Sydney
Local Health District

Equity-focused health impact assessment of the COVID-19 pandemic in Sydney Local Health District

Technical report

Developed by the Health Equity Research and Development Unit 2023

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Acknowledgements

Title: Equity-focused health impact assessment (EFHIA) of the COVID-19 pandemic in Sydney Local Health District (SLHD): Technical Report.

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About this document:
This document describes the EFHIA governance, methods, evidence, impact characterisation, and recommendations.
There is a separate Summary Report (56 pages) and Supplementary Material (120 pages).

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About the Health Equity Research and Development Unit (HERDU):
HERDU is a partnership between SLHD and UNSW Sydney. HERDU's mission is to work in partnership with health services, organisations and communities to identify and reduce existing inequities in health and to prevent inequities in health from arising in the future.

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Sydney Local Health District acknowledges the Gadigal and Wangal Peoples of the Eora Nation as the traditional owners of the land on which the District is located and works.

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Foreword

Sydney Local Health District has a long-standing commitment to achieving health equity.

We are immensely proud of the way our staff and our community continue to support our equity-focused COVID-19 response. While the COVID-19 pandemic has affected us all, we have seen that some groups have experienced greater risks to health than others. The pandemic has prompted us to reflect on and adjust to new ways of working and living.

This equity-focused health impact assessment (EFHIA) was conducted by the Health Equity Research Development Unit (HERDU), a Sydney Local Health District service in partnership with the University of New South Wales Centre for Primary Health Care and Equity. HERDU work in partnership with health services, organisations and communities to identify and reduce existing inequities in health and to prevent inequities in health from arising in the future.

HERDU has carried out this EFHIA to support the District's pandemic response. This includes recovery from the COVID-19 pandemic and building resilience to future pandemics, as well as similar emergency situations.

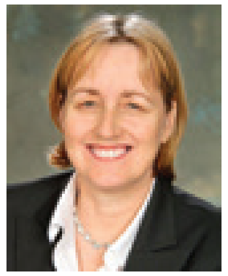
The District has been at the forefront of the state's response to COVID-19, with staff caring for critically ill patients in intensive care and hospital wards, working at testing clinics, surveillance sites and Special Health Accommodation, and building systems, sites and communication to support this important work.

Since 2021 our staff have been part of the biggest vaccination campaign in history, giving more than 1.6 million COVID vaccinations in our Vaccination Centres and in our community through our mobile vaccination program.

The COVID-19 pandemic has required us to pivot our existing engagement strategies and work in new ways to not only maintain our connection with our community and our networks, but also to work with our community groups and leaders and their networks to keep people safe from COVID-19. We are very proud of our strong partnerships and collaborations with our communities, together with other human service agencies.

We have begun to harness the strengths and incredible innovations from our COVID-19 response, to introduce new ideas into our organisation, change practice, and make plans for the future. This EFHIA report provides 22 equity-focused recommendations which will support future health equity action within the District and more widely.

We thank all those who contributed to the EFHIA. Thank you to our community partners for sharing your experiences, insights and observations – we are stronger together.



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Chair
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Contents

Figures

Tables

Abbreviations

ABS	Australian Bureau of Statistics
AOR	Adjusted odds ratio
CI	Confidence interval
CALD	Culturally and linguistically diverse
DCJ	Department of Communities and Justice
ED	Emergency Department
EFHIA	Equity-focused health impact assessment
GP	General Practitioner
HIA	Health impact assessment
HILDA	Household, Income and Labour Dynamics in Australia
IPAC	Infection Prevention and Control
IPV	Intimate partner violence
IRSD	Index of Relative Socioeconomic Disadvantage
LGA	Local Government Area
NCIMS	Notifiable Information Management System
NDIS	National Disability Insurance Scheme
NGO	Non-Government Organisation
OMT	Outbreak Management Teams
PPE	Personal Protection Equipment
RACF	Residential Aged Care Facility
SA2	Statistical Area Level 2
SA4	Statistical Area Level 4
SES	Socioeconomic status
SHA	Special Health Accommodation
SLHD	Sydney Local Health District
WFH	Work(ing) from home
WHO	World Health Organisation

Definitions

Culturally and linguistically diverse (CALD) people

The Australian Bureau of Statistics (ABS) defines the CALD population mainly by country of birth, language spoken at home, English proficiency, and other characteristics including, year of arrival in Australia, parents' country of birth and religious affiliation (ABS 1999).

Equity-focused health impact assessment (EFHIA)

An EFHIA has a specific focus on equity at each stage of the process. Health equity is concerned with creating equal opportunities for health and bringing health disparities down to the lowest level possible. Inequities arise when there are systemic differences in health status, health determinants/risks or access to health care between groups that are avoidable and unfair.

Health

Health has been defined as a characteristic of both individuals and whole communities. It can be defined as the absence of disease or as the presence of wellbeing.

a ‘Health is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity.’ Preamble to the Constitution of the World Health Organisation (WHO) as adopted by the International Health Conference, New York, 19 June - 22 July 1946*

b Health is ‘the social, emotional and cultural wellbeing of the whole community in which each individual is able to achieve their full potential as a human being, thereby bringing about the total wellbeing of their community. It is a whole-of-life view and includes the cyclical concept of life-death-life’.

Health equity

Health equity is the absence of avoidable or remediable differences in health among groups of people. Health equity is also the absence of systematic disparities in health (or in the major social determinants of health) between groups with different levels of underlying social advantage/disadvantage, wealth, power or prestige (Braveman, 2003). ‘Health equity is achieved when every person has the opportunities (goods, services and full participation in society) necessary to attain their full health potential, and when no-one is unfairly and unjustly disadvantaged from achieving this potential because of their social position or other socially determined circumstances’.

Health impact assessment (HIA)

A combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population (Policy, 1999).

The goal of undertaking a HIA is to provide a set of evidence-informed recommendations and considerations to assist with planning and implementation of the intervention. This enables the potential positive impacts of the intervention to be strengthened, and any negative impacts to be mitigated.

Health inequity

Health inequity arises when social groups are systematically and persistently denied fair and just access to the social resources and opportunities that are essential to becoming and staying as healthy as possible.

Health outcome

‘A change in the health status of an individual, group or population, which is attributable to a planned intervention or series of interventions, regardless of whether such an intervention was intended to change health status’ (Nutbeam, 1998).

Intersectionality

A theoretical framework for identifying and understanding how multiple social categories, such as race, gender, sexual orientation, socioeconomic status and disability, intersect at the level of individual experience to reflect interlocking systems of oppression (i.e., racism, sexism, heterosexism, classism) at the social structural level (Bowleg, 2012). Originating in Black feminist scholarship, intersectionality can help illuminate multiple and overlapping dimensions of social identities, and corresponding structural factors that contribute to unequal health outcomes.

Social determinants of health (SDH)

SDH are the non-medical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems.

Note on language and terminology

In line with NSW LGBTIQ+ Health strategy, we acknowledge that language matters and can contribute to 'recognition, trust and safety' (NSW Ministry of Health, 2022, p. 9). Language that is not inclusive on the other hand, risks exacerbating essentialism, cementing gender binaries and aggravating discrimination and alienation that can lead to poorer health outcomes. In this report, we use the term 'woman/women' inclusively and as encompassing cisgender and transgender women. We also use gender neutral terms like 'people' and 'person' in order to recognise and include transgender, non-binary and gender-diverse peoples' experiences. We note that some areas of care are more gendered than others, particularly perinatal care, child and family services, and services dealing with violence, abuse and neglect. In such contexts, we adopt a gender-additive approach with 'gender-neutral language alongside the language of womanhood' to ensure we are inclusive without erasing or marginalising the experiences of women using those services (Green & Riddington, 2020, p. 13). When quoting/citing literature, interview/focus group transcripts and data sources (Census, NSW Notifiable Information Management System (NCIMS), etc.), we reproduce the language used in the original source.

CALD label and Aboriginality

The population of the SLHD is rich in its cultural and linguistic diversity. Before invasion, the First Australians, Aboriginal and Torres Strait Islander people, were culturally and linguistically diverse, and continue to be so in contemporary Australia. The SLHD population includes a large number of Aboriginal and Torres Strait Islander residents from many different Nation groups. Post invasion, Australia has continued to be a nation of migration, with immigrants coming for different reasons and bringing multiple cultures, languages, religions and aspirations. The contemporary population of the SLHD is now a very diverse mix of long-established and recently arrived immigrants with very different life experiences, occupations or status. Despite these profound differences, migrants are often grouped together under the Culturally and Linguistically Diverse (CALD) label. People of CALD backgrounds are categorised as such based on their country of birth, languages other than English spoken at home, English proficiency and/or Indigenous status (Pham et al., 2021).

