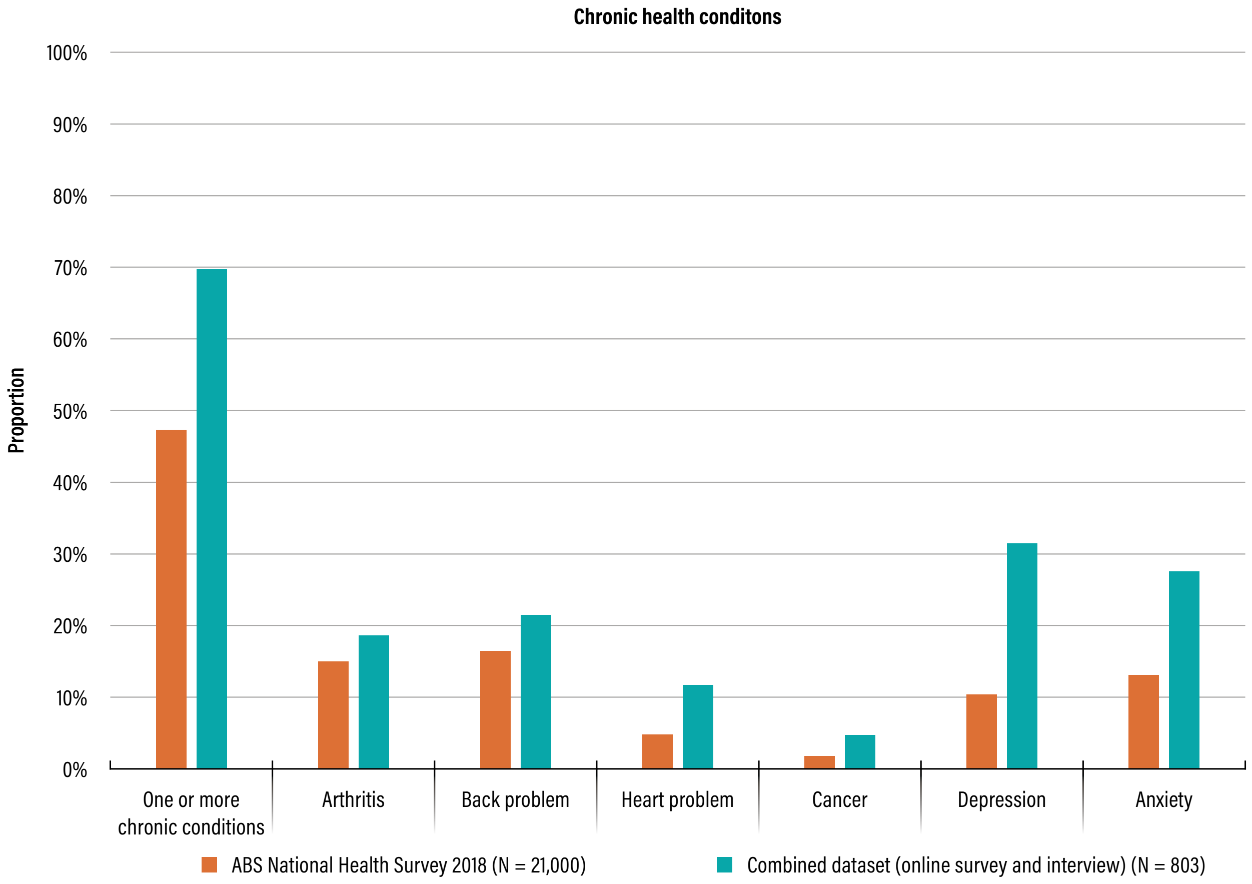


Figure 8 Comparison of self-reported chronic health conditions of HRAR study participants (combined dataset) with the ABS National Health Survey 2018

FIELDNOTES

Has issues with food as she does not like the food because it makes her sick, so she often goes hungry. She does not have sufficient money so does not eat enough. Sometimes goes whole day without food.

Notes regarding a participant living in a supported residential service

70 year-old Chinese man living with his wife in public housing, generally healthy and philosophical about health and life. Concerned about how much healthy food costs and wants support to access better healthy food options or gain access to financial help to fund it.

Notes regarding a participant living in high-rise public housing

Also described struggling to get essentials from the supermarket when people were stockpiling and with the inflated prices of some food items such as meat, which meant that she couldn't get a lot of the things that she needed.

Notes regarding a participant living in high-rise public housing

I don't go without meals, because there's always Vegemite sandwiches, but I can't afford luxuries and have to be careful with spending my pension.

Participant living in rooming house

Food insecurity was a particular concern for about 1 in 5 people, or 37 (19%) of the 200 who were interviewed (see Figure 6). The results indicate that the participants ate less (ran out of food) or made decisions about what kinds of food they ate depending on the money and resources available to them. The relative cost of healthy food, as well as participants' home environments, were factors. For example, some residents did not have enough money to effectively manage their budget for health and living expenses. Others did not have working stoves or fridges for the cooking and safe storage of food. Other residents were living in shared accommodation or supported residential services, which also limited their food choices, so their needs and preferences were not met.

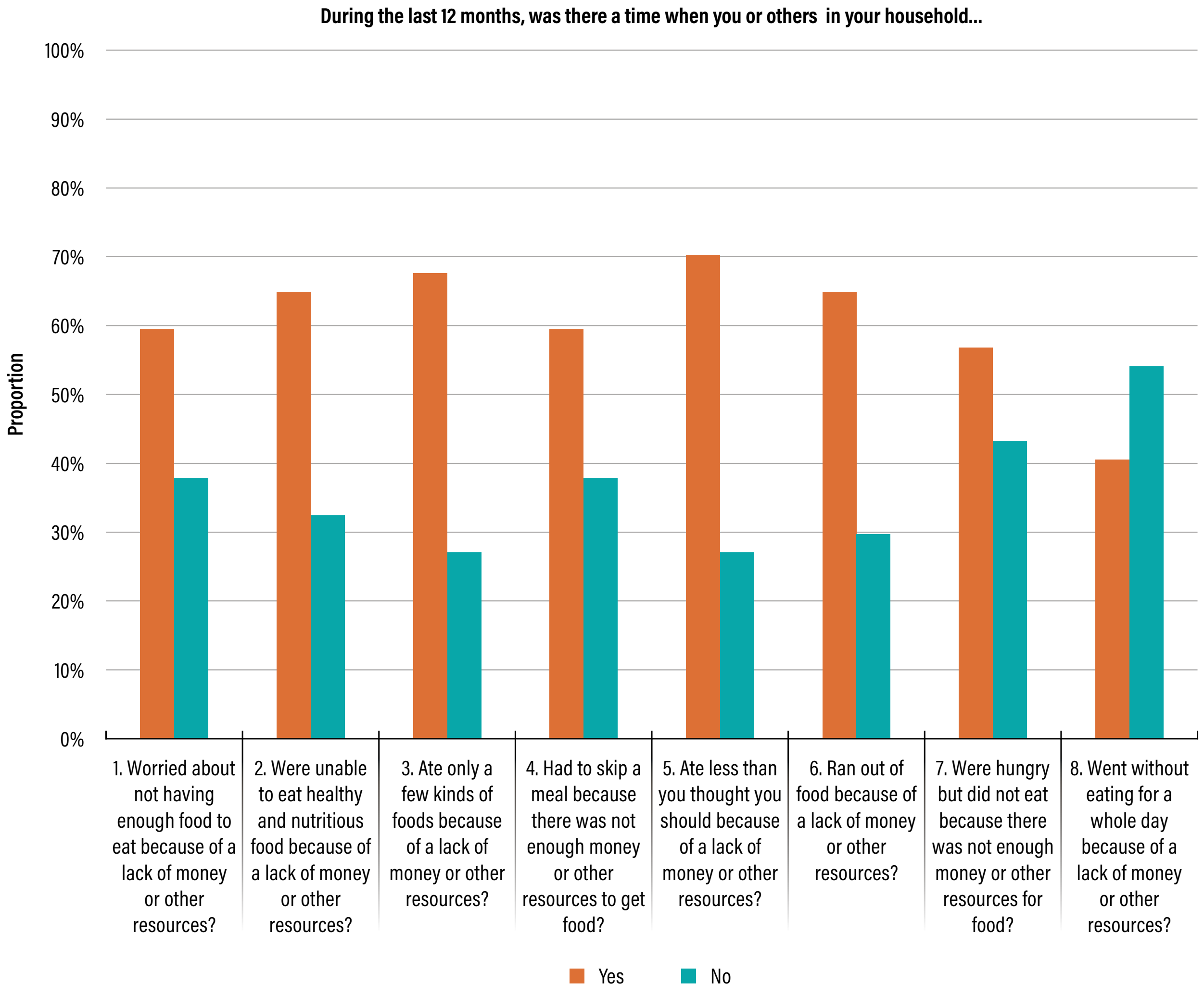


Figure 9 Food insecurity among people who indicated they were worried about getting enough food (N=37)

3.6 Participants' COVID-safe practices and thoughts on vaccination

Participants reported adopting multiple strategies to keep themselves and/or their families safe from contracting or spreading COVID-19. Very few participants reported doing nothing. Participants' responses commonly included strategies articulated in the Victorian Government 'COVID-safe' messaging. For example, the most common response was wearing a mask. Other common responses included practising hand hygiene (either washing hands or using sanitiser), maintaining physical distance from others, staying at home whenever possible, getting vaccinated and avoiding crowded areas.

Participants also reported trying to stay healthy by engaging in activities such as eating well, doing physical activity and getting fresh air. They reported ensuring they maintained personal hygiene, including by avoiding touching shared surfaces, frequently cleaning surfaces and clothes, and coughing or sneezing into their elbow.

Some participants reported following guidelines as something they did to stay safe, and specifically mentioned getting a PCR test for the virus. Some reported employing strategies to minimise interactions with others to stay safe, including limiting socialising and avoiding public transport. A few participants also reported other measures such as staying informed, avoiding exposure sites, working from home or outside, socialising outside or using QR code check-ins when shopping.

Overall, participants had positive attitudes towards COVID-19 vaccinations. Overwhelmingly, participants reported that they thought vaccines were good, with only a very small number stating that they felt vaccines were bad. Participants commonly stated they thought vaccinations were important; that everyone should get vaccinated and that doing so helps protect the broader community. While some reported they believed in vaccine efficacy, others reported having concerns about vaccine safety or worried about adverse effects. There were also a few participants who felt hesitant about getting the vaccine, reporting that they felt not enough was known about the COVID-19 vaccines and that the current information available was confusing. A few also had concerns about the rollout of the vaccination program in Australia, were against the vaccine mandate or felt that freedom of choice (to decide whether to get the vaccine) was important.

Across all catchment areas, most participants reported having received at least 2 doses of an available COVID vaccine (Astra Zeneca or Pfizer). Some participants reported having received one dose of the vaccine and had an appointment for the second. A few had not yet received the first dose of the vaccine but had an appointment booked. Very few participants reported being unsure whether they should get the vaccination, and an even smaller number (none in some catchment areas) said they were unwilling to get vaccinated. A very small number preferred not to discuss their vaccination status.

Most participants were motivated to get vaccinated to protect themselves, their families, or other members of the community. Those who chose not to get vaccinated reported that concerns about vaccine safety or adverse effects influenced their decision. Many participants reported that they were required to get vaccinated for work, while others were influenced by a desire to end restrictions. Many participants were prompted to get the vaccine by their GP, community health service, supported residential staff or other health provider.

Family members were a strong influence in participants' decision to get vaccinated. Access to transport was also commonly reported as a factor in vaccination decisions. Some participants reported that a sense of responsibility influenced their decision to get vaccinated, while others felt that getting the vaccine was common sense.

Many others reported that they believed getting vaccinated worked to protect against the virus or that they had observed the vaccine working in the community. A few participants were influenced by media (e.g. television or radio), by news reports (on television, radio, or in newspapers) or government sources (e.g. government websites, politicians or the COVID-19 hotline). A few reported that their decision to get vaccinated was influenced by logistics, such as the ease or difficulty of booking an appointment, the location of the vaccination clinic, the need to take time off work or the likely travel time.

A few participants also reported the desire to get their preferred vaccine (either Astra Zeneca or Pfizer), and its subsequent availability was another influence in their decision to get vaccinated.

4

Health literacy profiles of participants living in HRAR accommodation settings

Health literacy skills are fundamental to people's ability to understand, access and engage with health information and health services. We assessed the health literacy of residents and compared their levels with general population norms, nationally and for Victoria, as documented by the Australian Bureau of Statistics.

We found clear patterns where, compared with the general population, people living in HRAR accommodation settings had less access to resources to manage their health and healthcare.

When compared with the mean scores for health literacy domains nationally and for Victoria in the 2018 ABS National Health Literacy Survey, the mean scores of the research participants were much lower. The comparison provided key information about the underpinning mechanisms (or characteristics) of people that give insights to how they did (or didn't/couldn't) engage with health information, practitioners and services (see Figure 7).

FIELDNOTES

Mentioned she had clinical depression and seemed to be dissatisfied with her health and wellbeing. Expressed sadness and slight anger about her relationship with her kids and living alone in the housing block.

Notes regarding a participant living in a low-to-medium-rise housing estate

Elderly woman with complex health issues. Mixture of mental health (depression and anxiety) as well as brain tumours, recent throat surgery, very shaky (possible Parkinson's) so had to get a chair to complete interview. Had difficulty understanding some of the questions but was happy to engage. Pretty lonely, mentioned numerous times that she didn't do very much day to day, generally pretty negative responses to life satisfaction questions.

Notes regarding a participant living in a supported residential service

For example, the data show that many people have limited social support to help them manage their own health and healthcare (Scale 4: 'social support for health'). This social support might take the form of practical assistance, such as someone taking them to a medical appointment, or it might be related to feeling as though people around them understand when they are ill or need assistance with their healthcare. More than half the participants in the study were living alone (52%), and in their interviews, many reported being estranged from family and friends. COVID-19 enforced further social isolation through lock down measures, and fear of contracting the virus encouraged further self-isolation. These situations are reflected in the following observations by interviewers.

Figure 7 depicts the mean scores for each HLQ scale from:

- the total participants in the 2018 National Health Literacy Survey (n=5790)
- the Victorian participants in the 2018 National Health Literacy Survey (n=923)
- the total participants who completed the online survey (n=665)
- the participants who completed the online survey in the Star Health catchment area (n=238)
- the participants who completed the online survey in the Merri Health catchment area (n=123)
- the participants who completed the online survey in the Connect Health catchment area (n=149)
- the participants who completed the online survey in the Peninsula Health catchment area (n=155)
- the interview participants (n=138) – note that only scales 3, 4, 5, 6 and 9 were included in the survey administered by face-to face interview.

This comparison of mean scores demonstrates that research participants consistently scored significantly below that of the national and Victorian mean scores. Participants from Merri Health demonstrated the most health literacy needs and challenges, with lower mean scores than participants from other Lead Providers across all scales. The interview participants recorded mean scores less than the Victorian and national mean scores; however, their mean scores were higher than those of the online participants. It is possible that their responses were influenced by the interview process, or by their understating their challenges or trying to seem positive for the sake of the interviewer (an effect known as 'social desirability bias').[20]

---

[20] Bergen, N., Labonté, R., 2020. '"Everything is perfect, and we have no problems": detecting and limiting social desirability bias in qualitative research.' Qualitative health research, 30(5), pp. 783–792.

Scales 1 to 5 of the HLQ relate more generally to the individual's ability to find health information and support mechanisms such as social support. In addition to the finding discussed above in relation to scale 4: 'social support for health', Figure 10 illustrates the challenges experienced by the participants because they have fewer resources available to them to manage their health, whether that be sufficient information, a trusted healthcare provider, motivation (not seeing health as a priority) or being able to judge the applicability and trustworthiness of information.

Scales 6 to 9 relate more generally to people's ability to interact with the healthcare system and healthcare providers. Figure 10 illustrates the large gap between national and Victorian mean scores and those of the research participants who completed the online survey.