CALD status and Aboriginality are often used as proxies for vulnerability, deficit and deficiency, because of disparities in health outcomes compared to other groups. In some cases, difference/diversity/culture/language other than English is seen as a problem to be solved or a barrier to be overcome to achieve 'good health'. However, we recognise that reasons for inequities run deep and lie in the social stratification of society; the ways whiteness and the English language are positioned as the norm (in society and in the health system and health workforce), and the characteristics of health service design and delivery. Realities of socioeconomic disadvantage, racism and discrimination are the problem, not CALD people themselves.

Aboriginal and Torres Strait Islander people's status also needs to be distinguished from CALD status as Indigenous people occupy a distinct social location that cannot be reduced to one of cultural, linguistic or 'racial' diversity and difference. Histories of settler colonisation, dispossession and genocide in Australia carry long-term consequences in terms of socioeconomic and political marginalisation, poor health and trauma affecting Aboriginal and Torres Strait Islander people today. 'Closing the gap' in health inequality, requires transforming relationships and imbalances of power between Aboriginal and Torres Strait Islander people and non-Indigenous people in Australia.

1 Introduction

This is the technical report of a concurrent equity-focused health impact assessment (EFHIA) of the COVID-19 pandemic in the Sydney Local Health District (SLHD). The report identifies:

1. Current and potential future health equity impacts of the COVID-19 pandemic in SLHD, focusing on three main areas: risks and consequences of infection, changes to work and changes to health services
2. A set of evidence-based recommendations to inform SLHD's ongoing planning and response.

The first COVID-19 cases in SLHD were confirmed in January 2020. By 21 February 2022, there had been more than 100,000 cases, almost 4,000 hospitalisations and 253 fatalities (total population 640,000). The World Health Organization (WHO) declared COVID-19 a pandemic in March 2021. Shortly afterward, the Commonwealth and NSW governments commenced measures to slow transmission. These included national and state border closures, stay-at-home orders, restrictions on gatherings, selective business closures, school closures, contact tracing, testing requirements and, ultimately, curfews in "local government areas (LGAs) of concern". These measures were complemented by actions to protect and stimulate the economy, such as employment and income support, small business grants, commercial and residential rent relief and tenancy protections (Friel, Sharon et al., 2021). The COVID-19 vaccination program commenced in February 2021 and most restrictions and economic support had been withdrawn by April 2022. See Figure 3 for a visual timeline of key events.

Actions taken to reduce the transmission of COVID-19 undoubtedly saved lives. However, they also had negative impacts on health, adding to the disease burden of COVID-19. While the health risks and consequences of both the disease and the public health measures, affected the whole population, SLHD recognised at an early stage, the potential for people living in situations of vulnerability to be disproportionately affected.

We know from experience that certain places and population groups already have differing levels of access to the resources necessary to withstand and recover from sudden, overwhelming threats to their health and wellbeing. It is possible that pre-existing inequities may have been amplified by the responses to the pandemic, and that new inequities in health may have arisen in the absence of specific provisions being made within the policies and interventions adopted.

The health sector has a major role to play in working with communities (particularly the communities or population groups who already experience greater risks to health and wellbeing) to adapt and transform structures and services that enhance communities' and individuals' resilience, and to improve their health and wellbeing. Policies, practices and interventions implemented to reduce the spread of, and harms to health from, the COVID-19 virus, will also have ongoing consequences for the health and wellbeing of the population of the SLHD, for marginalised social groups and the wider region well beyond the current pandemic.

Figure 1, on page 16, describes the conceptual framework informing our understanding of how the pandemic and associated response impacted on health equity.

The starting point for understanding how COVID-19, changes to work and changes to health services impact on health equity are the existing health inequalities within the population of SLHD.

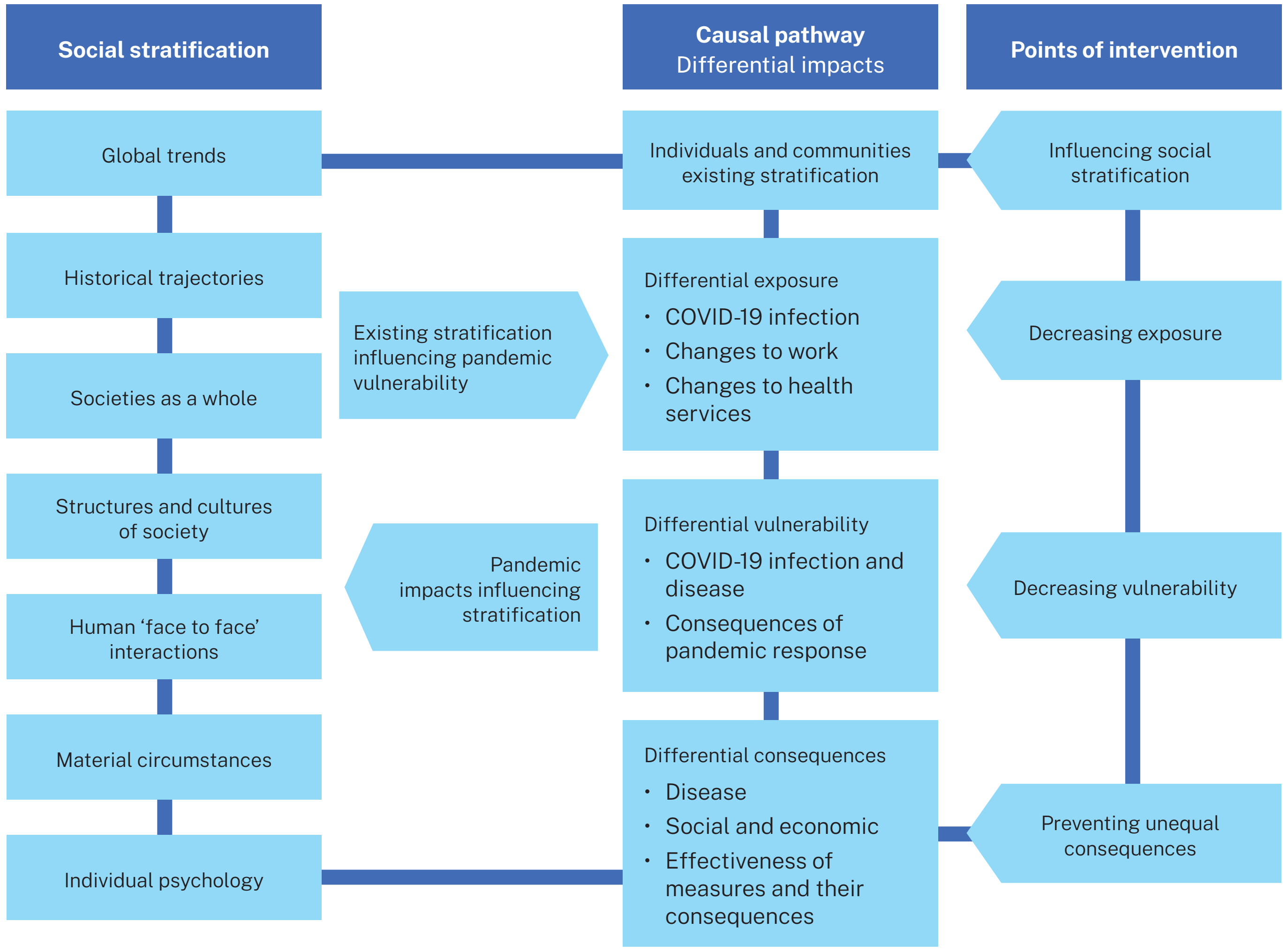
Individual, populations and communities have different levels of vulnerability according to their access to health determinants (social stratification).

This affects:

1. Who is exposed (to COVID, to changes to work and to changes to health services)
2. Differences in vulnerability once exposed
3. Differences in consequences directly from COVID-19 infection and indirectly through control measures.

Differences in health outcomes can occur at multiple stages and can occur directly through COVID-19 morbidity and mortality, or indirectly through social and economic pathways that lead to changes in health outcomes (causal pathways).

Figure 1 Conceptual framework for understanding health equity pathways and potential points of intervention



Source: Adapted from Diederichsen et al 2012 and Katikireddi et al 2021

These unequal experiences of the pandemic feed back into social stratification.

The multi-level and dimensional causes of health inequities means that there are also multiple places (points of intervention) to take action. These points of intervention range from addressing the existing causes of health inequalities (social stratification) that increase certain populations vulnerability, to addressing the unequal and inequitable health outcomes resulting from the pandemic and associated control measures.

1.1 What is an EFHIA?

The Health Equity Research and Development Unit (HERDU) was tasked with carrying out rapid evidence reviews and equity checks to inform SLHD's COVID-19 response in 2020 (Drysdale et al., 2020; HERDU, 2020a, 2020b, 2020c). A need was identified for a more systematic overview of the potential longer-term equity impacts resulting from COVID-19 and the actions taken in response to the pandemic. An HIA screening process supported the rationale for carrying out an EFHIA to inform medium-to long-term planning and response (see Supplementary Material). A proposal to carry out this EFHIA was approved by SLHD's Chief Executive (July 2021).

HIA is a structured process for considering positive and negative health impacts of a proposed policy, plan or other intervention before it is implemented or while it is underway (in the case of a 'concurrent HIA'). The goal of undertaking an HIA is to provide a set of evidence-informed recommendations and considerations to assist with planning and implementation of the intervention. This enables the potential positive impacts of the intervention to be strengthened and any negative impacts to be mitigated.

HIA provides a process through which evidence (of different kinds), interests, values and meanings are brought into dialogue between relevant stakeholders (such as decision makers, professionals and community members) to understand and anticipate the effects of change (such as a pandemic) on health and health inequalities in a population. HIA offers a way of ensuring that health, as understood by scientific experts, professionals and the people whose lives are affected, is considered in the planning process. The use of HIAs have now become widespread globally. HIAs have been shown to have a significant influence on health considerations being incorporated into the planning and implementation of decisions in a wide range of contexts.

An EFHIA has a specific focus on equity at each stage of the process. Health equity is concerned with creating equal opportunities for health and bringing health disparities down to the lowest level possible. Inequities arise when there are systemic differences, in health status, health determinants/risks or access to health care, between groups that are avoidable and unfair.

HIAs engage stakeholders in identifying and analysing evidence and in deciding on recommended options for change. For this EFHIA, stakeholders participated in focus groups and interviews, were involved in the Steering Committee and provided advice.

Feedback from community members has informed different parts of the EFHIA, including:

1. Identifying the focus (scope) of the project
2. Providing evidence about how they and their communities' health and wellbeing are potentially affected by an issue (in this case COVID-19 and the associated response)
3. Identifying actions that could be taken to mitigate negative impacts and enhance positive health impacts
4. Validation/critique of findings and prioritisation of recommendations.

Purpose of this EFHIA

This EFHIA will help SLHD (and other responsible agencies) to consider equity in its response to the pandemic, to prevent the reinforcement and expansion of existing health inequities and to prevent new ones from developing. This includes considering recovery from the current COVID-19 pandemic and building resilience to future pandemics, as well as similar emergency situations.

EFHIA activities

The project team for this EFHIA has:

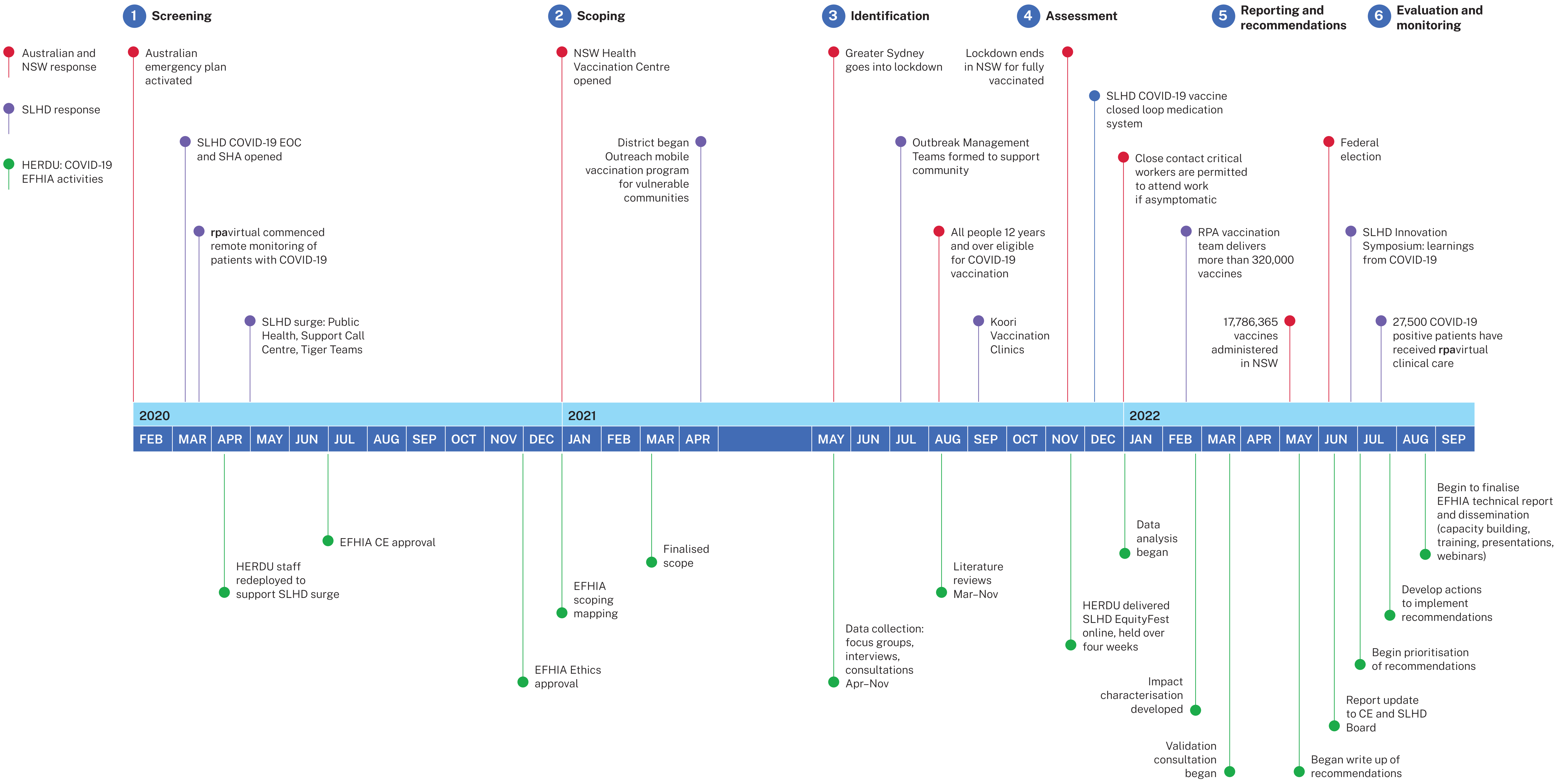
1 Systematically identified potential health equity impacts of COVID-19 and associated responses, and identified evidence of effective actions to reduce the likelihood of inequity

2 Identified evidence of systemic actions that can be taken by the health sector to protect vulnerable populations from the current and future pandemics

3 Worked with stakeholders to embed positive, evidence-based actions in the current pandemic response and develop strategies for implementation by the SLHD.

Figure 2 on page 18 describes key activities undertaken during the EFHIA and the COVID-19 pandemic response.

Figure 2 Timeline of COVID-19 response and EFHIA activities



Report structure

The remainder of this report is organised as follows:

Section 2: Method, describes the tasks carried out at each step of the EFHIA, as well as the governance arrangements.

Section 3: SLHD profile, describes the SLHD population, focusing on populations and health risk factors of interest.

Section 4: Evidence summary, summarises evidence collected through literature reviews, focus groups and interviews.

Section 6: Impact characterisation, synthesises and critically assesses the evidence. Finally, Section 7. Recommendations and next steps, presents the HIA recommendations.

2 Method

2.1 Overview

For this EFHIA, the process described in *Health Impact Assessment: A practical guide* (Harris et al., 2007) was adopted (see Figure 3).

An overview of the activities and outcomes for each step is provided in Table 1.