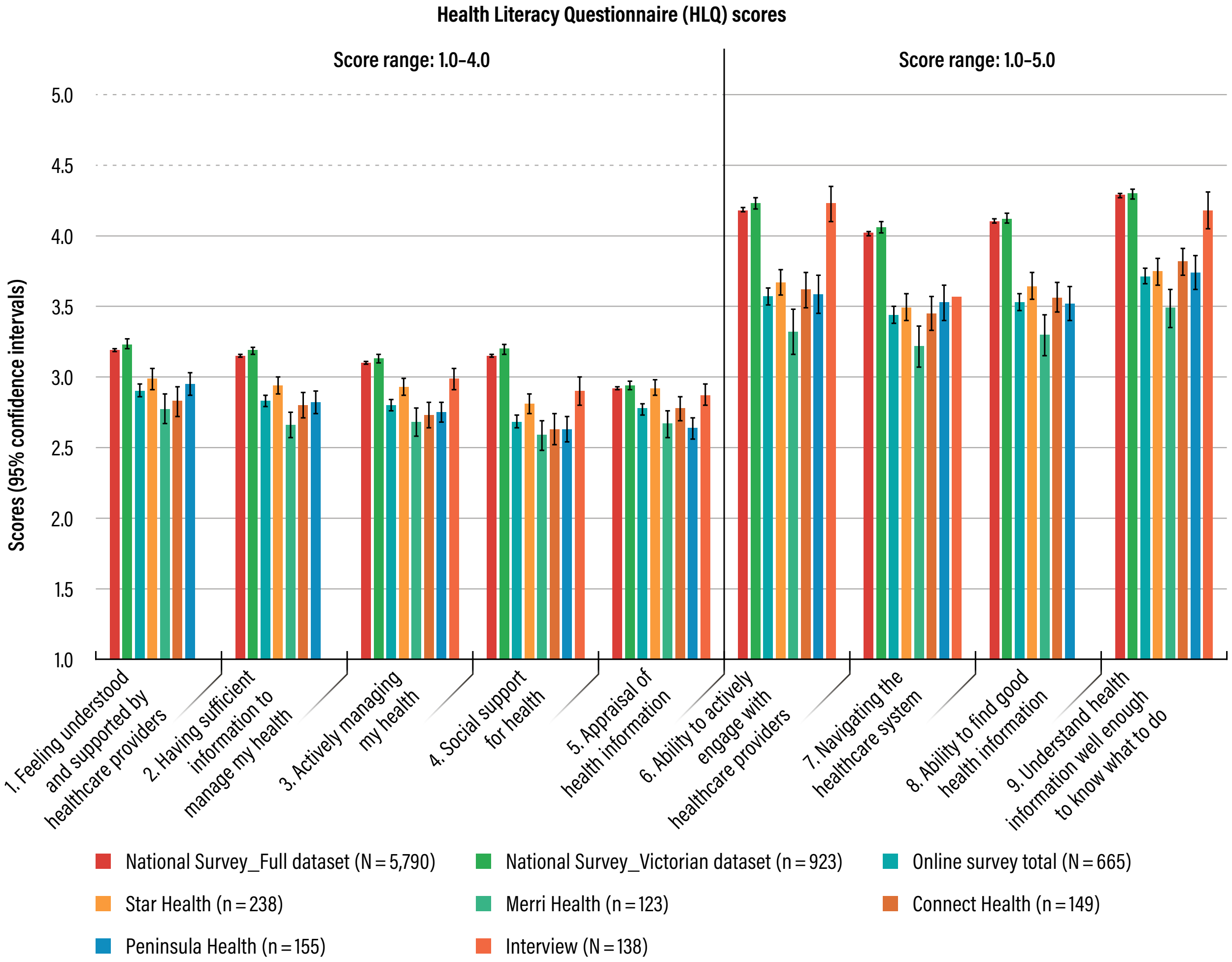


Figure 10 Health Literacy means scores for each Lead Provider (n=665) and interview participants (n=138) compared with ABS National Health Literacy Survey Data (2018)

Health literacy profiles – cluster analyses

Comparison of mean scores at the macro level is useful for identifying broad patterns; however, the process of cluster analysis provides a more in-depth understanding of health literacy strengths, needs and preferences. By analysing patterns of mean scores to reveal subgroups of people with similar scores across the health literacy scales, a cluster analysis provides critical information about sets of needs and actions that can be generalised.

Responses to the online survey were used for cluster analyses of health literacy data for each catchment area, presented below.

Each cluster or row within the tables depicting the health literacy profiles represents a diverse range of health literacy strengths, needs and preferences of groups of typical residents. The cells in the tables are coloured-coded: green represents strengths and red indicates areas of need.

The health literacy profiles have been examined in-depth with the HRAR program teams in the Action Learning Workshops, resulting in the development of vignettes and ideas for actions to support and respond to health literacy needs. These are presented in Section 5 of this report.

Health literacy profiles – Connect Health

Responses to the online survey from 149 participants in the Connect Health catchment were used for a cluster analysis of health literacy data (see Table 11). This analysis identified 12 different health literacy profiles (clusters). The largest cluster (4) contained 49 participants and the smallest clusters (11 and 12) had 2 participants.

Table 11 Health literacy profiles – Connect Health (cluster analysis, n=149)

Cluster ID	Number in clusters	% in sample	eHLQ1. Using technology to process health information	eHLQ2. Understanding of health concepts and language	1. Feeling understood and supported by healthcare providers	2. Having sufficient information to manage my health	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	7. Navigating the healthcare system	8. Ability to find good health information	9. Understand health information well enough to know what to do
1	6	4.0	3.67	3.90	3.88	4.00	3.93	3.37	3.73	5.00	4.86	4.90	4.97
2	4	2.7	3.65	3.50	3.50	3.63	3.35	3.75	3.70	3.95	3.92	3.80	3.95
3	6	4.0	2.07	3.27	3.67	3.38	3.30	3.40	2.93	4.70	4.44	4.27	4.60
4	49	32.9	2.75	2.96	3.10	2.99	2.82	2.90	2.90	4.09	3.91	3.96	4.12
5	22	14.8	2.92	2.86	2.82	2.85	2.88	2.85	2.95	3.41	3.25	3.25	3.26
6	6	4.0	3.07	3.13	2.50	2.04	3.20	2.23	3.43	2.40	2.28	3.57	4.20
7	15	10.1	1.79	2.53	2.93	2.52	2.44	2.40	2.19	3.79	3.60	3.24	3.75
8	23	15.4	2.65	2.77	2.38	2.59	2.40	2.26	2.57	3.09	2.87	3.30	3.72
9	5	3.4	2.24	2.80	1.15	2.95	2.48	1.28	2.32	2.52	2.70	3.04	3.12
10	9	6.0	2.56	2.13	2.28	1.97	2.04	1.87	2.49	2.40	2.41	2.84	3.16
11	2	1.3	1.00	2.10	2.88	2.50	2.10	2.40	1.70	3.70	2.83	1.60	2.60
12	2	1.3	1.20	1.00	1.25	1.00	1.10	1.00	1.10	2.80	2.58	2.70	2.70

Score range: 1–4
1 = Strongly disagree
2 = Disagree
3 = Agree
4 = Strongly agree

Score range: 1–5
1 = Cannot do or always difficult
2 = Usually difficult
3 = Sometimes difficult
4 = Usually easy
5 = Always easy

Health literacy profiles – Merri Health

Responses to the online survey from 123 participants in the Merri Health catchment were used for a cluster analysis of health literacy data (see Table 12). This analysis identified 7 different health literacy profiles (clusters). The largest cluster (2) contained 46 participants and the smallest clusters (5, 6 and 7) each had 4 participants.

Table 12 Health literacy profiles – Merri Health (cluster analysis, n=123)

Cluster ID	Number in clusters	% in sample	eHLQ1. Using technology to process health information	eHLQ2. Understanding of health concepts and language	1. Feeling understood and supported by healthcare providers	2. Having sufficient information to manage my health	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	7. Navigating the healthcare system	8. Ability to find good health information	9. Understand health information well enough to know what to do
1	9	7.4	2.80	3.24	3.58	3.39	3.40	3.44	3.18	4.71	4.26	4.36	4.47
2	46	37.7	2.79	3.03	3.02	2.88	2.86	2.76	3.00	3.69	3.57	3.79	3.87
3	16	13.1	1.25	2.69	2.92	2.84	2.81	2.99	2.40	3.68	3.54	3.36	3.51
4	39	32.0	2.36	2.44	2.55	2.40	2.49	1.15	2.43	2.93	2.96	2.85	3.03
5	4	3.3	2.45	2.80	1.25	1.81	2.30	2.40	2.65	1.95	1.71	2.65	3.60
6	4	3.3	2.10	2.35	2.56	2.25	2.05	2.23	2.20	1.40	1.38	1.55	1.60
7	4	3.3	1.90	1.60	1.44	1.56	1.15	1.30	1.50	1.55	1.42	1.70	2.95

Score range: 1–4
1 = Strongly disagree
2 = Disagree
3 = Agree
4 = Strongly agree

Score range: 1–5
1 = Cannot do or always difficult
2 = Usually difficult
3 = Sometimes difficult
4 = Usually easy
5 = Always easy

Health literacy profiles – Star Health

Responses to the online survey from 238 participants in the Star Health catchment were used for a cluster analysis of health literacy data (see Table 13). This analysis identified 15 different health literacy profiles (clusters). The largest cluster (4) contained 53 participants and the smallest clusters (14 and 15) each had 3 participants.

Table 13 Health literacy profiles – Star Health (cluster analysis, n=238)

Cluster ID	Number in clusters	% in sample	eHLQ1. Using technology to process health information	eHLQ2. Understanding of health concepts and language	1. Feeling understood and supported by healthcare providers	2. Having sufficient information to manage my health	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	7. Navigating the healthcare system	8. Ability to find good health information	9. Understand health information well enough to know what to do
1	10	4.2	3.44	3.74	3.85	3.83	3.84	3.62	3.60	4.28	4.78	4.82	4.98
2	15	6.3	3.09	3.40	3.43	3.20	2.92	2.96	3.24	4.37	4.71	4.80	4.77
3	11	4.6	3.53	3.56	3.20	3.66	3.60	3.42	3.49	4.00	3.94	4.05	4.05
4	53	22.3	2.98	3.02	3.15	3.00	3.03	2.92	2.99	4.13	3.92	3.92	4.00
5	6	2.5	2.60	3.53	3.50	3.25	3.23	2.37	3.30	3.40	3.39	4.07	4.43
6	4	1.7	3.10	3.85	3.88	3.56	3.80	3.30	3.60	3.00	2.79	2.95	2.65
7	13	5.5	2.97	2.91	2.73	2.96	2.31	2.72	2.88	4.06	3.71	3.98	4.17
8	23	9.7	1.90	2.99	3.08	3.02	2.97	2.70	2.63	4.12	3.81	3.90	4.10
9	32	13.4	3.05	3.06	3.02	3.05	3.05	3.12	3.01	3.41	3.08	3.24	3.31
10	35	14.7	2.82	2.71	2.83	2.58	2.76	2.58	2.76	3.47	3.05	3.34	3.43
11	5	2.1	3.40	2.92	1.65	2.30	2.68	1.80	2.84	1.68	2.50	3.56	3.96
12	17	7.1	2.56	2.52	2.22	2.46	2.38	2.25	2.56	2.92	2.71	2.96	2.96
13	8	3.4	2.73	2.63	2.47	2.66	2.85	2.60	2.70	2.00	1.77	1.85	2.00
14	3	1.3	1.33	2.33	3.33	2.17	2.27	2.53	1.80	3.27	2.89	1.67	2.27
15	3	1.3	2.20	1.47	1.67	1.58	1.47	1.40	1.47	2.80	2.61	2.67	2.93

Score range: 1–4
1 = Strongly disagree
2 = Disagree
3 = Agree
4 = Strongly agree

Score range: 1–5
1 = Cannot do or always difficult
2 = Usually difficult
3 = Sometimes difficult
4 = Usually easy
5 = Always easy

Health literacy profile – Peninsula Health

Responses to the online survey from 155 participants in the Peninsula Health catchment were used for a cluster analysis of health literacy data (see Table 14). This analysis identified 15 health literacy profiles (clusters). The largest cluster (6) contained 21 participants and the smallest cluster (3) had 1 participant.

Table 14 Health literacy profiles – Peninsula Health (cluster analysis, n=155)

Cluster ID	Number in clusters	% in sample	eHLQ1. Using technology to process health information	eHLQ2. Understanding of health concepts and language	1. Feeling understood and supported by healthcare providers	2. Having sufficient information to manage my health	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	7. Navigating the healthcare system	8. Ability to find good health information	9. Understand health information well enough to know what to do
1	4	2.6	2.70	3.60	3.44	3.75	3.85	3.40	3.35	4.55	4.25	4.35	4.75
2	17	11.0	2.98	3.12	3.46	3.16	3.09	3.14	3.19	4.48	4.36	4.31	4.46
3	1	0.6	3.80	4.00	1.25	2.25	3.60	1.40	3.40	4.40	2.83	5.00	5.00
4	11	7.1	2.27	2.87	3.59	3.16	2.51	2.91	2.27	4.47	4.33	3.98	4.42
5	19	12.3	3.04	2.96	2.87	3.05	2.97	2.81	2.97	3.86	3.75	3.97	3.94
6	21	13.5	1.75	2.85	2.96	3.08	2.83	3.00	2.56	3.90	3.94	3.88	4.08
7	19	12.3	2.44	2.95	3.28	2.79	2.89	2.80	2.82	3.65	3.56	3.22	3.47
8	10	6.5	2.64	2.84	2.88	2.93	2.86	1.74	2.72	3.42	3.53	3.66	3.88
9	11	7.1	2.67	2.60	2.68	2.61	2.27	2.56	2.58	3.24	3.24	3.44	3.44
10	13	8.4	1.35	2.72	2.94	2.67	2.75	2.35	2.42	3.49	3.35	3.15	3.66
11	14	9.0	2.14	2.37	2.25	2.16	2.23	2.21	2.20	2.57	2.76	2.99	3.31
12	3	1.9	3.07	2.80	2.92	2.42	2.67	2.67	2.67	2.13	2.11	1.80	2.07
13	3	1.9	1.07	2.07	2.92	2.83	2.67	1.93	1.73	2.47	3.06	2.87	3.33
14	7	4.5	2.17	1.86	3.33	1.82	1.94	1.97	1.94	2.11	1.69	1.89	1.91
15	2	1.3	1.70	2.90	1.63	2.00	2.90	1.40	2.00	1.30	1.42	2.00	2.10

Score range: 1–4
1 = Strongly disagree
2 = Disagree
3 = Agree
4 = Strongly agree

Score range: 1–5
1 = Cannot do or always difficult
2 = Usually difficult
3 = Sometimes difficult
4 = Usually easy
5 = Always easy

4.1 Comparing the profiles of health literacy

Comparing the health literacy profiles of the catchments shows the diversity across and within each catchment area. (As such, there are no generalisable health literacy profiles.)

There are some general similarities among some of the clusters (2 clusters within Star Health and Connect Health – see Table 15) with either higher or lower mean scores, but the patterns within the clusters varied.

This comparison across the 4 catchment areas serves to highlight the differences between the health literacy profiles, rather than identify many similarities.

Table 15 Comparison of the clusters within the health literacy profiles of Merri Health, Connect Health, Star Health and Peninsula Health

	Connect Health (n=149)	Merri Health (n=123)	Peninsular Health (n=155)	Star Health (n=238)
Number of clusters	12	7	15	15
Small clusters (i.e. less than 5% of the sample)	7 out of 12	3 out of 7	6 out of 15	8 out of 15
Higher score clusters (i.e., above 3 for eHLQ and HLQ Part 1 and above 4 for HLQ Part 2)[1]	2 Clusters (Clusters 1 and 2), 6.7% of the sample	No such cluster	No such cluster	2 Clusters (Clusters 1 and 3), 8.8% of the sample
Lowest score cluster	Cluster 12 – Low across all scales Comparing this cluster to Merri Health Cluster 7, has higher scores in eHLQ (1 point higher)	Cluster 7 – Low across all scales Comparing this cluster to Connect Health Cluster 12 and Star Health Cluster 15, this has much lower scores in HLQ 6–8 (1 point lower)	Cluster 15 – Has some strengths in eHLQ 2 Understanding health language and concept (2.90) and HLQ Actively managing my health (2.90) It is the second lowest score cluster (Cluster 14) that is low across all scales	Cluster 15 – Low across all scales Comparing this cluster to Cluster 14 of Peninsula Health, this cluster has higher scores for Scales 6–9
Use of technology for health (eHLQ 1) with score above 3[2]	3 clusters (Clusters 1, 2 and 6)	No such cluster	3 clusters (Clusters 3, 5 and 12)	6 clusters (Clusters 1, 2, 3, 6, 9 and 11)
Social support (HLQ 4) with score lower than 2.5[3]	7 clusters (Clusters 6–12), 41.5% of the sample 2 of these clusters (Clusters 7 and 11) have higher scores for HLQ 1 Feeling understood and supported by healthcare providers (above 2.5) and HLQ 6 Ability to actively engage with healthcare providers (above 3.5)	4 clusters (Clusters 4–7), 41.9% of the sample These 4 clusters also have lower scores for HLQ 1 (borderline or below 2.5) and HLQ 6 (below 3.5)	7 clusters (Clusters 3 and 8, 10, 11, 13–15), 32.2% of the sample These clusters vary in terms of healthcare support, some can have higher scores in HLQ 1 but lower in HLQ 6 or the other way around	6 clusters (Clusters 5 and 11–15), 17.7% of the sample 2 of these clusters (Clusters 5 and 14) have quite high scores in HLQ 1 (above 3) but lower scores in HLQ 6 (below 3.5) while the other clusters have lower scores in both HLQ 1 and HLQ 6

Notes

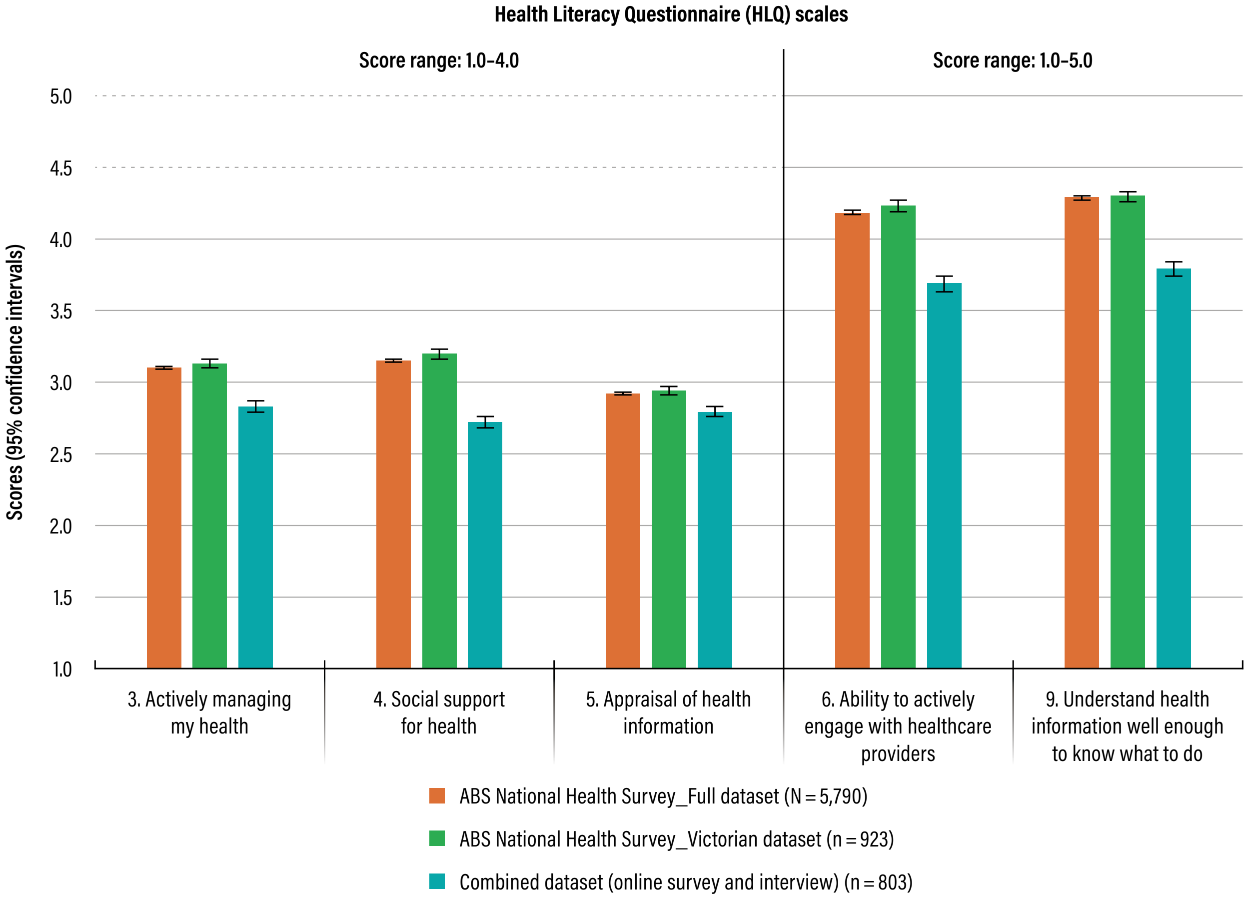
1. Cluster 1 of Connect Health and Cluster 1 of Star Health are quite similar, but Cluster 2 of Connect Health has a little higher score than Cluster 3 of Star Health.
2. Participants of Merri Health are not that into using technology for health. Participants of Connect Health with higher scores across all scales tend to use technology but not for Peninsular Health and Star Health)
3. People with lower social support tend to people in clusters with lower scores except for Peninsula Health and Star Health (but Cluster 3 of Peninsula Health is a single person cluster and Cluster 5 of Star Health represents 2.5% of the sample).
   Their patterns of healthcare support and ability to actively engage with healthcare providers also vary.