Figure 3 HIA steps

Source: Adapted from Health Impact Assessment: A practical guide (Harris et al., 2007)

Table 1 HIA steps

Step	Objective	Activity	Outcomes
1 **Screening**	To decide whether a HIA is feasible, timely and would add value to the decision-making process.	The HIA team applied an HIA screening tool to develop an overview of the proposal, the potential health implications and opportunities to influence. Brief requesting CE support to carry out EFHIA. Presentation to SLHD Board.	Decision made to conduct an EFHIA to inform SLHD long-term response to COVID-19 and to prepare for future pandemics.
1a **Equity checks**	To provide timely equity-focused advice to arising and urgent COVID-19 response issues,	Equity checks (separate to the HIA) were carried out on urgent and arising issues to inform SLHD response and planning involving rapid literature reviews, equity checks of emerging plans and recommendations to mitigate equity impacts.	Equity checks carried out on: boarding house response, high rise social housing response planning, family and domestic violence, people experiencing mental illness, staff wellbeing and pandemic fatigue, and vaccination implementation.
2 **Scoping**	To create a plan and timeline for conducting a HIA that defines priority issues, research questions and methods, and participant roles.	Thirteen scoping interviews and four consultation events were held with SLHD staff, community and consumer representatives to identify emerging equity issues, populations groups experiencing disproportionate impacts, and current equity-focused responses. Literature review of international literature supplemented by Australia specific literature review to identify COVID-19 related equity issues. Ongoing responsive equity-focused advice and input into emerging equity issues. Ethics approval to carry out focus groups and surveys with stakeholders and community members. Formation of Steering Committee. Scoping meeting held with the Steering Committee to determine focus of assessment.	Focus areas: 1 The impacts of the spread of COVID-19 on health equity 2 The impacts of changes to health services on health equity 3 The impacts of the changes to work including working from home and flexible work practices on health equity. Focus populations: Four focus groups were identified for the EFHIA: • CALD including new migrants, asylum seekers and refugees • Young people, particularly children and their families • Women • Older people • SLHD staff. In addition, there were other population groups potentially impacted and evidence will be included within the EFHIA where relevant. Focus timeframes: • Medium to long-term impacts of current pandemic • Future pandemics. Geographic focus: SLHD area.
3 **Identification**	Collect evidence to identify potential health impacts.	Baseline profiling of existing conditions and population using available data for SLHD context. Literature reviews focusing on reviews of evidence and literature identified and recommended by SC members and additional subject experts. Literature reviews carried out: • Changes to health services due to COVID-19 and health equity • Changes to the way we work due to COVID-19 and health equity • Changes to perinatal health care due to COVID-19 and health equity • Scoping review COVID-19 and Primary data collected from community members and key stakeholders to understand local context specific issues, how they and their communities' health and wellbeing were potentially affected by focus areas, and potential actions to mitigate health equity impacts.	Local data profile and analysis completed. Qualitative data from 64 key informants and stakeholders collected and analysed. Four Literature reviews completed Evidence collected and summarised in relation to three focus areas.
4 **Assessment**	Synthesise and critically assess the information in order to prioritise health impacts. Provide evidence-based recommendations to mitigate negative and maximize positive health impacts. Make decisions to reach a set of final recommendations for acting on the HIA's findings.	A workshop with SC and other relevant stakeholders to discuss and validate the findings of the assessment and develop recommendations for policy options and response.	Preliminary impact pathways, assessment matrices and evidence summaries developed. Draft recommendations. Validation of impact pathways and assessment matrices. Impact characterisation.
5 **Report on health impacts and recommendations**	To develop the HIA report and communicate findings and recommendations.	A draft report compiled by the HIA team and circulated to the SC for comment before finalisation.	HIA report detailing the methods, findings and recommendations of the HIA. The report to be translated into various communication documents and disseminated to SLHD, Community stakeholders and partners.
6 **Monitoring and evaluation**	To track the impacts of the HIA on the decision-making process and on the decision, the implementation of the decision and the impacts of the decision on health equity.	The HIA team work with SC to develop a plan to monitor the implementation of recommendations, evaluate the impacts of the EFHIA and conduct a process evaluation.	Monitoring and evaluation framework.

2.2 Screening

The goal of screening is to determine if an HIA is appropriate and useful. The EFHIA Project Team convened an initial internal workshop to develop an overview of the EFHIA, process, timeline and the potential for the EFHIA to influence health. A screening checklist was used and a screening report, summarising the justification for the HIA, was presented to and approved by the Steering Committee (see Supplementary Material).

2.3 Scoping

At the scoping stage, decisions are made about the focus areas and goals for the HIA, ways of working and opportunities to influence decision making processes. This involves making trade-offs in relation to timeframes, resourcing, number of areas of focus, and depth/type of evidence to be gathered. HIAs can range from desktop level (that may take a few hours or days) to comprehensive (involving many months, a wide range of focus areas and focus and primary data gathering).

To inform the scoping process, HERDU conducted 23 scoping interviews and focus groups to identify potential key focus areas and population groups. Staff from the departments/sections listed in Table 2 were interviewed.

Table 2 Scoping interviews

SLHD Board
SLHD Clinical Quality Council
SLHD RPAH Consumer Council
SLHD Canterbury Consumer Council
SLHD Can Get Health in Canterbury
SLHD Community Health Services
SLHD Carers Program
SLHD Aged Chronic Care, Rehabilitation and Chronic and Ambulatory Care
SLHD General Medicine, General Practice, Endocrinology, and Andrology
SLHD Integrated Care
Health Pathways
SLHD Disability and Inclusion
SLHD Disaster Management and Emergency Operations Centre
SLHD Aboriginal Health
SLHD Living Well Living Longer
SLHD Integration and Partnerships
SLHD Planning
SLHD Population Health
SLHD Diversity Hub
Canterbury Bankstown Council
Settlement Services International
Diabetes NSW
NSW Health Infrastructure

In addition, a rapid scoping review of the emerging literature on COVID-19 and health equity was undertaken. Searches were run in three databases (Ovid MEDLINE and Epub Ahead of Print, Embase and CINAHL) on 6 July 2020. The titles and abstracts of 1,589 articles were screened according to criteria presented in the Supplementary Material. The full texts of 225 articles were assessed for eligibility, of which 52 were included for qualitative synthesis. Additional publications were identified through ongoing monitoring of emerging literature and from scoping interviews.

An initial shortlist of seven focus areas (see Table 3) was identified from the scoping interviews. To narrow down this shortlist, a best-worst scaling (objective-case) survey was developed using a balanced incomplete block design, with k = 3 and b = 7. This type of ranking survey is well suited to cases where all alternatives are important, because it forces respondents to choose between them (Mühlbacher et al., 2016). The survey was administered through the Qualtrics XM online platform (Qualtrics XM, n.d.). Steering Committee members were invited to participate by email, and asked to consider the following criteria when choosing between focus areas:

1. Potentially significant health equity impact over the medium to longer term
2. Relevant to SLHD area (geographic scope, priority populations and workforce)
3. Areas where SLHD can act either directly, through the services provided by the district, or indirectly, through partnership and advocacy with other stakeholders
4. Areas where there are knowledge gaps around potential health equity impacts and/or actions that can be taken.

A total of n = 12 Steering Committee members provided complete responses. Focus areas were scored using a simple count-based approach (the number of times rated most important less the number of times rated least important). The final scores and ranking are presented in Table 3.

Table 3 Ranking of priority areas

Focus area	Best-worst scaling score	Rank
Access and availability of health services	20	1
COVID-19 differential (unequal) impacts	17	2
Changes to work – for SLHD staff and in SLHD communities	-4	3
Access and availability of services in general (excluding health services)	-5	4
Economic changes	-7	5=
Stigma/racism/discrimination	-7	5=
Social distancing/stay at home orders	-14	7

The three highest-ranked focus areas were selected, namely: access and availability of health services; COVID-19 differential (unequal) impacts; and changes to work – for SLHD staff and in SLHD communities. In addition to the Steering Committee consultation, community stakeholder consultation focus was carried out to confirm identified areas of focus. It was decided that the EFHIA should focus on:

a) Five priority populations: health workers, older adults, younger people, people from CALD backgrounds and women

b) The SLHD geographic area

c) Both short and long-term impacts of COVID-19 and future pandemics.

As the COVID-19 pandemic, and the responses to it, were already underway, a ‘concurrent’ EFHIA was required. Given the breadth and magnitude of the potential impacts, an intermediate-level EFHIA was deemed necessary.

2.4 Identification

The purpose of the identification stage was to develop a profile of the community and collect evidence to identify and assess potential health impacts and disparities. HIAs can rely on a wide range of evidence, and for this EFHIA we decided to:

- Develop a community profile using publicly available health and socioeconomic data (e.g., from the Census)
- Identify and assess potential health impacts and disparities by:
  - objectively assessing how the risks and consequences of COVID-19 infection varied across populations in SLHD, using data from NSW Health's Notifiable Information Management System (NCIMS)
  - conducting literature reviews of the focus areas
  - collecting and analysing evidence from community members and key stakeholders, through focus groups and interviews.

Ethics approval for the project was granted on 11 December 2020, by the SLHD Research Ethics and Governance Office (Protocol No. X20-0467 & 2020/ETH02564).

2.4.1 Community profile development

A profile of SLHD's population was developed, concentrating on the priority populations selected during the scoping stage. For each priority population, absolute numbers and proportions were obtained using the ABS Census Table Builder Pro application (Australian Bureau of Statistics, 2020).

Spatial distributions of the priority populations, as well as socioeconomic advantage and disadvantage, were mapped using ArcGIS geospatial software (Esri Inc., 2019). Where available, data were also collected about additional risk factors identified through the interviews, focus groups and literature reviews.

2.4.2 Assessment of risks and consequences of COVID-19 infection in SLHD

Differences in the risk of COVID-19 infection, hospitalisation and fatality across population groups and geographic areas in SLHD, were quantitatively assessed by analysing a line list of confirmed and probable COVID-19 cases recorded in NCIMS (NSW Health) up to and including 21 February 2022.

To begin with, the number of cases, hospitalisations and fatalities per 100,000 persons were mapped by suburb and using ArcGIS geospatial software (Esri Inc., 2019).

Next, the relationships between a suburb's level of socioeconomic disadvantage (as measured using the Index of Relative Socioeconomic Disadvantage [IRSD] (Australian Bureau of Statistics, 2016b) and its COVID-19 case, hospitalisation and fatality rates, were visualised using scatterplots and tested using the Pearson correlation method. This analysis was performed using Python version 3.9.7 (Python Software Foundation, 2022).

Finally, logistic regression was used to ascertain the effect of socioeconomic disadvantage (IRSD score), gender, Indigenous status and age on (a) the likelihood of a case being hospitalised and (b) the likelihood of a case dying from COVID-19. In both models, the Box-Tidwell procedure was used to confirm a linear relationship between IRSD score and the logit transformation of the dependent variable. This analysis was performed using SPSS Statistics version 26 software (IBM, 2019).

2.5 Literature reviews

In addition to the rapid scoping review of COVID-19 and health equity conducted during the scoping stage (see 2.3. Scoping, above), we carried out four literature reviews, focusing on evidence reviews and peer-reviewed literature:

1. Changes to health services due to COVID-19 and health equity
2. Changes to the way we work due to COVID-19 and health equity
3. Virtual care and health equity[1]
4. COVID-19, perinatal service delivery and health equity[2]

We also utilised grey literature, including SLHD reports and documents, reports from peak bodies, non-government organisations (NGOs) and universities and reports identified by key informants. Throughout the EFHIA process, grey literature was collected and included in a Zotero library of approximately 630 documents.

2.5.1 Changes to health services due to COVID-19 and health equity

To better understand the impacts of changes to health services due to COVID-19 on health outcomes and equity, we conducted a systematic review of the literature. Our aim was to capture recent literature documenting the consequences of pandemic-induced changes in health care (across access, availability, quality and appropriateness), with a particular focus on health workers, older adults, younger people (including children and their families), people from CALD backgrounds and women. We searched for peer-reviewed articles published since December 2019 in the PubMed, EMBASE, Web of Science and CINAHL databases. Our search strategy followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A set of search terms was developed using the PICO (population, intervention, context, outcome) framework and tested multiple times across the different databases to ensure that relevant articles with enough depth and breadth of information were being captured. The final search was conducted on 8 November 2021. The database search results were imported into Endnote, where duplicates were removed, before a single library was moved into Covidence systematic review software for title/abstract and full text screening.

Over 2,680 articles were screened at the title/abstract stage, with a sample double screened by two researchers (EA and CS). Because of the large volume of literature, inclusion criteria were tightened to focus only on high-income countries (as it was thought these would be most relevant to the SLHD context), and to exclude articles on virtual care, as it had already been the topic of a full literature review conducted by HERDU. Full text analysis was conducted (JP and EA) and 125 papers were included at the last stage. A summary of findings is included in the Supplementary Material.

2.5.2 Changes to the way we work due to COVID-19 and health equity

We carried out a systematic review of the impacts of changes to the way we work due to COVID-19 on health equity. We searched for peer-reviewed articles published up to 29 June 2021 in the PubMed, EMBASE and CINAHL databases. Our search strategy followed the PRISMA guidelines. A set of search terms was developed (see Supplementary Material) and tested across the different databases to ensure relevant papers with enough depth and breadth of information were being captured. The final search was conducted on 29 June 2021. Duplicates were removed using Endnote. The Covidence systematic review platform was then used for additional duplicate removal, title/abstract screening and full text review.

The titles and abstracts of 2,216 articles were screened against the criteria presented in the Supplementary Material, with a sample double-screened by two researchers (CS and FH). The full texts of 51 articles were reviewed, of which 41 were included for data extraction. A summary of findings is included in the Supplementary Material.

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[1] Literature review commissioned by Royal Prince Alfred (RPA) Virtual Hospital, separate to the EFHIA process.

[2] Literature review carried out as part of internship.

2.5.3 Virtual care and health equity

Separate to the EFHIA, HERDU was commissioned by RPA Virtual Hospital to carry out a literature review of virtual care and health equity. This scoping review included primary studies published between January 2010 and January 2021. Searches were run in three databases (MEDLINE, Embase and CINAHL) using both Medical Subject Headings (MeSH) and free-text keywords. After duplicate removal, the titles and abstracts of 1,990 were assessed against predetermined inclusion criteria for inclusion in the final review using Covidence. The full texts of 89 articles were screened, of which 41 were included in the review. Extraction was performed using a customised extraction tool, then a narrative synthesis was performed (statistical pooling was not possible due to the heterogeneous nature of the studies).

2.5.4 COVID-19, perinatal service delivery and health equity

A scoping review of the impact of COVID-19-induced changes on perinatal services delivery, with specific focus on health equity impacts, was carried out. EMBASE and PubMed databases were searched using both MeSH and free-text keywords, which were adapted according to the nuances of the electronic databases. Additionally, Google and Google Scholar were searched for relevant grey literature using a keyword search (“maternity care” and COVID-19 and “health equity”). An additional search for relevant literature in the bibliographies of the selected articles was also conducted during the full text review process (snowballing). The database searches yielded 300 articles, of which 14 were included in the review.

2.6 Qualitative primary data

Primary data were collected from community members and key stakeholders (n = 64) to understand issues specific to the local context and how they and their communities’ health and wellbeing are potentially affected across the three focus areas, and to identify potential actions to mitigate health equity impacts. In the identification stage, 18 interviews and five focus groups with a total of 46 people were carried out, recorded and professionally transcribed. Transcripts were analysed using Nvivo Pro (version 12) software. A coding framework encompassing overarching headings (what, who, how, impact characterisation, recommendations) was applied. In addition, summaries of every interview and focus group were developed. Narrative summaries of key themes – such as barriers and facilitators, mental health impacts, equity-focused responses, changes to work, changes to health services – were developed.

2.7 Assessment

In the assessment stage, we synthesised and critically assessed the evidence gathered in the identification stage to describe key health equity impacts. As much as possible, we triangulated data from interviews, focus groups, literature and local data.

To develop impact statements, we used evidence of health equity impacts that had already occurred during the pandemic, and predictions for ongoing and future impacts, with knowledge and evidence of the key determinants and pathways of how health inequities occur.

Impact statements characterised the evidence and culminated in a prediction of potential long-term health equity impacts. Impacts were characterised according to: direction of impact, likelihood, severity, level and timeframes of impact. The likelihood of impacts occurring was judged on two dimensions, strength of evidence and the potential likelihood of occurrence. Impacts where evidence from the literature, interviews and local data aligned, were given the highest value in terms of confidence in the prediction.

2.8 Recommendations and reporting

We developed recommendations to mitigate negative health equity impacts and support and maximise potential positive health equity impacts. During key informant and stakeholder interviews, participants were asked to suggest recommendations. Evidence-based recommendations were identified from literature review articles and Steering Committee members were asked to identify priority recommendations. Recommendations were collated and assessed in relation to; link to causal pathway, equity focus, feasibility and link to SLHD potential areas influence. A proposed set of recommendations were then circulated to the EFHIA Steering Committee, interview and focus group participants and other key stakeholders for comment and further prioritisation. A revised set of recommendations was then included in the final report.