4.2 Combining health literacy profiles

Examining the health literacy data collected from each catchment area is useful for identifying the health literacy profiles typical of residents in the various settings. To gain a picture of the health literacy profiles more generally of participants from all sites and all settings, the health literacy data gathered from the online survey and the face-to-face interviews were combined (n=803). This cluster analysis combined the mean scores from the eHLQ scales and HLQ scales 3, 4, 5, 6 and 9.

Similar to the comparison in Figure 10, the mean scores from this dataset were also consistently and significantly below that of the national and Victorian mean scores, as shown in Figure 11.

Figure 11 Comparison of health literacy of study participants with the 2018 ABS National Health Literacy Survey (national and Victorian samples)



The cluster analysis of the combined dataset identified 12 health literacy profiles (clusters). The smallest cluster (12) had 10 participants and the largest cluster (3) had 184 participants. Cluster 11 has 101 participants, making it the third-largest cluster. This is important to note, as the size of the clusters usually decreases as the health literacy needs and challenges increase because, in most populations, the proportion of people with low or very low scores on the scales is relatively small. In the HRAR combined sample, we observe that there was a relatively high proportion of people with quite low scores (many health literacy challenges across the scales).

Table 16 Combined health literacy profiles (cluster analysis, n=803)

Cluster ID	Number in clusters	% in sample	1. Using technology to process health information	2. Understanding of health concepts and language	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	9. Understand health information well enough to know what to do
1	58	7.2	3.36	3.61	3.66	3.49	3.54	4.27	4.40
2	18	2.2	2.74	3.54	3.61	2.21	3.51	3.96	4.28
3	184	22.9	2.96	3.10	3.01	3.06	3.03	4.21	4.20
4	44	5.5	1.47	3.03	3.03	3.14	2.67	4.60	4.51
5	105	13.1	2.38	2.86	2.78	2.94	2.72	4.05	3.97
6	82	10.2	2.90	2.92	2.65	2.13	2.94	3.47	4.09
7	70	8.7	2.87	2.92	2.94	2.85	2.92	3.33	3.20
8	29	3.6	1.88	3.04	2.76	2.07	2.34	3.84	4.08
9	49	6.1	1.19	2.54	2.61	2.61	2.16	3.63	3.38
10	53	6.6	2.46	2.67	2.87	2.31	2.50	2.40	2.70
11	101	12.6	2.46	2.37	2.17	2.32	2.45	2.82	3.07
12	10	1.2	1.82	1.44	1.20	2.32	1.40	2.08	2.70
			eHLQ mean score range 1–4		HLQ mean score range 1–4			HLQ mean score range 1–5	
			Health literacy scales included in both the online surveys and face-to-face interviews						

The sociodemographic characteristics of the participants (see Table 17) in this combined dataset (n=803) were very similar to those from the complete dataset (n=865), as discussed previously (see section 3.2).

Table 17 Participant sociodemographic characteristics for combined health literacy profile (n=803)

Socio-demographic characteristics	n	%
Age		
18–34 years	203	25.3
35–64 years	377	46.9
65 or above	221	27.5
Female	421	52.4
LGBTQ people	94	11.7
Aboriginal and Torres Strait Islander peoples	50	6.2
Born in Australia	483	60.1
Language		
Spoke English at home	711	88.5
Education		
Some high school or below	284	35.4
Completed high school	163	20.3
Certificate/Diploma	183	22.8
Completed university	160	19.9
Employment		
Full-time	99	12.3
Part-time	125	15.6
Retired	206	25.7
Unemployed	124	15.4
Disability pension	71	8.8
Household type		
Single household	438	54.5
Couple with/without others	164	20.4
Single parent with/without children	78	9.7
Group household	83	10.3

Health and healthcare	n	%
Chronic condition		
No condition	243	30.3
Arthritis	149	18.6
Back pain	173	21.5
Heart problem	94	11.7
Lung problem	67	8.3
Cancer	38	4.7
Depression	252	31.4
Anxiety	221	27.5
Average number of physical conditions	0.99 mean	1.25 SD
Average number of mental conditions	0.81 mean	1.06 SD
Frequency of healthcare consultation		
Over 12 times	192	23.9
7–12 times	165	20.5
Healthcare professionals consulted		
GP	570	71.0
Mental health professional – includes psychologist, psychiatrist, counsellor	93	11.6
Specialist	74	9.2
Allied health professional	118	14.7
Vaccination		
2 doses	619	77.1
1 dose	54	6.7

Health Education Impact Questionnaire (heiQ) mean score	n	%
2. Positive and active engagement in life	2.76	0.59*
3. Emotional distress#	2.53	0.65*

#higher score, higher distress; *mean

Worries Questionnaire	n	%
Worried or very worried		
Food	100	12.5
Medicine	109	13.6
Healthcare	162	20.2
Caring for others	144	17.9
Keeping in contact with others	187	23.3
Caring for children	145	18.1
Mental health	245	30.5
Physical health	256	31.9
Money	347	43.2
Work or business	171	21.3

Residential setting	n	%
Tier 1 (Public housing)	351	43.7
Tier 2 (Staffed settings)	34	4.2
Tier 3 (Unstaffed settings)	201	25.0
Tier 4 (Other settings)	54	6.7
Unspecified setting	80	10.0

Lead provider catchment area	n	%
Connect Health	173	21.5
Merri Health	167	20.8
Star Health	257	32.0
Peninsula Health	190	23.7
Bendigo Community Health	16	2.0
Survey type		
Online survey	665	82.8
Interview	138	17.2

Health Education Impact Questionnaire (heiQ)

The results from the administration of 2 scales from the Health Education Impact Questionnaire (heiQ) are presented in Figure 12. These 2 scales gauge the emotional state (positive and negative affect). For heiQ scale 3, a high score indicates higher emotional distress. These participants, on average, reported relatively high (mean score 2.53) emotional distress on a scale from 1 (no/lowest distress) to 4 (highest possible distress). It was noted that the mean score for heiQ scale 3 was generally higher for people experiencing more health literacy needs and challenges.

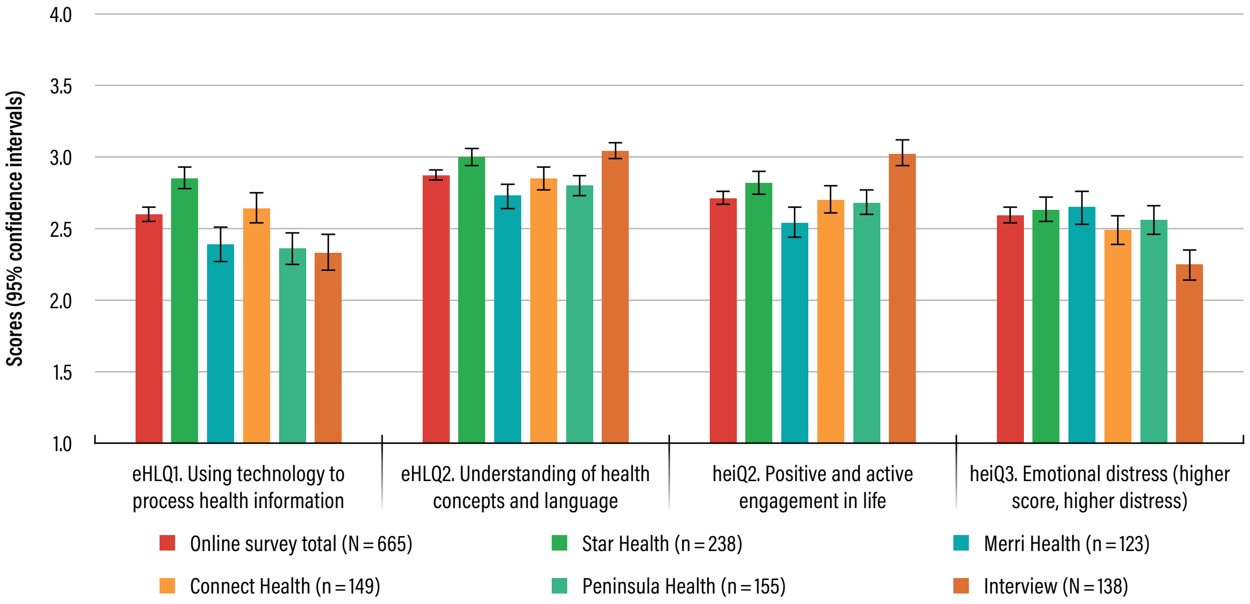


Figure 12 Comparison of means scores for Health Education Impact Questionnaire (heiQ) scales 2 and 3 and eHealth Literacy Questionnaire (eHLQ) scale 1 and 2 mean scores

Digital health literacy (eHLQ)

During the COVID-19 pandemic, digital health proliferated among the broader population, including through the use of telehealth, QR codes, digital vaccination certificates, contact tracing, and the COVIDSafe app. Many also frequently checked exposure sites listed on the Victorian Government website.

While for many, digital health is easy to use and access, those living in HRAR accommodation settings often do not have the necessary skills, knowledge or means of access. For example, HRAR staff reported helping many people to access their vaccination certificates. This could entail organising the delivery of a hard copy, or undertaking the complex task of helping someone create an email account and linking them to government services.

When these eHLQ data were examined by Lead Providers, the Star Health participants were found to have scored higher than other cohorts, possibly due to the higher levels of education and relative youth of the cohort.

There was wide variability in whether digital technology was used or not, and in the type of technology used to access health information. Older people frequently reported more challenges and barriers. However, different barriers and challenges existed across all age groups and settings. For older people, lack of know-how was a common challenge, whereas cost and access to devices were more common barriers for younger people.

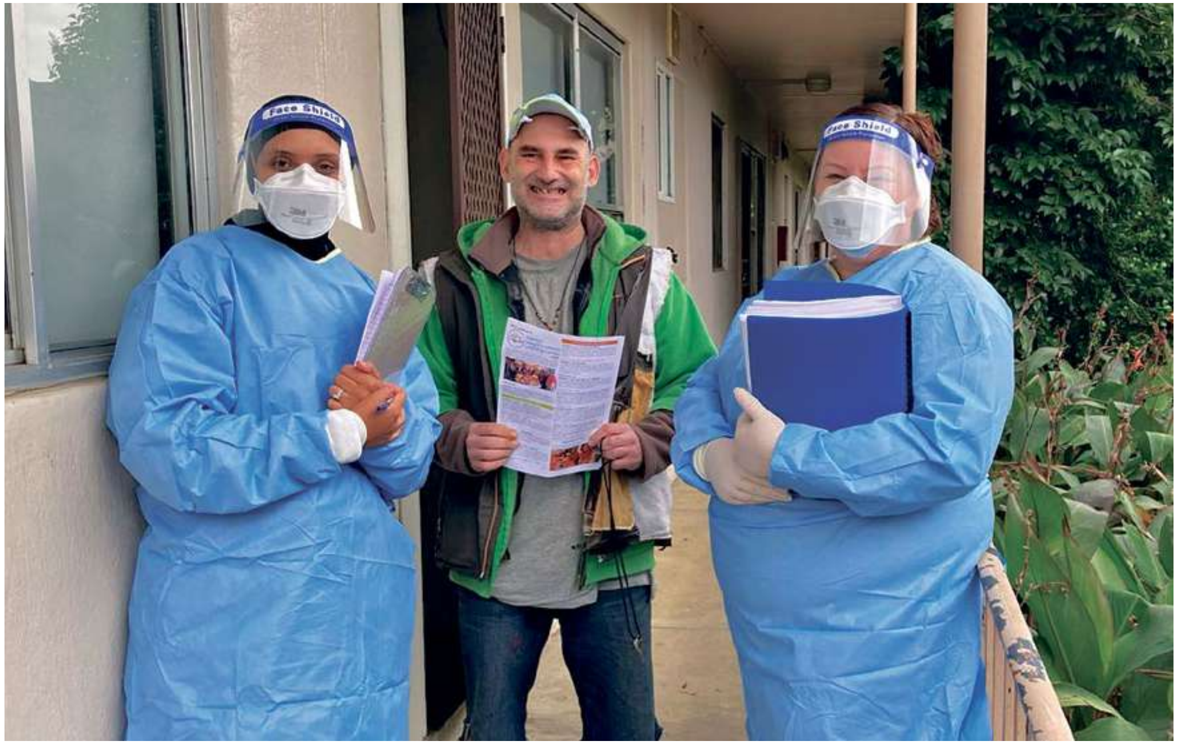
FIELDNOTES

Doesn’t have access to his COVID vax certificate. Needs help to get access from Medicare to get print out for certificate.

Notes regarding a participant living in low-rise public housing

‘Don’t use social media’ because doesn’t understand the technology. Bought iPhone 13 but doesn’t know how to use it. Needs training on how to use it … ‘Feel like a dipstick as I am an intelligent man, but don’t understand as technology progresses.’ Struggles to keep up-to-date.

Notes regarding a participant living in low-rise public housing



4.3 Core health literacy profiles

Interviews conducted with 200 participants were included for analysis. Of the 200 participants, 62 did not respond to the health literacy items because they chose to end the survey before this section of the interview, or the interviewer exercised their discretion not to ask these questions.

The health literacy data gathered from 138 participants were subjected to a cluster analysis; however, the purpose of this cluster analysis was different to that of the cluster analyses undertaken for each of the sites and the combined health literacy profiles.

The purpose of this cluster analysis was to identify the different perspectives and preferences of the revealed subgroupings of participants in this dataset towards COVID-19 control and vaccination, use of health information, and preferred sources of information and learning styles.

A non-hierarchical cluster analysis using K-means algorithm based on the eHLQ and HLQ scales used in the interview survey identified 3 core health literacy profiles. Using the statistical program SPSS (v26), the K-means algorithm grouped the participants into a pre-specified number of clusters: 3 in this analysis, to minimise the distance between observations within a cluster and maximise the distance between clusters.[21]

The analysis generated 3 clusters (see Table 18) labelled cluster A, B and C. For convenience and to maximise inclusion of all available data, a cluster D is shown and represents an additional subgroup of respondents (n=62) who answered the open qualitative questions about vaccines and behaviour, but not the health literacy scales.