This technical report, describing the process, evidence, impact characterisation and recommendations, and a separate summary report were then developed.

2.9 Governance

The EFHIA was conducted by an EFHIA Project Team composed of HERDU staff, with oversight by a Steering Committee consisting of SLHD, community and consumer representatives. The EFHIA team reported to the SLHD Chief Executive and Board as required. The EFHIA was guided by terms of reference approved by the Steering Committee (See Supplementary Material).

The Steering Committee’s roles were to:

1 Oversee the conduct and progress of the EFHIA

2 Advise on priority health equity issues and their potential impacts

3 Advise on evidence to be included in the EFHIA

4 Feedback research findings and other relevant information to inform recommendations and practice translation.

This EFHIA was underpinned by an explicit value system. Decisions by the Steering Committee were based on the following principles:

- The health and wellbeing of the residents and staff of SLHD is our priority
- We utilise a broad understanding of health defined in the context of the wider determinants of health
- Equitable – through a presumption in favour of achieving health equity. Inequities are differences in health status which are unnecessary, avoidable, unfair and unjust
- Democratic – emphasising the rights of people to participate in major decisions that affect their lives and, through EFHIA, enabling people to actively participate and contribute to decision making processes
- Value – will be placed on all sources of information including information from available literature, data, community consultation and interviews
- Transparent – including the documenting of the process and findings
- Respecting – different opinions and working together to resolve differences in views
- Shared ownership – the EFHIA should be jointly owned by the decision-makers, the investigators, the affected community and stakeholders.

3 SLHD profile

In NSW, Local Health Districts (LHDs) are established as statutory corporations under the Health Services Act, 1997. They are responsible for managing public hospitals and health institutions and for providing health services to defined geographical areas of the State (NSW Health, 2020). Eight local health districts cover the greater Sydney metropolitan regions, and seven cover rural and regional NSW (NSW Health, 2022c).

SLHD is located in the central and inner west of Sydney and encompasses a total land area of 126 square kilometres. The traditional custodians of the land in SLHD are the Gadigal, Wangal and Bediagal people of the Eora Nation (NSW Health, n.d.). The SLHD is comprised of seven complete LGAs: Ashfield, Burwood, City of Canada Bay, Canterbury City, Leichhardt, Marrickville and Strathfield. In addition, two of the four Statistical Local Areas (SLAs) of the City of Sydney LGA are included within SLHD's eastern boundary (Sydney Local Health District, 2013).

With about 16,000 staff, SLHD is responsible for providing health care services to more than 700,000 people living within its boundaries, as well as many more from rural and remote parts of NSW and Australia. The SLHD also cares for more than a million people who travel into the area each day for work or study or to visit (Sydney Local Health District, 2021).

The SLHD is home to the Royal Prince Alfred (RPA), Concord, Canterbury, Balmain and Sydney Dental hospitals as well as a range of integrated community healthcare services, including community health, mental health, drug health and aged care services (Sydney Local Health District, 2021).

Rich in cultural and social diversity, more than half of the SLHD's population speak a language other than English at home, including significant numbers of refugees, asylum seekers and special humanitarian entrants. The major languages spoken at home include Chinese languages, Arabic, Greek, Korean, Italian and Vietnamese (Sydney Local Health District, 2021).

SLHD is one of the most densely populated LHDs in NSW and it is experiencing a period of rapid transformation and growth. The population is growing more rapidly than that of NSW, increasing by 67,381 (10 per cent) over the last five years (Sydney Local Health District, 2021). It is projected to grow by a further 26 per cent from 2021 to 2036, and is expected to reach 766,530 by 2026 and 895,790 by 2036 – a growth rate of 40% (Sydney Local Health District, 2021). The area is already densely populated, with more than 5,000 residents per square kilometre (Sydney Local Health District, 2021).

This community profile is for SLHD residents only.

3.1 Priority populations

3.1.1 Health workers

In the 2016 Census, there were 22,123 health workers living in SLHD (Australian Bureau of Statistics, 2016e). Of these, 48% were working in a hospital. The highest concentrations of health workers lived in the suburbs surrounding the RPA Hospital campus in Camperdown (see Figure 4, below).

3.1.2 Older adults

In the 2016 Census, 12% of SLHD's population (76,339 people) were aged 65 years or older (Australian Bureau of Statistics, 2016a). Eastern and north-western parts of the SLHD had the lowest proportion of people aged 65 years or older (Figure 5, below). SLHD's population is ageing, with the number of residents aged over 70 projected to increase 65% by 2031 (Sydney Local Health District, 2018). There are over 4,500 people living in residential aged care facilities (Sydney Local Health District, 2018).

Figure 4 Number of health workers per km^2 by SA2

- ▢ 50.57–113.4
- ▢ 113.5–220.3
- ▢ 220.4–288.3
- ■ 288.4–370.1

Source: Australian Bureau of Statistics, 2016e

Figure 5 Percentage of residents aged over 65 years by SA2

- ▢ 5.068983–8.366304
- ▢ 8.366305–11.304381
- ▢ 11.304382–15.177379
- ■ 15.177380–19.021074

Source: Australian Bureau of Statistics, 2016a

3.1.3 Culturally and linguistically diverse

About 8% of the SLHD population speaks little or no English, and about half speaks a language other than English at home, including significant numbers of refugees, asylum seekers and special humanitarian entrants (Sydney Local Health District, 2018). Western and Eastern parts of SLHD have the highest proportion of people who speak a language other than English at home and/or were born outside Australia (Figure 6 and 7, below). The major languages spoken at home include Chinese languages, Arabic, Greek, Korean, Italian and Vietnamese. A significant number of Aboriginal and Torres Strait Islander people live in the SLHD, notably in Redfern-Waterloo, the City of Sydney and Marrickville.

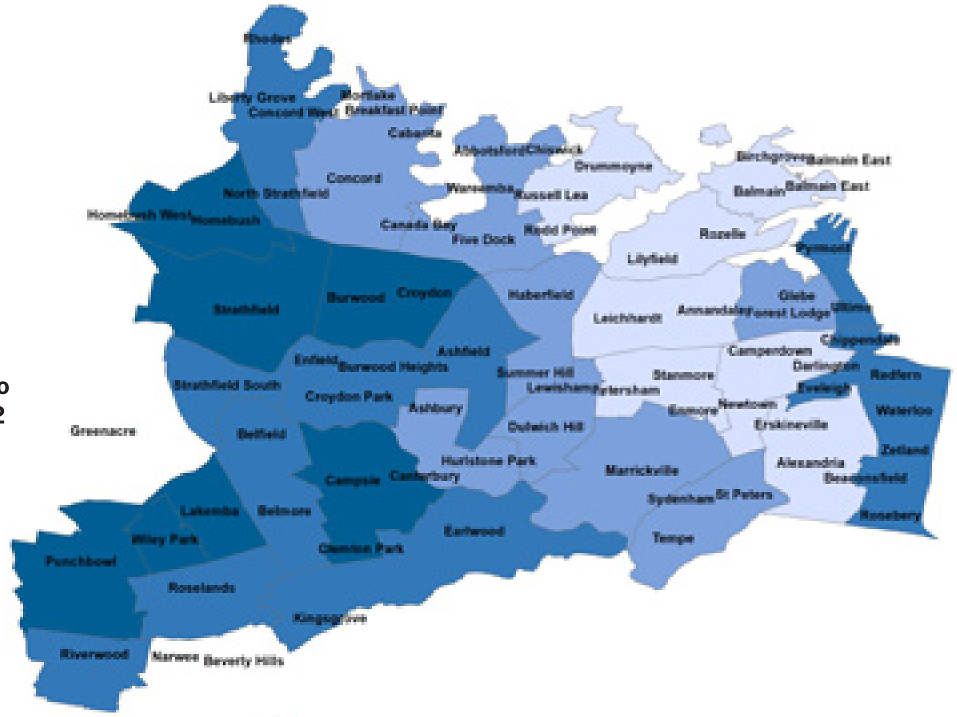


Figure 6 Percentage of residents who do not speak English at home by SA2

▢	19.762846–31.610306
▢	31.610307–48.339554
■	48.339555–68.466791
■	68.466792–85.316411

Source: Australian Bureau of Statistics, 2016f

Figure 7 Percentage of residents who were born outside Australia by SA2

▢	34.724117–40.548469
▢	40.548470–45.436070
■	45.436071–54.363225
■	54.363226–73.906607

Source: Australian Bureau of Statistics, 2016d)

3.1.4 Women

In the 2016 Census (Australian Bureau of Statistics, 2016g), 51% of SLHD residents reported their sex as female. Central-northern parts of the District had a slightly higher proportion of female residents (Figure 8, below).