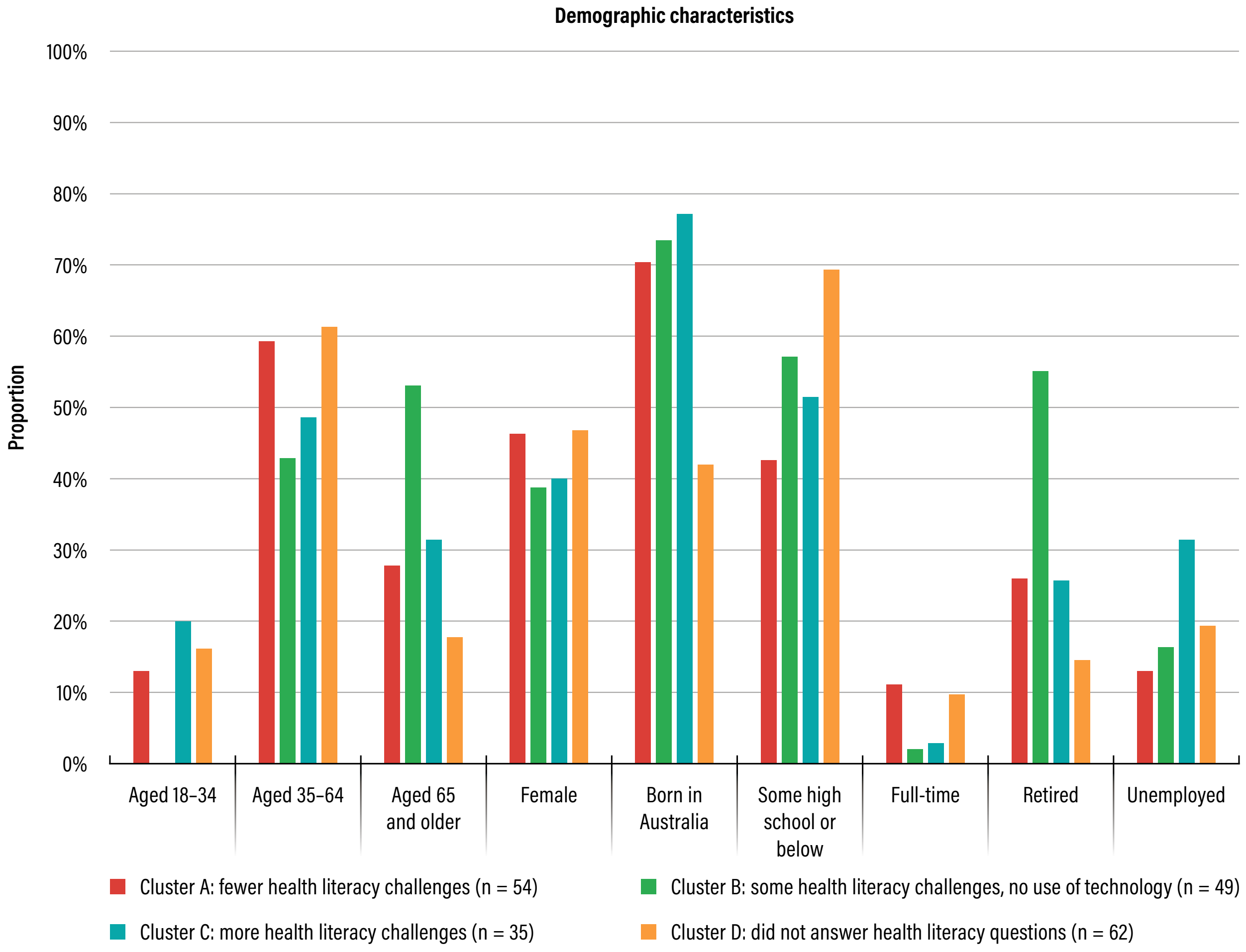
Cluster A (n=54) is a subgroup of participants with overall higher scores across the health literacy scales when compared with the other clusters. Cluster B (n=49) has the lowest scores in eHLQ 1: 'Using technology to process health information' among all clusters. The average score was 1.57 (range 1 to 4) indicating that participants either answered 'disagree' (1) or 'strongly disagree' (2) to all items. This indicates that participants in this cluster were generally unlikely to be using technology – or if they were, they weren't using it effectively for their health. Despite being particularly challenged with technology, their mean scores for HLQ scale 6: 'Actively engaging with healthcare providers' and HLQ scale 9: 'Understand health information' indicated that these were areas of health literacy strength.

Cluster C, the smallest cluster with 35 participants, still had substantial challenges with using technology, but also had limited social support

---

[21] Hair J., Black W., Babin B., Anderson R. *Multivariate data analysis*. Seventh ed. Essex: Pearson Education Limited; 2014

Figure 13 Frequency plot of demographic factors by cluster group among respondents who took part in the full interview (n=138) and people who only completed the qualitative open questions (n=62)



(HLQ 4) and experienced difficulty in engaging with healthcare providers (HLQ 6) and understanding health information (HLQ scale 9).

As stated above, there were 62 participants who did not complete the health literacy survey items and so could not be included in the cluster analysis. These participants were assigned to cluster D. The reasons this group did not complete the full survey, as well as their settings, indicated that they may be experiencing more vulnerability and disadvantage than the other participants.

Comparing the demographic characteristics of these four clusters, participants in cluster A were mostly aged 45–74, born in Australia and spoke English at home. Their education level was higher than that of the other clusters.

Participants of cluster B tended to be older: none was aged below 35 and the cluster had more participants aged 65 or above than any other. Participants in this cluster were also likely to be living alone (about 80% lived in a single-person household) and managing one or more chronic health condition. (The cluster had the highest proportion of participants reporting living with a chronic health condition and/or mental health issue.)

Cluster D had more participants with lower education as well as more migrants who spoke a language other than English at home. Most of them lived in group households, including with family or other people.

Table 18 Cluster analysis of health literacy data collected from 138 people who took part in interview (all sites)

Cluster ID	Description	Number in clusters	1. Using technology to process health information	2. Understanding of health concepts and language	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	9. Understand health information well enough to know what to do
A	Fewer health literacy challenges	54	2.91	3.18	3.17	3.10	3.10	4.57	4.46
B	Some health literacy challenges, no use of technology	49	1.57	2.97	2.90	2.85	2.64	4.51	4.42
C	More health literacy challenges	35	2.46	2.93	2.82	2.65	2.85	3.31	3.41
D	Did not answer health literacy questions	62	n/a	n/a	n/a	n/a	n/a	n/a	n/a
			eHLQ mean score range 1–4		HLQ mean score range 1–4			HLQ mean score range 1–5	
			Health literacy scales included in both the online surveys and face-to-face interviews						

Table 19 Sociodemographic characteristics of interview participants (n=200)

Characteristics	n	%
Age		
18–24 years	8	4.0
25–34 years	16	8.0
35–44 years	24	11.9
45–54 years	35	17.4
55–64 years	50	24.9
65–74 years	47	23.4
75–84 years	16	8.0
85 years and older	2	1.0
Gender		
Male	110	54.7
Female	87	43.3
Non-binary	1	0.5
Sexual orientation		
Heterosexual	156	77.6
Lesbian, gay or homosexual	12	6.0
Bisexual	6	3.0
Prefer not to say	4	2.0
Country of birth		
Australia	128	63.7
Language spoke at home		
English	170	84.6
Aboriginal or Torres Strait Islander person		
	12	6.0
Education		
Did not finish primary school	14	7.0
Finished primary school	15	7.5
Finished some high school	83	41.3
Finished high school	34	16.9
Trade certificate/Diploma	30	14.9
Completed university	16	8.0
Employment		
Full-time	13	6.5
Part-time	11	5.5
Not working (but not retired)	20	10.0
Student	5	2.5
Other	50	24.9
Retired	59	29.4
Unemployed	39	19.4
On disability pension	23	7.0
Household		
Single person	99	49.3
Couple with or without others	7	3.5
Couple with dependent children	15	7.5
Couple with dependent children and others	5	2.5
Couple with nondependent children, with or without others	6	3.0
Single parent with dependent children	6	3.0
Single parent with non-dependent children, with or without others	2	1.0
Group household (e.g. share house with unrelated people)	45	22.4
Other family (e.g. parent with adult children)	4	2.0
Type of housing		
Separate house	1	0.5
Semi-detached with 1 storey	29	14.4
Semi-detached with 2 or more storeys	16	8.0
Flat or apartment (1 or 2-storey block)	14	7.0
Flat or apartment (3-storey block)	6	3.0
Flat or apartment (4-storey or more block)	6	3.0
Mobile house, caravan	4	2.0
Chronic health condition		
None	32	15.9
Arthritis	25	12.4
Back pain	19	9.5
Heart problem	14	7.0
Lung problem	8	4.0
Cancer	5	2.5
Depression	38	18.9
Anxiety	25	12.4
Other mental health problem	25	12.4
Other physical health condition(s)	120	59.7
Consulted a health professional in the past 12 months		
More than 12 times	94	46.8
7–12 times	19	9.5
2–6 times	53	26.4
Once	7	3.5
Never	20	10.0
Vaccination status		
Had 2 doses	170	84.6
Not yet, I have appointment for the first dose	1	0.5
Have appointment for second dose	11	5.5
Not yet, but I plan to	1	0.5
No, I do not plan to	2	1.0
Had 3 doses	9	4.5

5

Health literacy profiles, and ideas for action

The combined health literacy profiles cluster analysis (n=803) has been examined in more detail to identify clusters that have health literacy strengths and challenges similar to the health literacy profiles of the 4 Lead Providers. This process has revealed 7 clusters among the 12 that are discussed in more detail below. For the purpose of this discussion, these 7 clusters are discussed in relation to the core health literacy profiles (see Table 20).

This section provides information about each of the 7 clusters, including detailed social and health characteristics as reported by the participants, as well as vignettes representative of people within each cluster.

To represent the diversity within clusters, there are 2 or 3 vignettes related to each cluster. Clusters are not homogenous; people within them may live in different settings or have different social circumstances, and these types of details are drawn out in the vignettes in each cluster.

The vignettes presented here were discussed during Action Learning Workshops held with service providers from each of the Lead Providers. These discussions generated many ideas for actions that can assist people in similar circumstances to the people portrayed in the vignettes. The ‘action ideas’ associated with each category (A to C) have been collated and grouped into 5 themes to support:

- connection and referral to services
- building relationships between residents, proprietors and landlords
- provision of information about health and social services
- digital inclusion
- social connection.

Within each of these 5 themes, the action ideas have been further grouped into actions that apply to individual service providers, a community health team, a community health organisation, or action ideas that require organisations to work together.

The findings from the face-to-face interviews about participants’ communication and engagement preferences and needs are presented with reference to the core health literacy profiles (A, B and C).

Table 20 Grouping of combined health literacy profiles for discussion

Cluster ID from core health literacy profiles	Cluster ID from combined health literacy profiles	Descriptor
A	2, 3	People with fewer health literacy challenges than those in other clusters, but whose life circumstances (social determinants), create difficulties in accessing and understanding health and healthcare
B	4, 8	People who are not using technology to process health information and prefer to or need to access information about health and healthcare through their healthcare provider
C	7, 10, 11	People with multiple and significant health literacy challenges, combined with difficult life circumstances

5.1 Core health literacy profile A

Fewer health literacy challenges than others, but their life circumstances (social determinants), create difficulties in accessing and understanding health and healthcare

Of the 803 participants, 184 (22.9%) were within cluster 3, which is the largest of the 12 combined health literacy profiles. The majority (41.3%) of these participants were residing in the Star Health catchment area and many were living in either Tier 1 (public housing) (33.7%) or Tier 2 (unstaffed settings including rooming houses) (26.1%).

Almost half (44.6%) of the people within this cluster were born overseas, but the majority (88.6%) spoke English at home. Few participants were aged 65 years and older (25.5%) – a figure that corresponded with the number of retired participants (25%). With regards to employment status, 36.9% were in full or part-time employment and 9.2% were unemployed.

The relative youth of this cohort may, in part, explain why 44% of the participants reported living without a chronic condition (relatively low compared with other clusters). However, 20.7% of the participants reported experiencing depression and/or anxiety and 8.2% were in receipt of a disability support pension. The participants in this cluster reported a wide range of worries, with worries about money (29.3%) and work (16.8%) ranked among the highest. Other worries of note were keeping in contact with others (16.3%), physical health (20.7%) and mental health (17.4%).

Participants in this cluster had fewer health literacy challenges than those in other clusters. The mean scores of the health literacy scales indicate that these participants can usually follow health information (HLQ scales 5 and 9) and interact with health service providers when needed (HLQ scale 6). Participants in this cluster had relatively high levels of education: 17.4% had completed university and only 31% had not completed high school.

Based on these data, the vignettes developed for this cluster depict people residing in a rooming house ('Nick', 'Pierre' and 'Fran'). This health literacy profile was viewed as being typical of people who had travelled from overseas to work in Australia after completing university, or of international students.

Rooming houses may provide a low(er)-cost housing option. However, they are of variable quality and often residents only stay short-term, moving on when other options become available. The proprietors of rooming houses have been a key contact for the HRAR teams, which gave them information and support about COVID-19 public health restrictions, safety and preparedness.

Cluster 3
See Table 21

Table 21 Cluster 3: People who usually find it easy to engage with healthcare providers and understand health information

Cluster ID	Number in clusters	% in sample	1. Using technology to process health information	2. Understanding of health concepts and language	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	9. Understand health information well enough to know what to do
3	184	22.9	2.96	3.10	3.01	3.06	3.03	4.21	4.20
			eHLQ mean score range 1–4		HLQ mean score range 1–4			HLQ mean score range 1–5	
			Health literacy scales included in both the online surveys and face-to-face interviews						

Socio-demographic characteristics	
Age	
18–34 years	32.1%
35–64 years	42.4%
65 or above	25.5%
Female	50.0%
LGBTQ people	14.7%
Aboriginal and Torres Strait Islander peoples	5.4%
Born in Australia	55.4%
Language	
Spoke English at home	88.6%
Education	
Some high school or below	31.0%
Completed high school	23.9%
Certificate/Diploma	24.5%
Completed university	17.4%
Employment	
Full-time	17.9%
Part-time	19.0%
Retired	25.0%
Unemployed	9.2%
Disability pension	8.2%
Household type	
Single household	47.3%
Couple with/without others	26.1%
Single parent with/without children	10.9%
Group household	10.9%

^includes psychologist, psychiatrist, counsellor
*higher score, higher distress

Health and healthcare	
Chronic condition	
No condition	44.0%
Arthritis	12.0%
Back pain	15.2%
Heart problem	9.2%
Lung problem	8.7%
Cancer	4.9%
Depression	20.7%
Anxiety	20.7%
Average number of physical conditions	0.72
Average number of mental conditions	0.54
Frequency of healthcare consultation	
Over 12 times	20.7%
7–12 times	21.2%
Healthcare professionals consulted	
GP	70.7%
Mental health professional^	10.3%
Specialist	10.3%
Allied health professional	12.5%
Vaccination status at time of survey/interview	
2 doses	79.9%
1 dose	7.1%

Health Education Impact Questionnaire (heiQ) mean score	
2. Positive and active engagement in life	3.03
3. Emotional distress*	2.38

Worries Questionnaire	
Worried or very worried about ...	
Food	5.4%
Medicine	7.6%
Healthcare	9.8%
Caring for others	10.3%
Keeping in contact with others	16.3%
Caring for children	12.0%
Mental health	17.4%
Physical health	20.7%
Money	29.3%
Work or business	16.8%

Residential setting	
Tier 1 (Public housing)	33.7%
Tier 2 (Staffed settings)	5.4%
Tier 3 (Unstaffed settings)	26.1%
Tier 4 (Other settings)	7.1%
Unspecified setting	12.5%

Lead provider catchment area	
Connect Health	21.7%
Merri Health	17.4%
Star Health	41.3%
Peninsula Health	16.8%
Bendigo Community Health	2.7%
Survey type	
Online survey	80.4%
Interview	19.6%

Vignettes for cluster 3

Nick

Nick is a 21-year-old man who has been in Australia for 2 years. He came here via a working holiday visa with 5 other Irish men from the same county in Northern Ireland, where they were all trained as engineers. Due to COVID, the men were unable to leave Australia and return back home. Now they all live in the same rooming house.

Nick's engineering skills are not recognised at the same level in Australia, so he's had to take on other lower-paid jobs at the construction site to make a living, even though back home he'd be making a lot more money as a qualified engineer. He's been applying for other jobs more suited to his experience and expertise, but his visa status has made this difficult. The constant rejection has been getting him down and he worries about his financial security and having enough money.

Nick has seen a GP twice, but he finds it difficult to navigate his way around various health services, despite being a native English speaker and technologically savvy. The health system is so different in Ireland. He just hopes he never gets really sick because he and his mates wouldn't know where to go for help. He tries to keep fit and healthy, going for a run 2–3 times a week with one of his mates. And his job involves a lot of heavy lifting and manual labour.

He is hoping to return home soon, but the international border restrictions are so uncertain. He has to be fully vaccinated to go onto the worksite and he hopes this will also help with international travel.

Pierre

Pierre is a 21-year-old man, born in France. His English has become almost fluent during the 3 years he has been in Melbourne. Pierre arrived on a working holiday visa with 3 friends, and together they travelled around getting work on farms. After returning to Melbourne, the COVID-19 pandemic hit and Pierre found himself in an unknown, terrifying situation. Pierre and his friends all decided to stay in Melbourne in the hope they could continue to live and work.

The 4 young men moved into a rooming house a month after the pandemic began. Luckily, they had a car from their farm work and were able to quickly join and work for a delivery service, giving them a steady income flow. The rooming house has 10 apartments, and many residents have alcohol, drug and mental health issues. Pierre is quickly and easily influenced by his surroundings.

Despite having a roof over his head, a job and his friends, Pierre struggles with his mental health and now his drug use. On top of the lockdowns, missing his home country and family has started to take its toll. Because of the lack of healthcare available to him as an international visitor, and with private health being so expensive, Pierre has not been to a GP or even begun to look at services that can support him with his mental health and drug use.

Pierre feels lost, alone and unsure how to seek professional help. He would rather continue in his current lifestyle than even try to find support – he thinks he is worthless. The drug use has got to a stage where Pierre feels his only way to survive financially and keep his habit is through dealing. His behaviour is becoming increasingly erratic and violent (when he is using). The guilt he feels after he has used and is sober is too much to bear, so he turns again to using to numb the pain – a vicious cycle he is struggling to escape. Pierre and his friends are unsure if they made the right decision leaving France, but still hold on to the Australian dream of travel.

Fran

Fran is 37 years old, Australian-born, working full-time as a hotel cleaner, and living alone in a rooming house with 5 other people who seem to come and go. She doesn't mix with the others much as she's out most of the time working. She's working as much as she can to try and find somewhere else to live.

Fran has anxiety and is seeing a psychologist, who seems to understand her, but her therapy has been patchy during COVID restrictions, since she has only been able to attend via telehealth. She also had to cancel an appointment because of her work commitments; it took weeks to reschedule and she ran out of medications.

She uses the internet to look up health information, but prefers talking to her GP because she can ask her lots of questions, especially when she is unsure if the information is right. She thinks she is reasonably well-informed about health issues, especially COVID-19. There are posters and COVID-safe information in the shared kitchen and lounge room area, and the landlord has been really strict about following the guidelines since the pandemic started.