3.1.5 Young people

In the 2016 Census, 20% of SLHD's population (124,915 people) were aged under 20 years (Australian Bureau of Statistics, 2016a). The southwestern part of the SLHD had the greatest proportion of people aged under 20 years (Figure 9, below).

Figure 8 Percentage of female residents by SA2

▢	45.983900–48.845950
▢	48.845951–50.441007
■	50.441008–51.090990
■	51.090991–52.963003

Source: Australian Bureau of Statistics, 2016h

Figure 9 Percentage of residents aged under 20 years by SA2

▢	10.015559–15.104670
▢	15.104671–20.152983
■	20.152984–24.731790
■	24.731791–30.107527

Source: Australian Bureau of Statistics, 2016a)

3.2 Risk factors identified from interviews, focus groups and literature

3.2.1 Socioeconomic disadvantage

SLHD has pockets of both extreme advantage and extreme disadvantage (Figure 10, below). The LGAs with the highest proportion of residents receiving social welfare assistance include Canterbury and the Inner West Council, while mean taxable income is lowest in the Canterbury LGA (Sydney Local Health District, 2018). There is a large population experiencing homelessness, with about 40% of the NSW's boarding houses located in the SLHD.

Figure 10 a) Index of Relative Socio-economic Disadvantage (IRSD) deciles

IRSD decile

- 🟥 1
- 🟧 2
- 🟧 3
- 🟧 4
- 🟨 5
- 🟨 6
- 🟩 7
- 🟩 8
- 🟩 9
- 🟩 10

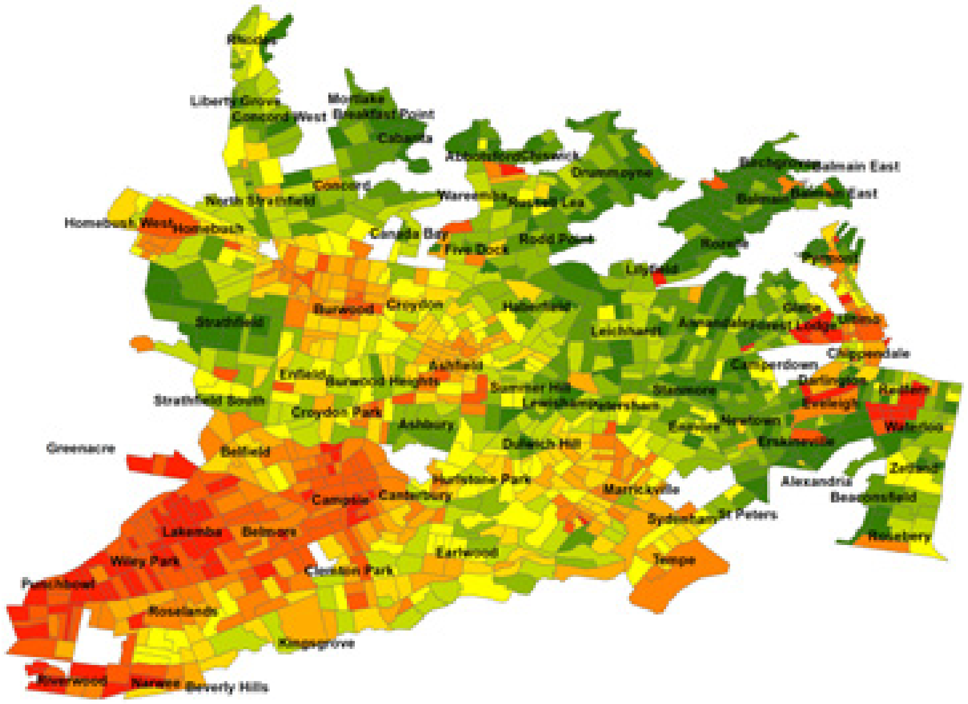
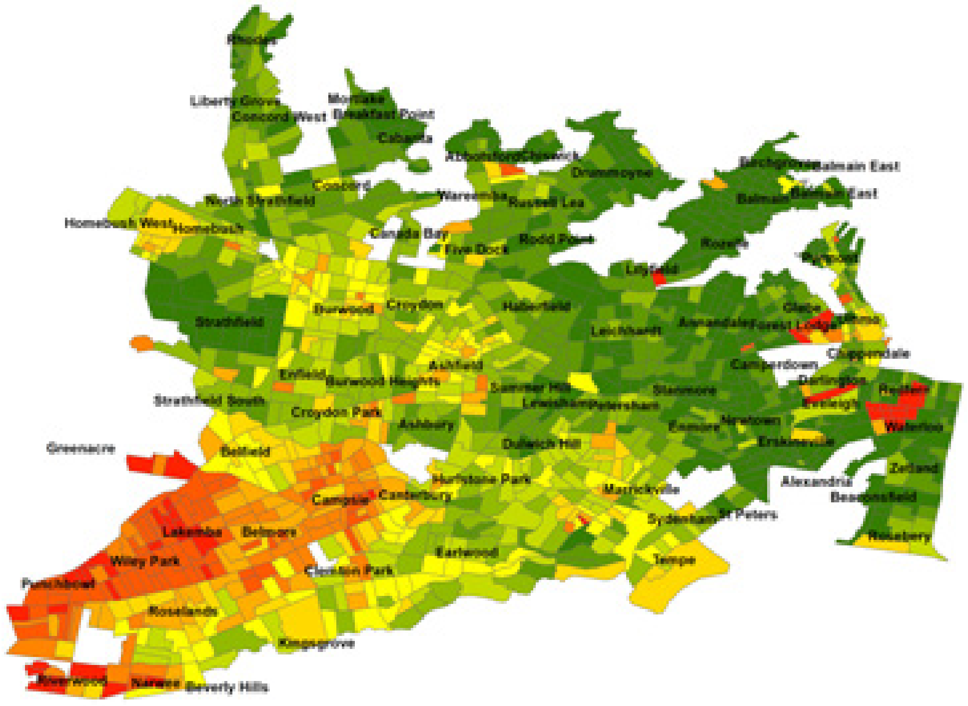


Figure 10 b) Index of Relative Socio-economic Advantage and Disadvantage (ISRAD) deciles