Cluster 2
See Table 22

Unlike cluster 3, cluster 2 is quite small, with 18 participants (2.2% of the total sample) – the second-smallest cluster. The participants were spread across Star Health (33.3%), Peninsula Health (27.8%) and Connect Health (27.88%) catchment areas, with very few from Merri Health (11.1%). Most were residing in Tier 1 (public housing) (61.1%).

Most (88.9%) were born in Australia and all spoke English at home. Among the 12 clusters, this cluster had the highest proportion (11.1%) of Aboriginal and Torres Strait Islander participants. This cluster also had the largest proportion (38.9%) of LGBTQ people. Very few (5.6%) of the participants were aged less than 35, with the majority aged 35–64 (55.6%).

With regards to employment status, none of the participants were employed full-time and only 11.1% were employed part-time. Most reported living with one or more chronic condition (88.9%). Of those who reported a long-term condition, the main physical conditions were arthritis (27.8%) and back pain (44.4%).

Compared to the other 12 clusters, this cluster had the highest proportion of people who reported seeing a mental health and allied health professional in the past 12 months, which may be a reflection of the high proportion of participants who reported experiencing depression (55.6%) and anxiety (50%).

The participants in this cluster experienced health literacy challenges primarily related to social support to assist in the management of their health concerns (HLQ scale 4). Most participants in this cluster lived alone (83.3%) – the highest proportion of any cluster.

Based on these data, the vignettes developed for this cluster depict people residing in Tier 1 public housing (low, medium or high-rise) settings, namely 'Debbie,' 'Paul' and 'Alex.'

Table 22 Cluster 2: People who generally have a good understanding of health information and are actively managing their health but lack social support

Cluster ID	Number in clusters	% in sample	1. Using technology to process health information	2. Understanding of health concepts and language	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	9. Understand health information well enough to know what to do
2	18	2.2	2.74	3.54	3.61	2.21	3.51	3.96	4.28
			eHLQ mean score range 1–4		HLQ mean score range 1–4			HLQ mean score range 1–5	
			Health literacy scales included in both the online surveys and face-to-face interviews						

Socio-demographic characteristics

Age	
18–34 years	5.6%
35–64 years	55.6%
65 or above	38.9%
Female	33.3%
LGBTQ people	38.9%
Aboriginal and Torres Strait Islander peoples	11.1%
Born in Australia	88.9%
Language	
Spoke English at home	100.0%
Education	
Some high school or below	44.4%
Completed high school	16.7%
Certificate/Diploma	16.7%
Completed university	22.2%
Employment	
Full-time	0.0%
Part-time	11.1%
Retired	33.3%
Unemployed	22.2%
Disability pension	11.1%
Household type	
Single household	83.3%
Couple with/without others	0.0%
Single parent with/without children	5.6%
Group household	11.1%

^includes psychologist, psychiatrist, counsellor
*higher score, higher distress

Health and healthcare

Chronic condition	
No condition	11.1%
Arthritis	27.8%
Back pain	44.4%
Heart problem	5.6%
Lung problem	16.7%
Cancer	5.6%
Depression	55.6%
Anxiety	50.0%
Average number of physical conditions	1.72
Average number of mental conditions	1.44
Frequency of healthcare consultation	
Over 12 times	50.0%
7–12 times	16.7%
Healthcare professionals consulted	
GP	72.2%
Mental health professional^	27.8%
Specialist	11.1%
Allied health professional	27.8%
Vaccination status at time of survey/interview	
2 doses	83.3%
1 dose	0.0%

Health Education Impact Questionnaire (heiQ) mean score

2. Positive and active engagement in life	3.04
3. Emotional distress*	2.59

Worries Questionnaire

Worried or very worried about ...	
Food	16.7%
Medicine	11.1%
Healthcare	44.4%
Caring for others	22.2%
Keeping in contact with others	22.2%
Caring for children	16.7%
Mental health	27.8%
Physical health	38.9%
Money	50.0%
Work or business	22.2%

Residential setting

Tier 1 (Public housing)	61.1%
Tier 2 (Staffed settings)	0.0%
Tier 3 (Unstaffed settings)	27.8%
Tier 4 (Other settings)	5.6%
Unspecified setting	0.0%

Lead provider catchment area

Connect Health	27.8%
Merri Health	11.1%
Star Health	33.3%
Peninsula Health	27.8%
Bendigo Community Health	0.0%
Survey type	
Online survey	72.2%
Interview	27.8%

Vignettes for cluster 2

Debbie

Debbie is 54 years old and lives in a caravan park. She's lived there for a couple of years. The rent is cheaper, and she couldn't find anywhere else to live that she could afford. She's had trouble finding work, and when she does, something always go wrong. Her last job waiting on tables at the local pub ended when the lockdowns stopped people dining in. Before that, she had a job waiting on tables in a nice café, but she had a depressive episode and wasn't able to turn up for work. Debbie wishes that she'd finished school and got some proper qualifications. It's too late now. She seems to constantly worry about money.

Debbie looks up information about health on her phone. Sometimes the information is confusing, but she checks with her GP. The GP has been helpful, especially with her depression. The medication took a while to work, but she feels much better now. The GP wanted her to see a psychologist, but Debbie really didn't want to do that. No way was she going to a 'shrink.'

Debbie feels like her depression has made it hard for her to stay in touch with her adult daughter and to keep friends. They don't understand what it's like and give up asking her to come around. When she does see her old friends, they are a bad influence, and together they end up drinking heavily for 3 or 4 days. Debbie's fully vaccinated so that she can (hopefully) continue to work in hospitality.

Paul

Paul is 73 and living in a unit owned by HousingVic. He's retired, but used to work as a cabinet-maker/carpenter. His back aches from all those years of hard work. He had good days and bad days. He keeps himself busy by doing odd jobs for his neighbours. They can't afford to pay him, but sometimes they give him a beer or some veggies. To be honest, he prefers the beer. He doesn't have much family support, so the occasional visit with a neighbour is good company – someone to have a beer with. But nobody really wants visitors since COVID, so he's been drinking alone.

He doesn't have a computer, and while his phone is fairly new, he really doesn't know how to use all its features. He knows how to place a bet on the tote and use the Victorian Government QR scanner app, but he doesn't use his phone to look up health information. That's what the doctor is for. Other than that, his main source of information is the radio.

He heard something the other day about a new treatment for arthritis and thinks it might help, but he can't remember all the details now, and besides, he wasn't sure if it would help an old fella like him. He'll try to remember to ask the doctor next visit, but he sees a new one each time he goes to the clinic, and they're always so rushed.

Alex

Alex is 52 and lives alone in low-rise public housing. Their long-term relationship with Jody ended recently and, while they know it's for the best, they really miss their company. Alex doesn't like living here; it's run down and there's often people yelling and arguing nearby. After finishing school, Alex had a steady job for a while, but then had a back injury at work and hasn't been able to hold down a full-time job since. Although WorkSafe were initially involved, they closed the case after Alex missed several appointments. The pain is terrible some days. Trying to manage the pain led Alex to alcohol and drugs. Alex stays away from all that now – the methadone helps.

Alex is out of work at the moment and finding it hard financially. Alex is worried about becoming depressed. Alex has mentioned it briefly to the GP, but the visit is usually about the back pain or the methadone, and the appointment is over before they have time to talk about it properly. Alex has never been to a mental health service. While Alex is worried about their physical health, they don't actively do things to keep healthy or seek out health information, feeling quite helpless. Alex has had both available doses of the COVID-19 vaccination, but only because of the pop-up clinic nearby. Alex feels quite lonely and hopeless at times.

Core health literacy profile A: action ideas

These action ideas were put forward by the HRAR program staff during the Action Learning Workshops. Some reflect what is already happening in practice; others are new ideas that have emerged from insights and lessons from data analysis and experience in the field.

They are proposed as ideas for future action and co-design, and are specific to people whose health literacy profile is similar to those in core health literacy profile A.

Connection and referral to services

Assessing the resident's needs and helping them to connect to relevant services

Individual service providers need to:	• when making referrals/connections, aim for local services that are drop-ins or easy to access • connect the resident with financial counselling to provide information, advice and advocacy • support the resident to access a GP or psychologist with extended hours, for flexibility around working hours (especially for those with irregular work patterns) • connect the resident to services for mental health support. This may include checking that they have medication and are attending appointments, and helping to refer them to mental health services	• be aware that some residents may have a previous history of trauma, especially from childhood or family violence, which may result in long-term mental health issues • encourage the resident to establish an ongoing relationship with a GP for continuity of care, so that they can speak to their GP about their health concerns • contact the GP (with resident consent) regarding referral to specialist services (e.g. rheumatology or mental health services)	• connect the resident with alcohol and other drugs services if requested • be aware that older people may be released from hospital without adequate discharge planning, so additional follow-up may be required • assist the resident to re-engage with service providers and agencies such as WorkSafe.
Community health teams need to:	• engage more holistically with the resident when they attend other community and health services (e.g. medical, housing, Centrelink) by providing information about other services they may need	• support/refer to 'hospital in the home' programs, because acute care settings can be challenging environments for many residents	• maintain relationships with community development officers/housing officers to advocate for necessary improvement of properties • link the resident with a specific mental health service for longer-term and continuity of care and support.

Connection and referral to services

Assessing the resident's needs and helping them to connect to relevant services

Organisations need to work together to:	• respond to resident's financial needs (e.g. through referral to the Salvation Army financial relief services, to financial counselling or to Centrelink – for assessment of entitlements and benefit)	• provide support for accessing employment opportunities, especially through overcoming 'bottlenecks' related to needing phone or internet access	• collaborate on follow-up care and support (e.g. working with agencies such as Bolton Clarke for post-discharge care).

Provision of information about health and social services (residents)

Provide information to residents about health and social services specific to their needs

Individual service providers need to:	• provide the resident with information about how to navigate the Australian health system, especially residents from overseas, or who have had limited experience with healthcare	• provide information about trusted websites to assist residents to recognise and find trustworthy information and help with appraisal of information	• assess whether residents may have family or friends who can help them find information that is trustworthy and relevant to their situation.
Community health teams need to:	• provide written information in easy-to-understand formats (e.g. plain language, pictograms, translated in languages other than English).		

Provision of information about health and social services (proprietors/landlords)

Provide information to proprietors/landlords about health and social services that may assist residents

Community health teams need to:	• provide the proprietor with information about the range of services available at community health organisations • provide the proprietor with information/ resources about health services to be made available to residents	• provide the proprietor with COVID-safe information and resources (e.g. PPE, hand sanitisers, information about vaccination, ongoing education)	• provide the proprietor with infection control training – education for proprietors and residents about infection control measures; maintaining hygiene in the house; how to avoid spread of germs.

Build relationships (residents)

Develop trust and rapport with the resident

Individual service providers need to:	• be non-judgemental and clear about the reasons for the visit, and provide regular visits, practical support and expressions of support (e.g. care packs that also serve to open a discussion about health and wellbeing)	• use requests for assistance (e.g. a resident needing wound dressing) as opportunities to treat and/ or educate residents on other matters.
Community health teams need to:	• ensure the team has experience working with people with similar issues (e.g. mental health, acquired brain injury, substance abuse, social and economic disadvantage).	

Build relationships (proprietors/landlords)
Develop trust and rapport with the proprietors/landlords

Community health teams need to:	• provide practical support (e.g. assist to develop COVID-safe plans, onsite risk assessments, regular contact)	• liaise with landlords/proprietors to support their engagement and communication with the residents about COVID safety	• understand the challenges faced by proprietors because of the knock-on effects of COVID-positive cases in rooming houses (e.g. residents unable to work and therefore unable to pay rent) and provide information and support where possible.
Community health services need to:	• establish communication processes with proprietors that could also extend to reach residents (e.g. establishing email communication)	• provide information to proprietors in ways that are easily understood (plain English and in languages other than English) and that explains the role of the community health service, distinguishing between this and regulatory authorities for the operation of a rooming house.	

Social connection
Provide support for the resident to overcome social isolation

Individual service providers need to:	• be mindful that older people are likely to have experienced considerable grief during the pandemic through loss of family, friends, relatives, and not being able to attend funeral services	• connect the resident to relevant community groups and activities (e.g. 'men's sheds', community gardens, volunteer opportunities such as Meals On Wheels).
Organisations need to work together to:	• provide a range of opportunities for social connection that are safe, welcoming and inclusive for people in all their diversity (age, gender, sexuality, language, culture).	

5.2 Core health literacy profile B

People who are not using technology to process health information and prefer to or need to access information about health and healthcare through their healthcare provider (noting that challenges with using technology have multiple causes, and effects vary according to people's circumstances and settings)

Cluster 4
See Table 23

Of the 803 participants, 44 (5.5%) were within this cluster. Most of these participants were living in either Tier 1 (public housing) (33.7%) or Tier 2 (unstaffed settings including rooming houses) (26.1%). The participants were spread across the Lead Provider catchment areas, with the largest proportion residing in the Peninsula Health catchment area (36.4%). Just under a third of these participants were born overseas (26.3%), but the majority spoke English at home (97.7%). Very few were aged less than 34 (2.3%), and just over half were 65 and older (52.3%) – a figure reflected in the proportion of retired participants (54.5%). Most participants in this cluster reported living with one or more chronic condition (86.4%), most commonly arthritis (22.7%).

This cluster had the lowest proportion of participants who reported experiencing depression (15.9%) and the lowest mean score for the heiQ scale 3 (1.98), as well as the smallest proportion of participants who reported being worried or very worried overall. Considered together, these findings suggest these participants may have enjoyed better mental health and wellbeing compared to those in other clusters.

While there were other clusters among the 12 that also had relatively low mean scores for eHLQ scale 1, (namely clusters 8, 9, and 12), the participants in this cluster had much higher mean scores for HLQ scales 6 and 9, indicating their preference for engaging with healthcare providers directly, and the strength of these direct relationships. Participants in this cluster do not actively engage with digital technology to find information about health or manage their healthcare (eHLQ scale 1). These participants also had lower levels of education compared to those in other clusters, with almost half not completing high school (47.7%).

Based on these data, the vignettes developed for this cluster depict older people residing alone in public housing, but with different backgrounds – 'Maree' and 'Doris.' This health literacy profile was viewed as being typical of people who had lived in public housing for some time and had established friendships and networks of healthcare providers within the local area.

Table 23 Cluster 4: People who prefer engaging with healthcare providers about health information and health rather than using technology

Cluster ID	Number in clusters	% in sample	1. Using technology to process health information	2. Understanding of health concepts and language	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	9. Understand health information well enough to know what to do
4	44	5.5	1.47	3.03	3.03	3.14	2.67	4.60	4.51
			eHLQ mean score range 1–4		HLQ mean score range 1–4			HLQ mean score range 1–5	
			Health literacy scales included in both the online surveys and face-to-face interviews						

Socio-demographic characteristics	
Age	
18–34 years	2.3%
35–64 years	40.9%
65 or above	52.3%
Female	45.5%
LGBTQ people	4.5%
Aboriginal and Torres Strait Islander peoples	4.5%
Born in Australia	72.7%
Language	
Spoke English at home	97.7%
Education	
Some high school or below	47.7%
Completed high school	22.7%
Certificate/Diploma	20.5%
Completed university	9.1%
Employment	
Full-time	4.5%
Part-time	4.5%
Retired	54.5%
Unemployed	6.8%
Disability pension	11.4%
Household type	
Single household	77.3%
Couple with/without others	4.5%
Single parent with/without children	4.5%
Group household	11.4%

^includes psychologist, psychiatrist, counsellor
*higher score, higher distress

Health and healthcare	
Chronic condition	
No condition	13.6%
Arthritis	22.7%
Back pain	9.1%
Heart problem	13.6%
Lung problem	13.6%
Cancer	13.6%
Depression	15.9%
Anxiety	13.6%
Average number of physical conditions	1.34
Average number of mental conditions	0.52
Frequency of healthcare consultation	
Over 12 times	45.5%
7–12 times	25.0%
Healthcare professionals consulted	
GP	88.6%
Mental health professional^	9.1%
Specialist	13.6%
Allied health professional	15.9%
Vaccination status at time of survey/interview	
2 doses	84.1%
1 dose	2.3%

Health Education Impact Questionnaire (heiQ) mean score	
2. Positive and active engagement in life	3.08
3. Emotional distress*	1.98

Worries Questionnaire	
Worried or very worried about ...	
Food	2.3%
Medicine	2.3%
Healthcare	2.3%
Caring for others	9.1%
Keeping in contact with others	6.8%
Caring for children	2.3%
Mental health	6.8%
Physical health	15.9%
Money	20.5%
Work or business	2.3%

Residential setting	
Tier 1 (Public housing)	33.7%
Tier 2 (Staffed settings)	5.4%
Tier 3 (Unstaffed settings)	26.1%
Tier 4 (Other settings)	7.1%
Unspecified setting	12.5%

Lead provider catchment area	
Connect Health	18.2%
Merri Health	18.2%
Star Health	20.5%
Peninsula Health	36.4%
Bendigo Community Health	6.8%
Survey type	
Online survey	40.9%
Interview	59.1%

Vignettes for cluster 4

Maree

Maree is 67 and retired, and has lived alone since her husband died 5 years ago. She worries about money and making ends meet, especially since her husband passed. She lives on the second floor of a 3-storey housing estate. Maree has painful arthritis flare-ups that she feels mostly in her back, which restricts her mobility. It is a bit difficult being on the second storey because of the stairs, but Maree doesn't really want to leave where she is. She likes to go walking, although sometimes she feels anxious about going too far from home.

Maree sees her GP regularly for medications and has had two COVID vaccinations. She finds it hard to find health information. Maree doesn't use the internet and resents that information is mostly provided online. She often wonders, 'Why does it have to be so hard?' She relies on her GP for information and gets confused by other information that doesn't make sense to her.

She has a few friends on the estate but no close family nearby. Her daughter lives interstate and she has a son that she has not been in touch with for a few years.

Doris

Doris is 72 and living in a unit owned by HousingVic. She really likes her unit and lives there with her little dog, Teddy. She's always taken good care of herself, but over the last couple of years her arthritis has been getting worse. It gets her down sometimes. Some days are worse than others. She used to have support from Home Help, but this has been scaled back because of the pandemic. She's grateful for her neighbour Christine, who often pops in to see if Teddy needs a walk.

Apart from her arthritis, which makes her feel old and worn out, Doris still feels young at heart. She keeps herself busy and enjoys social outings, while being careful with her money. Restrictions because of COVID have put a stop to most of these activities, and even when there aren't restrictions, Doris and her friends are scared of getting sick, so they stay home.

What's made all this worse is that everything is on the internet. Doris doesn't have a smart phone and didn't even have an email address. She feels like she's been left behind and in the dark. Christine (her neighbour) told her how to ring up and get her vaccination certificate sent to her.

Whenever she's wanted to know anything about health, she's always just asked her doctor. She just does what they tell her to do. All the information about 'exposure sites' and 'QR codes' is just gobbledegook to Doris. She watches the news, but it's so sad. Seems like so many people her age are sick and dying. She decides to stay home where it's safe.

Cluster 8
See Table 24

Of the 803 participants, 29 (3.6%) were in this cluster. Most of these participants were living in Tier 1 (public housing) (65.5%) and the majority were residing either in Peninsula Health (44.8%) or Connect Health (31%) catchment areas. Just under a third were born overseas, but all spoke English at home. None were younger than 34, and most were aged 65 years or older (58.6%) – a figure reflected in the proportion of retired participants. This cluster had the highest proportion of people who reported living with one or more chronic condition (93.1%), and the highest proportion of participants reporting a heart condition (24%).

Among the most commonly reported long-term health conditions were depression (37.9%) and anxiety (27.6%), and 44.8% of participants expressed that they were worried or very worried about their mental health. Participants in this cluster also had a relatively high mean score for the heiQ scale 3 Emotional distress.

These data suggest that participants in this cluster may have been experiencing mental health concerns. While most participants in this cluster were retired, 24.1% reported being unemployed and common worries related to food (27.6%) and money (58.6%).

Like those in cluster 4, participants in this cluster had relatively low mean scores for eHLQ scale 1, meaning that they did not actively engage with digital technology to find information about health or manage their healthcare. But these cluster 8 participants also scored relatively low on the scales relating to social support for health (HLQ scale 4), as well as on HLQ scales 6 and 9, indicating that their engagement and relationships with healthcare providers were not as strong as those of participants in cluster 4. These participants also had relatively low levels of education: the cluster had the lowest proportion (6.9%) of people who had completed university of the 12 clusters.

Based on these data, vignettes were developed to represent older residents, 'Boris' and 'George', with diverse health literacy strengths and needs.

Table 24 Cluster 8: People who can generally understand information well when it is provided, but who are not using technology for health

Cluster ID	Number in clusters	% in sample	1. Using technology to process health information	2. Understanding of health concepts and language	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	9. Understand health information well enough to know what to do
8	29	3.6	1.88	3.04	2.76	2.07	2.34	3.84	4.08
			eHLQ mean score range 1–4		HLQ mean score range 1–4			HLQ mean score range 1–5	
			Health literacy scales included in both the online surveys and face-to-face interviews						

Socio-demographic characteristics	
Age	
18–34 years	0.0%
35–64 years	41.4%
65 or above	58.6%
Female	41.4%
LGBTQ people	13.8%
Aboriginal and Torres Strait Islander peoples	6.9%
Born in Australia	72.4%
Language	
Spoke English at home	100.0%
Education	
Some high school or below	27.6%
Completed high school	41.4%
Certificate/Diploma	24.1%
Completed university	6.9%
Employment	
Full-time	0.0%
Part-time	3.4%
Retired	58.6%
Unemployed	24.1%
Disability pension	3.4%
Household type	
Single household	75.9%
Couple with/without others	10.3%
Single parent with/without children	3.4%
Group household	6.9%

Health and healthcare	
Chronic condition	
No condition	6.9%
Arthritis	24.1%
Back pain	27.6%
Heart problem	24.1%
Lung problem	3.4%
Cancer	10.3%
Depression	37.9%
Anxiety	27.6%
Average number of physical conditions	1.75
Average number of mental conditions	0.93
Frequency of healthcare consultation	
Over 12 times	37.9%
7–12 times	20.7%
Healthcare professionals consulted	
GP	82.8%
Mental health professional^	17.2%
Specialist	24.1%
Allied health professional	24.1%
Vaccination status at time of survey/interview	
2 doses	79.3%
1 dose	10.3%

Health Education Impact Questionnaire (heiQ) mean score	
2. Positive and active engagement in life	2.32
3. Emotional distress*	2.68

Worries Questionnaire	
Worried or very worried about ...	
Food	27.6%
Medicine	6.9%
Healthcare	17.2%
Caring for others	3.4%
Keeping in contact with others	20.7%
Caring for children	10.3%
Mental health	44.8%
Physical health	34.5%
Money	58.6%
Work or business	13.8%

Residential setting	
Tier 1 (Public housing)	65.5%
Tier 2 (Staffed settings)	0.0%
Tier 3 (Unstaffed settings)	17.2%
Tier 4 (Other settings)	10.3%
Unspecified setting	3.4%

Lead provider catchment area	
Connect Health	31.0%
Merri Health	10.3%
Star Health	13.8%
Peninsula Health	44.8%
Bendigo Community Health	0.0%
Survey type	
Online survey	79.3%
Interview	20.7%

^includes psychologist, psychiatrist, counsellor
*higher score, higher distress

Vignettes for cluster 8

Boris

Boris is 60 years old and came to Australia from Serbia when he was a young teenager. He lives alone in a one-bedroom unit, and his family live in Adelaide. He has been living with a range of health issues after being in a car accident more than 20 years ago. The accident changed everything in his life – his head injury meant he could no longer work, and he fell into depression.

Boris now takes medication to manage his mental health, but it doesn't seem to be working because he still has down days most of the time. He smokes heavily and drinks alcohol most nights (and some days) to deal with his pain and mood. He doesn't have a TV but keeps the radio on for company.

Over the past year, he hasn't needed to visit the GP very often, and he only goes to the chemist for his medication. He has a smart phone, but he doesn't know how to use all its features. He doesn't look for health online and has no idea how to access his vaccination certificate.

Boris doesn't like going out much, and he finds it difficult to talk to people. He only goes out if he needs to go to the supermarket or the chemist. Every now and again he might go for a walk, if he feels like the walls are closing in. He likes to stay in his local area. He worries about money because his pension doesn't always cover all his expenses.

George

George, 76, comes from a very large family of 10 children. They were raised by his mother, of whom he speaks very fondly. George's father struggled with alcoholism and his relationship with him suffered as a result. Still, like his siblings, George led a full and productive life. He became a flight attendant, travelling all over the world. All of his siblings have passed away, except for one of his sisters. He wishes she lived nearby instead of interstate.

George lives on his own in high-rise public housing. He used to enjoy his regular schedule, involving morning coffees at his local café with his friends from neighbouring public housing estates, as well as weekly lunches and other social events. The lockdowns and other COVID precautions have really affected him and he misses his friends.

Sadly, George was recently diagnosed with cancer. He's tried to keep a positive attitude, but found the regular radiotherapy treatments incredibly taxing. George is anxious that he may still have to undergo chemotherapy. During these times, George relies on the support and strength of his family and friends. George isn't tech-savvy, so he relies on the staff from the community health services, who are often downstairs, to help him find health information. They even helped to get his vaccination certificate.

Core health literacy profile B: action ideas

These action ideas were put forward by the HRAR program staff during the Action Learning Workshops. Some reflect what is already happening in practice; others are new ideas that have emerged from insights and lessons from data analysis and experience in the field.

They are proposed as ideas for future action and co-design, and are specific to people whose health literacy profile is similar to those in core health literacy profile B.

Connection and referral to services

Assessing the resident's needs and helping them to connect to relevant services

Individual service providers need to:	• provide a list of contact numbers for information and health services (e.g. to assist older people to remember important information, or use a diary or a calendar to record contact details) • support the resident to make appointments with health services (e.g. make a phone call on behalf of the resident, with consent) • support the resident to access health and social support appointments via telehealth, whether through phone or internet (e.g. use work phone; 4-way call with resident, community health worker, interpreter, health service)	• provide food/grocery vouchers, food relief and access to emergency services relief for food insecurity • connect the resident with financial counselling to provide information, advice and advocacy • advocate for more suitable accommodation and assist with housing transfer application • connect the resident to services for counselling or mental health support. This may include checking that they have medication and are attending appointments, as well as referring them to mental health services	• encourage the resident to establish a relationship with a regular GP for continuity of care, so that they can speak to their GP about their health concerns • connect the resident with alcohol and other drugs services if requested • assist the resident to access NDIS if requested • assist the resident to access My Aged Care support (e.g. aged care package).
Community health teams need to:	• provide in-home vaccination, COVID testing and support for people unable to leave their homes • work with local community GPs to address the cultural dissonance that may arise from traditional medicines and ways of managing health	• provide community transport options to access health and social support • maintain relationships with community development officers/housing officer to advocate for improved properties (environments) and for those residents whose accommodation needs have changed due to health issues	• link the resident with a specific mental health service for longer-term and continuity of care and support.

Connection and referral to services

Assessing the resident’s needs and helping them to connect to relevant services

Community health services need to:	• resource health hubs and other pop-up health clinics to identify and respond to health and social support needs (e.g. vaccination, COVID information)	• pilot/develop structures and systems to support connecting residents with required services that are tailored to both the intensity of support required to access services, as well as to the types of services required.	
Organisations need to work together to:	• respond to financial needs (e.g. by referring residents to the Salvation Army financial relief services, for financial counselling or to Centrelink – for assessment of entitlements and benefits)	• collaborate on follow-up care and support (e.g. working with agencies such as Bolton Clarke for post-discharge care)	• partner with other stakeholders and agencies (e.g. libraries, community hubs) accessible to the resident, to support connection to required services and information.

Provision of information about health and social services (residents)

Provide information to residents about health and social services specific to their needs

Individual service providers need to:	• provide information and reassurance about COVID-19 to supplement GP services and encourage relationship-building with the GP	• provide information in different languages about vaccination and COVID-19, especially about current restrictions (residents may not have television/radio)	• assess whether residents may have family or friends who can help them find information that is trustworthy and relevant to their situation.
Community health teams need to:	• provide written information in easy-to-understand formats (e.g. letter drops, flyers)	• provide information at different times, and repeatedly, as COVID advice changes rapidly and some residents may find it difficult to keep up with the latest information	• be aware of and gather information about misguided advice and misinformation in order to develop strategies to promote correct information.

Provision of information about health and social services (residents)

Provide information to residents about health and social services specific to their needs

Community health services need to:	• provide information in different languages about vaccination and COVID (e.g. for people in smaller culturally and linguistically diverse communities, such as the older Russian migrant community)	• customise materials and key messages for different community groups (e.g. about eligibility for vaccination).	
Organisations need to work together to:	• access different groups in the community (e.g. partnerships between translators, older Russian communities, community groups and online interpreters to provide customised information).		

Build relationships (residents)

Develop trust and rapport with the resident

Individual service providers need to:	• be non-judgemental and clear about the reasons for the visit, and provide regular visits, practical support and expressions of support (e.g. care packs)	• use requests for assistance (e.g. a resident needing wound dressing) as opportunities to treat and/or educate residents on other matters	• be aware that residents may have had negative encounters with government or people in authority, so may not be willing to engage.
Community health teams need to:	• ensure the team has experience working with people with similar issues (e.g. mental health issues, acquired brain injury, substance abuse, social and economic disadvantage).		

Digital inclusion

Support residents to access and use digital technology to manage their health and healthcare

Individual service providers need to:	• assist residents to set up MyGov and/or access a hard copy of their vaccination certificate	• teach residents how to use digital technology to be COVID-safe (e.g. scan QR codes, check exposure sites)	• provide residents with information about trustworthy and reputable digital sources of information.
Community health services need to:	• provide information in a variety of formats as alternatives to digital media	• ensure services can be accessed without reliance on digital technology (e.g. phone or paper-based referral in addition to digital portals)	• advocate for strategies to promote digital inclusion.
Organisations need to work together to:	• partner together to support residents to access education and support to effectively use digital technology for health and healthcare (e.g. computer classes, use of smart phones)	• improve digital connectivity, providing devices and broadband connection for residents to access the internet (e.g. through re-purposing equipment for community use).	

Social connection

Support residents to overcome social isolation and re-connect socially

Individual service providers need to:	• ensure residents have information and resources (e.g. masks, hand sanitiser) to be COVID-safe in social settings, to increase their confidence and willingness to socialise	• provide residents with information about community groups and opportunities for social connection that meet their interests and needs	• be aware that some residents are so socially isolated, their HRAR service provider is their only regular visitor or source of social support. An indication of this is a resident who reveals a lot about their circumstances (in case the HRAR service provider can assist them). However, residents may also be reluctant to engage, in an effort to keep themselves 'hidden.'
Community health services need to:	• provide opportunities for people to make social connections such as through community groups and community gardens, or at social events	• advocate for COVID-safe community meeting spaces and improved properties (e.g. reopening of community rooms in high-rise public housing)	• resource health hubs (e.g. in high-rise public housing) and other pop-up health services, which also help to establish rapport with residents and deeper connections, leading to provision (and acceptance) of additional health and social support.
Organisations need to work together to:	• support residents to create opportunities for social connection.		

5.3 Core health literacy profile C

People with multiple and significant health literacy challenges, combined with difficult life circumstances

Cluster 7
See Table 25

Of the 803 participants, 70 were in this cluster (8.7%). The majority were residing in the Star Health catchment area (47.1%) and many were living in either Tier 1 (public housing) (34.3%) or Tier 2 (unstaffed settings including rooming houses) (34.3%). The majority of the participants in this cluster were born overseas (65.7%) – the highest proportion in the 12 clusters. However, they mostly spoke English at home (74.3%). A small proportion of the participants were aged 65 years or older (12.9%); the remainder were 18–34 years old (42.9%) or 35–64 years old (44.3%).

With regards to employment status, almost half of the participants were in full or part-time employment (48.6%), and 20% were unemployed. The relative youth of this cohort may, in part, explain why 45.7% of the participants reported living without a chronic condition.

Of those who reported one or more long-term condition, 20% reported experiencing depression. Participants in this cluster reported a range of worries, especially worries about money (44.3%), physical health (38.6%), mental health (34.3%) and caring for children (30%).

Participants in this cluster experienced health literacy challenges related to engaging with healthcare professionals (HLQ scale 6). They had relatively high levels of education compared to those in other clusters: 51.4% had completed formal education after finishing high school.

Based on these data, the vignettes developed for this cluster depict middle-aged people ('Angela' and 'Robert', both in their 50s) residing in Tier 1 public housing (low, medium or high-rise) and Tier 2 (unstaffed settings including rooming houses) settings.

Table 25 Cluster 7: People who do not always share their concerns with healthcare providers and are attempting to take responsibility for their own health and healthcare

Cluster ID	Number in clusters	% in sample	1. Using technology to process health information	2. Understanding of health concepts and language	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	9. Understand health information well enough to know what to do
7	70	8.7	2.87	2.92	2.94	2.85	2.92	3.33	3.20
			eHLQ mean score range 1–4		HLQ mean score range 1–4			HLQ mean score range 1–5	
			Health literacy scales included in both the online surveys and face-to-face interviews						

Socio-demographic characteristics

Age	
18–34 years	42.9%
35–64 years	44.3%
65 or above	12.9%
Female	44.3%
LGBTQ people	8.6%
Aboriginal and Torres Strait Islander peoples	7.1%
Born in Australia	44.3%
Language	
Spoke English at home	74.3%
Education	
Some high school or below	22.9%
Completed high school	24.3%
Certificate/Diploma	25.7%
Completed university	25.7%
Employment	
Full-time	25.7%
Part-time	22.9%
Retired	10.0%
Unemployed	20.0%
Disability pension	2.9%
Household type	
Single household	45.7%
Couple with/without others	28.6%
Single parent with/without children	4.3%
Group household	14.3%

Health and healthcare

Chronic condition	
No condition	45.7%
Arthritis	10.0%
Back pain	11.4%
Heart problem	8.6%
Lung problem	0.0%
Cancer	4.3%
Depression	20.0%
Anxiety	12.9%
Average number of physical conditions	0.61
Average number of mental conditions	0.54
Frequency of healthcare consultation	
Over 12 times	14.3%
7–12 times	14.3%
Healthcare professionals consulted	
GP	50.8%
Mental health professional^	8.6%
Specialist	4.3%
Allied health professional	4.3%
Vaccination status at time of survey/interview	
2 doses	73.4%
1 dose	18.6%

Health Education Impact Questionnaire (heiQ) mean score

2. Positive and active engagement in life	2.86
3. Emotional distress*	2.75

Worries Questionnaire

Worried or very worried about ...	
Food	10.0%
Medicine	20.0%
Healthcare	22.9%
Caring for others	25.7%
Keeping in contact with others	22.9%
Caring for children	30.0%
Mental health	34.3%
Physical health	38.6%
Money	44.3%
Work or business	27.1%

Residential setting

Tier 1 (Public housing)	34.3%
Tier 2 (Staffed settings)	7.1%
Tier 3 (Unstaffed settings)	34.3%
Tier 4 (Other settings)	11.4%
Unspecified setting	8.6%

Lead provider catchment area

Connect Health	14.3%
Merri Health	11.4%
Star Health	47.1%
Peninsula Health	22.9%
Bendigo Community Health	4.3%
Survey type	
Online survey	90.0%
Interview	10.0%

^includes psychologist, psychiatrist, counsellor
*higher score, higher distress

Vignettes for cluster 7

Angela

Angela, 56, is originally from Italy, and lives in a one-bedroom community housing unit. She has been living in the unit for the past 4 years; before then she was homeless. Looking after her health has not been a priority and she's feeling the effects of this. She can't even begin to think when she last went to the dentist.

Angela does not have many people in her life whom she can call and ask for support, and she keeps to herself most of the time. After being homeless for more than 16 years, she has a good understanding of the different community supports that she can access. The local church, in particular, has really helped her with food, and there are a few people there she can talk to. Her Centrelink payments are not always enough and so she goes to the church if she runs out of anything. She worries about money a lot.

She is not working currently but was trained as a teacher and is also an artist. She hopes to get a job as a tutor, teaching students how to speak Italian. She has been living with arthritis in her hip, which affects her ability to walk, and she needs to use a walking stick. She understands some health information, but as English is her second language, she finds some things difficult, especially finding her way around websites.

Angela's finally found a GP she can see regularly, and the GP is helping her by arranging for surgery on her hip soon – but she's worried that her mobility will be impacted. Her unit is on the second storey and is only accessible via stairs. She is fearful that she may be required to find another place to live once she's had surgery. She does not want to be homeless again.

Robert

Robert is a 52-year-old man who has been single since his divorce several years ago. He lives in a community house. He has 2 grown-up children who have busy lives of their own, so he doesn't see them much these days.

Robert hasn't worked for a while. He'd like a job, but he hurt his back in a workplace incident 2 years ago and has struggled with the pain.

His local general practice has a few doctors who help him sometimes, but he doesn't have a regular GP. He just sees whoever is available when he drops in. Robert never used to take drugs, but now he'll drink or smoke something to get some relief from his back pain. He says it's not a problem and that he's got the drugs under control. However, his welfare payments don't seem to cover his expenses anymore.

Robert searches for health information on the internet using his phone, but sometimes runs out of data and can't afford to buy more. He set up a Facebook account to try to stay in contact with his kids, but doesn't believe anything about COVID that he reads on social media – he thinks it's full of conspiracies.

The community house has a lounge room and he watches the news sometimes with his friend from the house, Pete. He trusts Pete, and the two of them have long chats about what they're watching – like the footy, and lately, COVID-19 news. Robert isn't vaccinated yet, even though his kids say they won't see him again if he doesn't get jabbed. It's not that he's 'anti-vax,' he just doesn't understand how these new vaccines work or how to get online to make an appointment with a clinic. He wants to do the right thing, but it's hard to work out what to do.

Cluster 10
See Table 26

Of the 803 participants, 53 were in this cluster (6.6%). Most were living in either Tier 1 (public housing) (37.7%) or Tier 3 (unstaffed settings) (32.1%). They were residing mainly in the Merri Health (37.7%), Star Health (24.5%) and Peninsula Health (22.6%) catchments; a further 15.1% lived in the Connect Health catchment. A third were born overseas (34%), but most spoke English at home (84.9%). Most participants in this cluster were aged 35–64 (62.3%); fewer were 65 years or older (11.3%).

Most participants in this cluster reported living with one or more chronic condition (75.5%), and this cluster recorded the highest proportion of people in receipt of a disability support pension (18.9%). Among the most commonly reported long-term health conditions were depression (37.7%) and anxiety (32.1%). More than half the participants in this cluster said they were worried or very worried about their mental health (54.7%) and this cluster also recorded the highest mean score for the heiQ scale 3 (2.9: the highest level of emotional distress recorded among the 12 clusters).

While these data suggest that participants in this cluster may have been experiencing mental health concerns and emotional distress, very few (15.1%) sought help from a mental health service provider.

These participants reported being worried or very worried about a range of daily concerns including food (28.3%), healthcare (47.2%), and money (58.5%). Many participants lived alone (60.4%) and 45.3% reported being worried or very worried about keeping in contact with others.

These participants experienced many health literacy challenges, with low mean scores across all of the scales, particularly those related to engaging with health services and healthcare providers. A third of these participants did not complete high school (34%) but 46% reported completing post-school qualifications.

The mean score for the HLQ scale 3 suggests that while these participants are attempting to manage their own healthcare, their social, health and economic circumstances create significant barriers to access the care and support required.

Based on these data, vignettes have been developed to represent people experiencing vulnerability and disadvantage in many areas of their lives ('John' and 'Barry'). They have complex needs requiring multi-pronged and multidisciplinary approaches.

Table 26 Cluster 10: People who are attempting to manage their own health but have limited health and social support and can be confused by health information

Cluster ID	Number in clusters	% in sample	1. Using technology to process health information	2. Understanding of health concepts and language	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	9. Understand health information well enough to know what to do
10	53	6.6	2.46	2.67	2.87	2.31	2.50	2.40	2.70
			eHLQ mean score range 1–4		HLQ mean score range 1–4			HLQ mean score range 1–5	
			Health literacy scales included in both the online surveys and face-to-face interviews						

Socio-demographic characteristics

Age	
18–34 years	26.4%
35–64 years	62.3%
65 or above	11.3%
Female	54.7%
LGBTQ people	15.1%
Aboriginal and Torres Strait Islander peoples	9.4%
Born in Australia	66.0%
Language	
Spoke English at home	84.9%
Education	
Some high school or below	34.0%
Completed high school	15.1%
Certificate/Diploma	24.5%
Completed university	20.8%
Employment	
Full-time	15.1%
Part-time	13.2%
Retired	13.2%
Unemployed	17.0%
Disability pension	18.9%
Household type	
Single household	60.4%
Couple with/without others	17.0%
Single parent with/without children	7.5%
Group household	9.4%

Health and healthcare

Chronic condition	
No condition	24.5%
Arthritis	20.8%
Back pain	28.3%
Heart problem	5.7%
Lung problem	5.7%
Cancer	3.8%
Depression	37.7%
Anxiety	32.1%
Average number of physical conditions	1.02
Average number of mental conditions	1.08
Frequency of healthcare consultation	
Over 12 times	24.5%
7–12 times	32.1%
Healthcare professionals consulted	
GP	62.3%
Mental health professional^	15.1%
Specialist	7.5%
Allied health professional	20.8%
Vaccination status at time of survey/interview	
2 doses	67.9%
1 dose	1.9%

Health Education Impact Questionnaire (heiQ) mean score

2. Positive and active engagement in life	2.48
3. Emotional distress*	2.90

Worries Questionnaire

Worried or very worried about ...	
Food	28.3%
Medicine	30.2%
Healthcare	47.2%
Caring for others	20.8%
Keeping in contact with others	45.3%
Caring for children	24.5%
Mental health	54.7%
Physical health	50.9%
Money	58.5%
Work or business	37.7%

Residential setting

Tier 1 (Public housing)	37.3%
Tier 2 (Staffed settings)	3.8%
Tier 3 (Unstaffed settings)	32.1%
Tier 4 (Other settings)	1.9%
Unspecified setting	13.2%

Lead provider catchment area

Connect Health	15.1%
Merri Health	37.7%
Star Health	24.5%
Peninsula Health	22.6%
Bendigo Community Health	0.0%
Survey type	
Online survey	94.3%
Interview	5.7%

^includes psychologist, psychiatrist, counsellor
*higher score, higher distress

Vignettes for cluster 10

John

John is 42 and living in a rooming house. He's recently been away on holiday – or at least that's what he says when asked. He's been through a difficult time and is trying to get back on his feet. He's been in the rooming house for a few weeks now. It's going OK so far, but he's very anxious about anyone finding out that he's been in prison. He's become quite paranoid, keeping to himself and not interacting with others. There's a couple of sketchy men staying there. He heard what they did to someone else; apparently they needed 15 stitches and lost a lot of blood.

John has had to cut ties with many of his friends in order to start again. He has a young daughter he hasn't seen for 2 years. He worries about how he can get in touch with or support her, but also knows now is not the right time to be in her life. Her mother has made that quite clear.

John is looking for work. In the past, he's worked at all sorts of jobs, and now he'd like something steady and routine – maybe working in a warehouse. He didn't finish high school. He found it hard to learn and his home life was chaotic. He missed a lot of school. He can read enough to get by but isn't able to read and understand complex information. He prefers it if people explain things in a conversation, rather than in writing. He hasn't found a regular GP yet; he hasn't needed to go to the doctor. He's still on the methadone program and goes to the local pharmacy for this. The chemist helps him with any questions he has – not that he asks many. He just likes to get in and out of the pharmacy as quickly as possible.

John doesn't look up health information on the internet. He finds that information hard to read and confusing. He also doesn't know what's true or not, especially about COVID. He read some information a while ago that told him how to avoid COVID by washing his nose out with salty water. He asked the chemist who laughed at him and told him that was pointless. He is worried about his health, but just feels like he's got too much going on his life to do anything about it.

Barry

Barry is a 24-year-old man who's been living in a rooming house for the past 6 months, and is really unhappy there. He says all rooming houses are the same, so he may as well stay where he is. Barry's 'been around,' and compared to living on the streets or couch surfing, the rooming house is OK, but it's not great. Barry's childhood is a blur that he blocks out with various substances. There are plenty of people doing that in the rooming house and it's easy to score drugs. Despite his own substance use, he tries to keep away from the other residents.

The police are frequent visitors, especially because of the violence, like the other night when a resident was stabbed to death by another resident on the property. Barry was asleep at the time of the incident and the police woke him when they arrived. When he came out of his room, he saw the resident who'd been stabbed lying on the ground. He was not aware he was deceased and grabbed a blanket to put on him as he was worried he would be cold. The police then informed him he was dead.

Barry's seen this kind of thing before – it happens constantly in rooming houses. He doesn't like to go out too often as he has to take his valuables with him. He's had his stuff stolen before. No one respects other people or their property in these places.

Barry can't hold down a job because of his substance use. He is estranged from his family of origin for various reasons. He thinks about them though.

His health seems to be ok, although he has not had a check-up for a long time. It's too hard to do teleconference appointments. 'I can't do that stuff, it's too frustrating,' he thinks. 'If they don't want to see me, eff-'em.'

Barry doesn't look up health information. He appreciated the visits from the health centre, which gave him updates about the restrictions and COVID information. But he doesn't really care what happens to him anyway.

Cluster 11
See Table 27

Of the 803 participants, 101 were in this cluster (12.6%), the third-largest cluster of the 12. About one-third of these participants were living in either Tier 1 (public housing) or Tier 3 (unstaffed settings) (34.7%), spread fairly evenly across the 4 catchment areas. Most spoke English at home (87.1%), although 37.6% were born overseas. The age profile of this cluster is similar to that of cluster 10, with few participants aged 65 and older (10.9%). Also similar to cluster 10, most participants in this cluster reported living with one or more chronic condition (76.2%). While depression (48.5%) and anxiety (48.5%) were the most commonly reported long-term health conditions, few participants reported seeing a mental health professional (6.9%).

Of these participants, 55.4% expressed that they were worried or very worried about their mental health. Participants in the cluster recorded a relatively high heiQ mean score for the heiQ scale 3 (2.79). Like the cluster 10 data, these data suggest that these participants may be experiencing mental health concerns and emotional distress. These participants reported being worried and very worried about all of the daily concerns.

These participants experience many health literacy challenges, with low mean scores across all of the scales. This cluster had the highest proportion (27.7%) of participants who have completed post-high-school qualifications (certificate/diploma). Of the participants in this cluster, 34.7% were employed full or part-time and 25.7% were unemployed.

Based on these data, vignettes have been developed to represent people experiencing vulnerability and disadvantage in many areas of their lives ('Julie', 'Farid' and 'Peter'). They have complex needs requiring multi-pronged and multidisciplinary approaches.

Table 27 Cluster 11: People who do not have sufficient resources to manage their own health

Cluster ID	Number in clusters	% in sample	1. Using technology to process health information	2. Understanding of health concepts and language	3. Actively managing my health	4. Social support for health	5. Appraisal of health information	6. Ability to actively engage with healthcare providers	9. Understand health information well enough to know what to do
11	101	12.6	2.46	2.37	2.17	2.32	2.45	2.82	3.07
			eHLQ mean score range 1–4		HLQ mean score range 1–4			HLQ mean score range 1–5	
			Health literacy scales included in both the online surveys and face-to-face interviews						

Socio-demographic characteristics	
Age	
18–34 years	33.7%
35–64 years	55.4%
65 or above	10.9%
Female	47.5%
LGBTQ people	7.9%
Aboriginal and Torres Strait Islander peoples	6.9%
Born in Australia	62.4%
Language	
Spoke English at home	87.1%
Education	
Some high school or below	41.6%
Completed high school	15.8%
Certificate/Diploma	27.7%
Completed university	13.9%
Employment	
Full-time	12.9%
Part-time	21.8%
Retired	7.9%
Unemployed	25.7%
Disability pension	8.9%
Household type	
Single household	56.4%
Couple with/without others	13.9%
Single parent with/without children	13.9%
Group household	10.9%

^includes psychologist, psychiatrist, counsellor
*higher score, higher distress

Health and healthcare	
Chronic condition	
No condition	23.8%
Arthritis	17.8%
Back pain	27.7%
Heart problem	13.9%
Lung problem	6.9%
Cancer	5.0%
Depression	48.5%
Anxiety	48.5%
Average number of physical conditions	0.84
Average number of mental conditions	1.30
Frequency of healthcare consultation	
Over 12 times	15.8%
7–12 times	16.8%
Healthcare professionals consulted	
GP	63.4%
Mental health professional^	6.9%
Specialist	3.0%
Allied health professional	10.9%
Vaccination status at time of survey/interview	
2 doses	74.3%
1 dose	5.0%

Health Education Impact Questionnaire (heiQ) mean score	
2. Positive and active engagement in life	2.24
3. Emotional distress*	2.79

Worries Questionnaire	
Worried or very worried about ...	
Food	22.8%
Medicine	22.8%
Healthcare	31.7%
Caring for others	39.6%
Keeping in contact with others	30.7%
Caring for children	35.6%
Mental health	55.4%
Physical health	49.5%
Money	65.3%
Work or business	34.7%

Residential setting	
Tier 1 (Public housing)	34.7%
Tier 2 (Staffed settings)	5.9%
Tier 3 (Unstaffed settings)	34.7%
Tier 4 (Other settings)	8.9%
Unspecified setting	5.9%

Lead provider catchment area	
Connect Health	24.8%
Merri Health	25.7%
Star Health	25.7%
Peninsula Health	23.8%
Bendigo Community Health	0.0%
Survey type	
Online survey	98.0%
Interview	2.0%

Vignettes for cluster 11

Julie

Julie is 34 and a single parent of 2 children aged 7 and 5, both in primary school. They live together in a two-bedroom unit provided through community housing. Julie is unemployed. She was working at a small café (she has a Certificate III) but lost her job due to COVID lockdowns and lack of business.

Julie left her partner due to family violence, so for safety reasons she has cut herself off from her friends and doesn't answer the phone to unknown numbers or click on hyperlinks in text messages. This has meant she's missed some important calls and messages from Centrelink and health services. She doesn't answer the door to people she doesn't know. She trusts her neighbour Chris, who lets her know if anyone has been around and will pass on information.

She doesn't have a regular GP, but sees whoever's available at the bulk-billing service close by. She's worried about her mental health as she's been so down lately, but she's so busy looking after the girls (home schooling was very difficult) that she barely has time to look after herself.

She finds it difficult to understand all the information about COVID, especially about the vaccines. She's been vaccinated to protect her daughters and because she needs to get to another job in hospitality. But she made sure that one of her friends from her old job was around to look after the girls if she got really bad side effects. She is worried about whether it is safe for the girls to be vaccinated. She's not sure who to ask for this information as she doesn't want to be seen as anti-vax.

Farid

Farid is 27 years old and lives alone in low-rise public housing. Or he is meant to be living alone – he seems to have people staying most of the time. He wishes they would help with the rent or food, but people just seem to come and go. But he can't say no to people dropping around. His Centrelink payments aren't enough and he'd like to find a job, but his options are limited as he dropped out of school. Farid just couldn't seem to learn like the other kids.

Farid's got a mobile phone but sometimes loses it or forgets where he put it. He often runs out of credit and can't afford more. This means his access to online services (like Centrelink) and health services is patchy.

Lately he's been feeling really down. Farid's early childhood was difficult as his father had been in jail and there had been some family violence. Sometimes, these early memories come back and he finds it difficult to sleep. Drugs and alcohol help him to forget. He sometimes loses track of days but doesn't know how else to handle things. He's really worried about his health and wellbeing and just can't seem to get on top of things. He doesn't know where to go or who to talk to. He doesn't have a regular GP. Sometimes he worries it will be like this forever.

Peter

Peter is 66 years old but he feels (and looks) much older. He lives on his own in a unit. He came out from England with his parents when he was a teenager. He found the transition to a new school and a new country difficult, so he left school before finishing grade 10 to get a job in a warehouse. He worked for the same company for many years, learning how to drive the forklift and eventually getting his truck-driving licence. He enjoyed driving, but the long hours meant he rarely saw his family, and eventually his marriage broke down. He sees his family even less now.

Peter had a workplace accident – a truck crash which has had a long-lasting impact. He feels like his 'nerves are shot.' He had to leave his job and has been on a disability pension for a few years. What started out as a couple of beers after work each night to wind down has become more drinks than he can remember some nights. He finds it hard to make ends meet. Sometimes Peter feels like life is just too hard.

Years of sitting in the truck and heavy lifting in the warehouse have taken their toll and he has terrible back pain and arthritis in his knees. He's also overweight, with a truck driver's 'beer belly' that he can't seem to shift, which isn't helping his knees.

The doctor says it's not helping his heart either, and that he may get diabetes. The doctor tells him to exercise and eat better, and lay off the grog, which makes Peter feel like the doctor has no idea what life is like for him. How can he exercise when he struggles to get out of bed some mornings? And his knees! Peter knows that there's things that he 'should' do, but he's not motivated to change.

Peter has never learned how to use a computer and does not know his way around the internet on his phone. He doesn't go looking for health information. He asks the chemist if he has questions about medications, because the chemist explains things in ways he can understand.

Core health literacy profile C: action ideas

These action ideas were put forward by the HRAR program staff during the Action Learning Workshops. Some reflect what is already happening in practice; others are new ideas that have emerged from insights and lessons from data analysis and experience in the field.

They are proposed as ideas for future action and co-design, specific to people whose health literacy profile is similar to those in core health literacy profile C.

Connection and referral to services
Assessing the resident's needs and helping them to connect to relevant services

Individual service providers need to:	• provide assistance to meet urgent needs (e.g. mobile phone connection) • assess whether a case manager is required to coordinate support and care • when making referrals/connections, aim for local services that are drop-ins or easy to access • provide contact details for culturally appropriate and relevant services, especially for psychological issues • support access to free legal services	• connect the resident with financial counselling to provide information, advice and advocacy • support the resident to access a GP or psychologist with extended hours, to be more flexible around working hours (especially for those with irregular work patterns) • connect the resident to services for mental health support. This may include facilitating access to services, ensuring that they have medication and are attending appointments, and making referrals for them to mental health services	• be aware that some residents may have a previous history of trauma, especially from childhood or family violence, which may result in long-term mental health issues • encourage the resident to establish a relationship with a regular GP for continuity of care, so that they can speak to their GP about their health concerns • connect the resident with alcohol and other drugs services, if requested • refer to alcohol and other drug services if required/requested.
Community health teams need to:	• facilitate access to essential healthcare (e.g. pop-up vaccination clinics, health checks) • engage more holistically with the resident when they attend other community and health services (e.g. medical, housing, Centrelink) by providing information about other services that they may need	• maintain relationships with community development officers/housing officers to advocate for improved properties (environments) • link the resident with a specific mental health service for longer-term and continuity of care and support	• work in multidisciplinary ways to meet the resident's complex needs.

Connection and referral to services

Assessing the resident's needs and helping them to connect to relevant services

Organisations need to work together to:	• respond to financial needs (e.g. through referral to Salvation Army financial relief services, to financial counselling, or to Centrelink – for assessment of entitlements and benefit)	• provide support for accessing employment opportunities, especially for phone or internet access • provide follow-up care and support (e.g. working with agencies such as Bolton Clarke for post-discharge care or 'hospital in the home')	• identify community leaders/cultural elders who may be able to provide support and connection.

Build relationships (residents)

Develop trust and rapport with the resident

Individual service providers need to:	• be non-judgemental and clear about the reasons for the visit, and provide regular visits, practical support and expressions of support (e.g. care packs) • use requests for assistance (e.g. a resident needing wound dressing) as opportunities to treat and/or educate residents on other matters	• continue assertive outreach/in-reach engagement over extended periods to engage residents more successfully • be aware that residents may have had negative encounters with government or people in authority, so may not be willing to engage	• know and understand the reasons why someone may not answer the door (e.g. intimate partner violence).
Community health teams need to:	• ensure the team has experience working with people with similar issues (e.g. mental health issues, acquired brain injury, substance abuse, social and economic disadvantage)	• schedule regular visits and work in multidisciplinary ways to meet needs	• provide additional support to residents in low-rise estates where there is more short-term accommodation (meaning residents may be experiencing greater degrees of vulnerability and disadvantage).

Provision of information about health and social services (residents)
Provide information to residents about health and social services specific to their needs

Individual service providers need to:	• provide residents with information about how to navigate the Australian health system, especially for those who are from overseas, or who have had limited experience with healthcare	• provide information about trusted websites to assist residents to find trustworthy information and help with appraisal of information • assess whether residents may have family or friends who can help them find information that is trustworthy and relevant to their situation	• provide information to residents about vaccination, including for children • provide information in different languages about vaccination and COVID-19, especially about current restrictions (residents may not have television/radio).
Community health teams need to:	• provide written information in easily understandable formats (e.g. letter drops, flyers – including translated materials).		

Provision of information about health and social services (proprietors/landlords)
Provide information to proprietors/landlords about health and social services that may assist residents

Community health teams need to:	• provide the proprietor with information about the range of services available at community health organisations • provide the proprietor with information/resources about health services to be made available to residents	• provide the proprietor with COVID-safe information and resources (e.g. PPE, hand sanitiser, information about vaccination, ongoing education) • provide the proprietor with infection control training (education for proprietors and residents about infection control measures; maintaining hygiene in the house; how to avoid spread of germs)	• maintain positive relations with proprietors to enable visibility over operations and wellbeing potential of residents, and provide appropriate supports for effective operations.

5.4 Communication needs and preferences across the core health literacy profiles

Participants in core health literacy profiles A and B indicated that health service providers (including their GP and community health services) provided them with helpful advice about what to do to keep COVID-safe.

This was similar for core health literacy profile C, although these participants were more likely to refer to the community health centres rather than their GP. Personal networks (family and friends) were also sources of COVID information for many of these participants.

All participants in these clusters indicated that they were least likely to receive information about keeping COVID safe from social media and other indirect sources such as written materials.

When seeking information about COVID-19 more generally, participants in the core health literacy profiles relied on news sources most, more so than on health service providers, although these also featured prominently. Examples of news sources cited by the participants included ABC radio, Radio National, Channel 7 and Sky News. Participants in core health literacy profiles A and B also sought information about COVID-19 from the internet and social media, as well as from government sources, which were mostly provided via these media (e.g. websites, Facebook). Category C participants very rarely mentioned digital sources of information.

Participants in all of the core health literacy profiles tended to rely on healthcare providers to help them find and use health information, especially if they had a good relationship with their healthcare providers.

Participants in the core health literacy profiles specifically mentioned their GP, as well as community health services, as being particularly helpful (see Figure 14). In addition, these participants also shared and received information among their personal networks, including among family and friends, and community leaders.

Other sources of information accessed by these participants tended to be quite varied and included the internet, media, news sources, and printed materials. For this information to be helpful, the participants indicated it needed to contain sufficient detail, and be understandable (including translated). These participants emphasised the need for trustworthy sources of information Core health literacy profile C participants accessed far fewer sources of information overall than those in the other 2 core profiles.

When deciding whether to use health information, participants in all the core health literacy profiles were more likely to take the advice of their personal networks (family and friends) than of healthcare providers.

Participants also referred to their own skills and knowledge as being important personal assets when accessing and using health information. They referred to these as:

- knowing where to go to get information
- understanding health terms
- being able to look after their own health
- knowing what to do
- following guidelines.

Some participants referred to their ability to do their own research and exercise their own judgement. These participants described the features of health information that help them to use and apply the information, which they said should be:

- clearly set out (e.g. appropriate font size, visual cues)
- in plain English
- sufficiently detailed
- relevant
- easily accessible in different formats (e.g. written, verbal, media formats).

FIELDNOTES

My GP says it's good and I listen to my GP.

Participant living in low-rise public housing

Trusted GP, long relationship

Notes regarding a participant living in medium-rise public housing

Appreciates community health and support they provide

Notes regarding a participant living in low-rise public housing

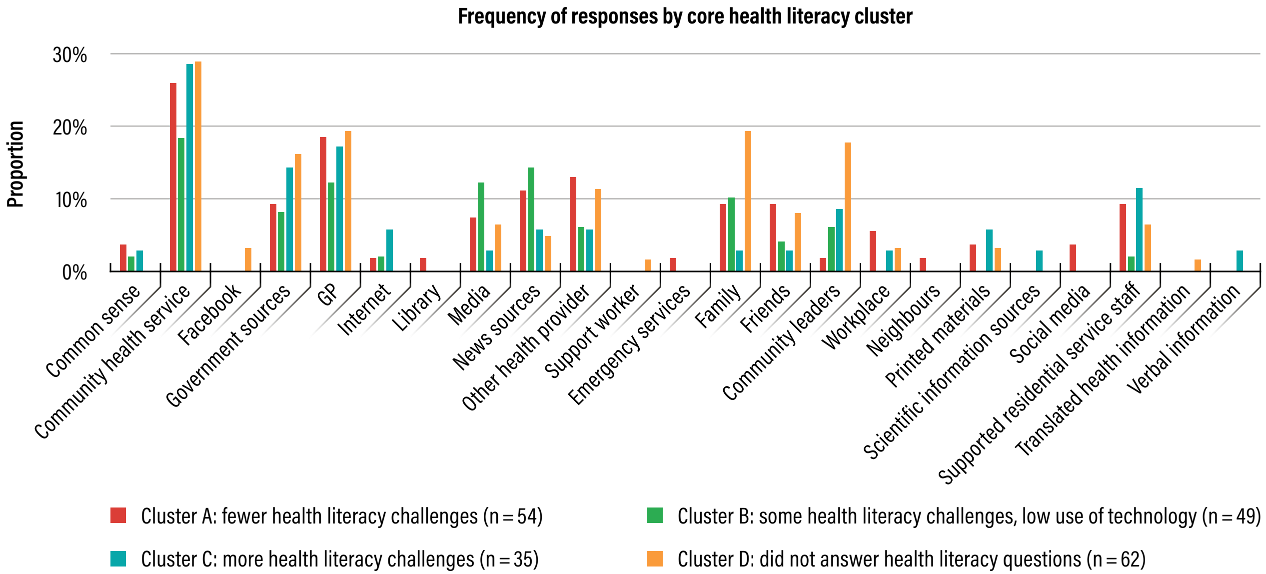


Figure 14 Sources of helpful advice to be COVID-safe

6

Discussion

Many people living in social and public housing in Victoria experience vulnerability and marginalisation. This vulnerability arises from economic, social, health and safety concerns that impact on and limit their access to information and services, as well as their understanding and use of these.

The economic and social marginalisation stemming from discrimination, poverty and structural disadvantages limits positive social connections and access to technology, reliable information and services that understand and support them, further constraining their ability to fully participate in their own health and healthcare, as well as in society.

This research found that, in some settings, living environments exacerbate and compound the vulnerability and disadvantage experienced by the residents. Such environments include poor living conditions and deteriorating physical surrounds, or may relate to, at times, the socially unacceptable or violent behaviours of other residents. In some instances, the manager or proprietor may have contributed to the negative experiences of the residents because, for example, they had poor compliance with health and safety regulations, including lack of appropriate PPE and equipment.

FIELDNOTES

Elderly male. Spent a lot of time talking about security issues. The conditions in the tower were really affecting him. Said that in the 6 years that he'd lived there he'd never had a good night's sleep due to disruptive activity through the night; shouting, banging, drug use. Notes more than one instance where he's been intimidated to let someone in the building when he didn't want to. Has been petitioning for years to have security and frustrated that it was still an ongoing issue. Doesn't go out after a certain time (when it gets dark) for fear for his own safety. Claims he'd feel safer sleeping on a park bench.

Notes regarding a participant living in public housing (high-rise)

The winding back and withdrawal of onsite support from service providers during COVID-19 public health restrictions (e.g., working from home, restriction of outreach to emergency or critical situations) also meant that there was further deterioration of the living environments which exacerbated other potential vulnerabilities. Online access to services was sometimes offered in place of onsite support, however, many residents were not able to access this technology.

In the Action Learning Workshops, staff from Lead Providers described how in some sites, where substantial numbers of people were experiencing vulnerability, it was challenging for the HRAR program to engage with the residents. Staff reported that security guards were required to accompany them to complete the onsite visits safely. This was evident at the commencement of the HRAR program, when the presence of staff on these estates was unusual and was sometimes met with hostility.

Over time, the residents came to understand the purpose of the onsite visits, to accept the support provided, and to be less hostile to HRAR staff. This is an indication of the rapport and trust established between the HRAR teams and residents over repeated visits.

> **Trust between the HRAR teams and the residents was established over repeated visits (or in some instances because of a daily onsite presence) and provided the foundation for relationships where knowledge and open support was able to be conveyed.**

While this research was not able to specifically study the long-term effects of the pandemic in these settings, it is well established that entrenched marginalisation and poverty lead to a plethora of health, emotional, mental health and social risks that are expressed over months and years as excess catastrophic health events and chronic disease, as well as additional risks to service providers and the broader community.[22] [23]

The costs are borne by society through direct health and infrastructure costs. There are further intangible costs to society that come from knowing that people's fundamental rights to health, education and services are denied and/or violated through structural inadequacies. The HRAR Lead Providers discovered community members with high and complex needs unknown or unseen by them previously.

When the HRAR program was established, the Lead Providers were aware that public health messages were not reaching some people, and that some people in these settings were disengaged and disconnected from health information and services. These people often have had poor experiences with health and social

---

22. Walter, M., Saggers, S., 2020. 'Poverty and social class.' *Social determinants of Indigenous health* (pp. 87–107). Routledge.
23. Isaacs, A.N., Enticott, J., Meadows, G., Inder, B., 2018. 'Lower income levels in Australia are strongly associated with elevated psychological distress: Implications for healthcare and other policy areas.' *Frontiers in psychiatry*, 9, p. 536.

services; the service provider, too, can have had poor experiences.

Residents were highly sensitive to staff attitudes and had a heightened alertness and response to rejection, judgemental attitudes and involuntary treatment. This research has provided an opportunity to understand why some people do not successfully engage with health services and why health services do not engage successfully with them.

The Lead Providers reflected that this research has highlighted long-standing issues and dilemmas associated with service provision to residents in these settings such as:

- higher funding costs for service models like the HRAR program (due to the need for specialist staff for engagement and outreach-based health and social services for people who can be difficult to engage). However, when engagement-based models are funded correctly, they improve health and social outcomes
- the priority (or lack of) for this cohort to receive funding and services provision, especially as their needs may be hidden
- the negative attitudes towards this cohort from some service funders and providers of health and social services
- the way in which staff satisfaction increases with this type of valuable work, because staff feel they are doing meaningful work, and residents show appreciation (the engagement alone is so positive).

The research project provided a rare opportunity to capture the voices and explore experiences of residents amid the service systems response to COVID-19. The research has provided a unique dataset and analysis process that has allowed the Lead Providers to deepen their understanding of the needs and issues facing the residents.

This information enabled better planning, evaluation and co-design of services that were more fit-for-purpose and ensured that those who find services hard to reach were reached, and remain engaged.

Through this research the Lead Providers were able to gather and build an evidence base about the proactive outreach and engagement-based model of health and social care embedded within the HRAR program. The outcomes the HRAR program teams observed included improved engagement, increased rates of vaccination uptake, and that the residents began to reach out to the HRAR teams for assistance with health and social support. The service model of HRAR is voluntary and non-judgemental, which has assisted the HRAR teams to be welcomed and accepted at residential sites, whereas previously police or security measures were required. This evidence base paves the way for future effective community engagement models that can have a profound impact on an organisations' capacity to respond to the needs of residents.

COVID-19 responses have required an extraordinary level of cooperation between services, governments and community. Underpinning this work are innumerable forums, network meetings and opportunities for shared work. Where appropriate and possible, the preliminary lessons from this research have been shared with these networks to ensure the lessons and voices from the HRAR program and residents were included as part of the collaborative service planning and development processes.

The lessons from the research have been used for advocacy work and directly incorporated into service planning. They include:

- awareness and understanding of how health literacy can be considered in the planning and provision of services
- using health literacy data to inform better tailored responses to these community cohorts
- enabling consideration of what is required to respond to diverse health literacy strengths, needs and preferences
- linking residents with services to support access to vital health and social services to improve their own and their family's wellbeing.

> **The research revealed that there was a lot of diversity among the health literacy, health and social needs of residents in each setting. Therefore, people living in certain settings cannot be considered a homogenous group that requires the same responses, resources and information from services. This means that our report recommendations cannot be that 'in this setting, this is what is required.'**
>
> **This research has shown that tailored responses are required for different groups within settings, as well as for groups with common needs across settings.**

Appendix: Templates for recruitment postcards

Help us to make this a COVID safe community

Insert logo from
Lead Provider

We need your help to better understand how to provide support and information to prevent the spread of COVID-19 in your community.

In the next two weeks we will be visiting your local area to invite people to take part in a survey about how they understand health information and healthcare.

If you would prefer not to be contacted about the survey or if you have any questions, please contact Shandell Elmer from Swinburne University of Technology.

Email: slelmer@swin.edu.au
Phone: (03) 9214 5372

We will give you a $30 supermarket voucher to thank you for your time.

This project has been approved by Swinburne's Human Research Ethics Committee (SUTHREC) Reference number 20215835-8042.

Help us to make this a COVID safe community

Insert logo from
Lead Provider

[insert QR code here]

We need your help to better understand how to provide support and information to prevent the spread of COVID-19 in your local community.

Please complete a survey –it will take about 20 minutes.

Scan this QR code for more information and to start the survey.

If you have any questions, please contact Shandell Elmer from Swinburne University of Technology.

Email: slelmer@swin.edu.au
Phone: (03) 9214 5372

We will give you a $30 supermarket voucher to thank you for your time.

This project has been approved by Swinburne's Human Research Ethics Committee (SUTHREC) Reference number 20215835-8042.

SWINBURNE UNIVERSITY OF TECHNOLOGY

Swinburne University of Technology, Victoria, Australia

Founded in 1908 by George Swinburne, Swinburne's roots run deep in a philosophy of self-improvement and the social and economic value of education. It was founded with a premise of equal opportunity education, to provide technical education to a sector of society otherwise denied further education, and in 1992, gained University status. Swinburne has committed to innovative education, strong industry engagement and social inclusion and has an international reputation for quality research that connects science and technology with business and the community.

Swinburne's combination of focused research, valuable industry collaborations and investment in cutting-edge technologies has driven significant research achievements and attracted recognition from around the world. The dedicated research institutes and research centres ensures we are at the forefront of discovery.

Swinburne's research findings have a far-reaching impact on science, industry and the broader community. The university's researchers have made discoveries that have dramatically influenced many disciplines, ranging from medicine to social services, astronomy and aeronautical safety. The University is home for 13 Highly Cited researchers across 15 disciplines (2021)

In the latest report of Excellence in Research Australia (2018), Swinburne achieved 36 disciplines as well above world standard. It is one of the world's top 300 universities (2023), placing in the top 1% of universities worldwide. It generated $57.1 m (2021) of total external research income.

ISBN 978-0-6454548-0-2