IRSAD decile

- 🟥 1
- 🟧 2
- 🟧 3
- 🟧 4
- 🟨 5
- 🟨 6
- 🟩 7
- 🟩 8
- 🟩 9
- 🟩 10



Source: Australian Bureau of Statistics, 2016b

Figure 10 c) Index of Education and Occupation (IEO) deciles

IEO decile

- 🟥 1
- 🟧 2
- 🟧 3
- 🟧 4
- 🟨 5
- 🟨 6
- 🟩 7
- 🟩 8
- 🟩 9
- 🟩 10

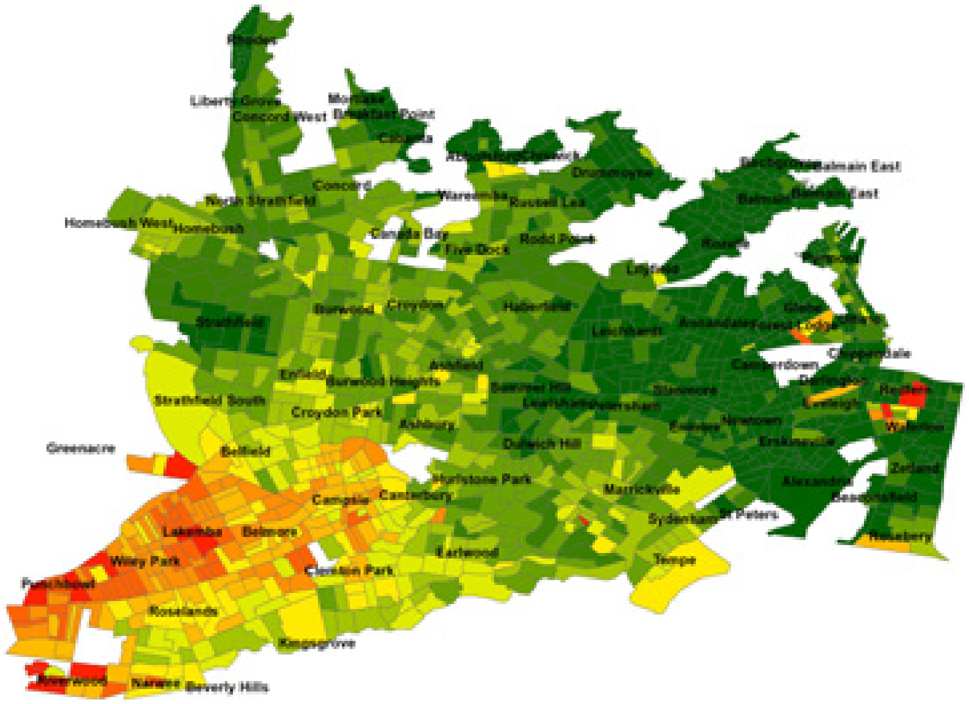
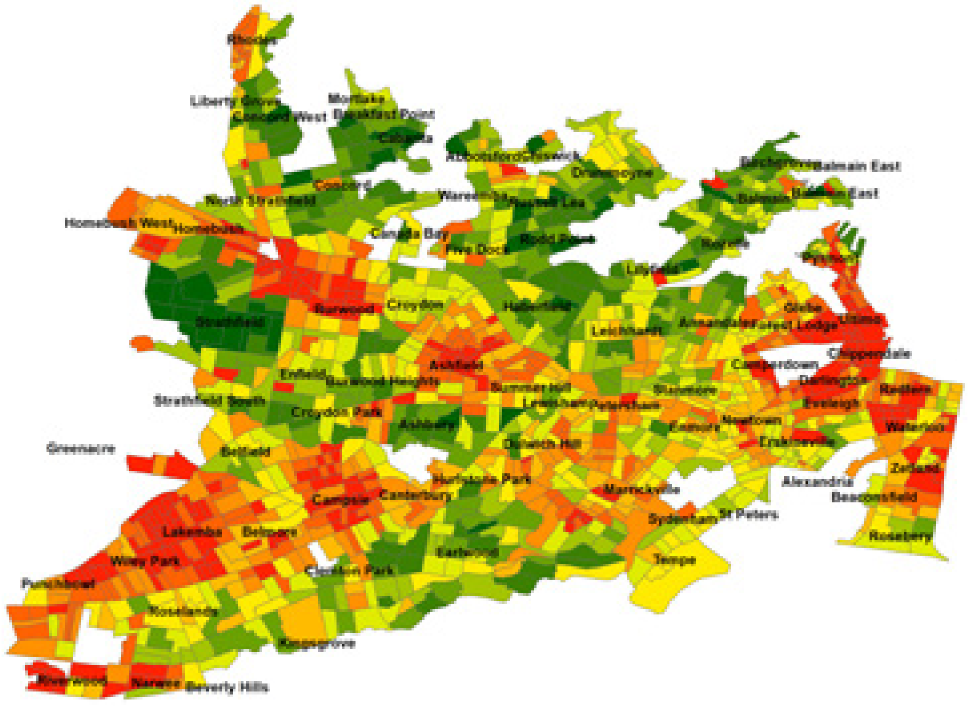


Figure 10 d) Index of Economic Resources (IER) deciles

IER decile

- 🟥 1
- 🟧 2
- 🟧 3
- 🟧 4
- 🟨 5
- 🟨 6
- 🟩 7
- 🟩 8
- 🟩 9
- 🟩 10



Source: Australian Bureau of Statistics, 2016b

3.2.2 Access to public open space

There are large disparities in access to public open space, with people living in the western part of the SLHD generally having poorer access (Figure 11 and Figure 12, below).

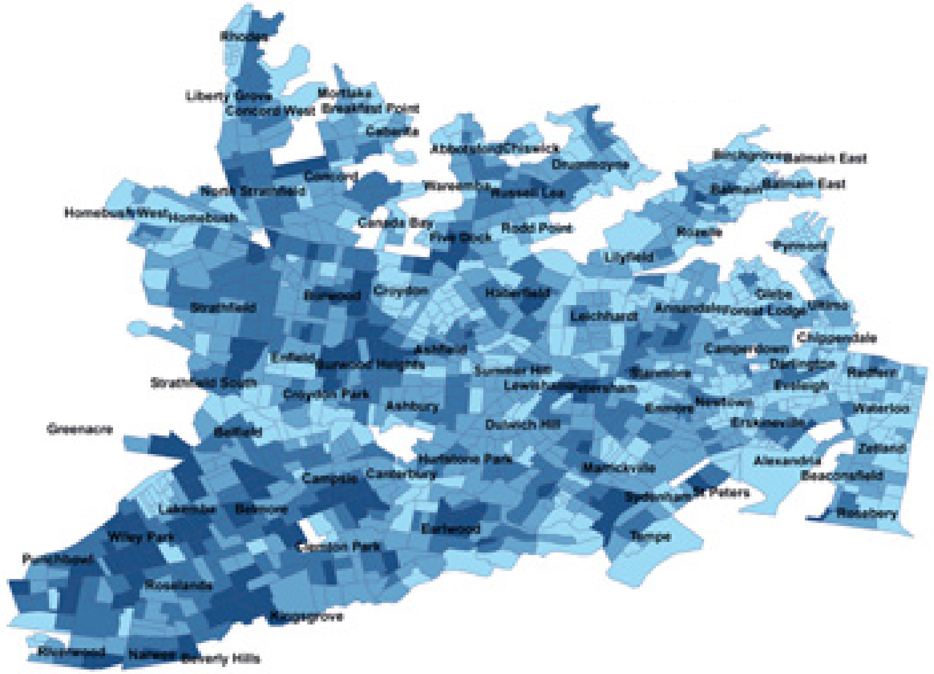


Figure 11 Average distance to closest public open space – by SA1

0–130.1
130.100001–249.1
124.100001–415.3
415.300001–875.5

Source: RMIT University, n.d.

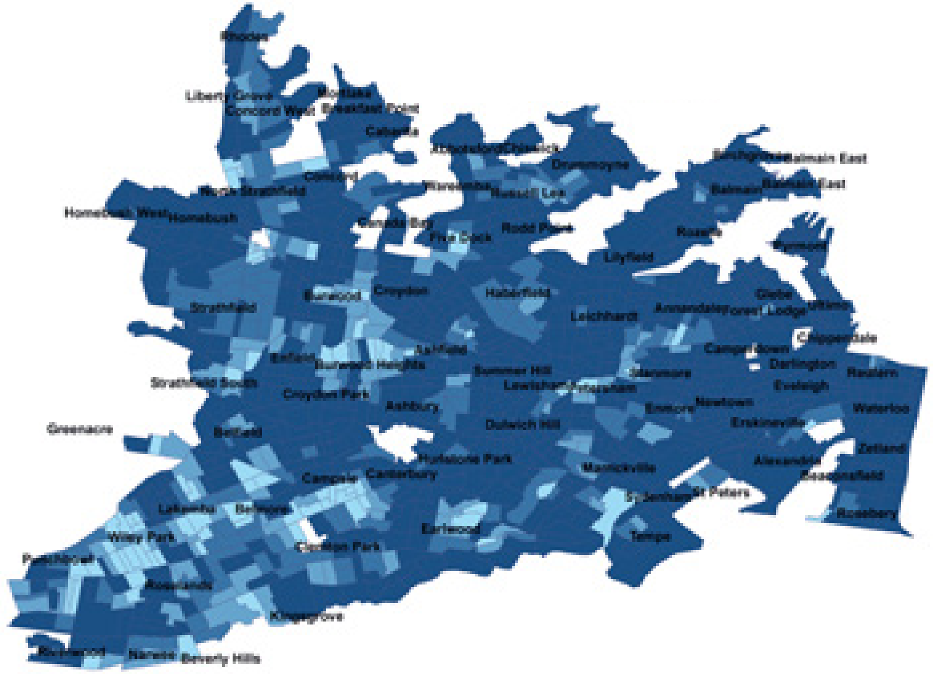


Figure 12 Percentage of dwellings within 400 metres or less of public open space – by SA1

0–26.9
26.900001–59.1
50.100001–86.7
86.700001–100

Source: RMIT University, n.d.

Access to large public open spaces (larger than 1.5 hectares) is generally poor throughout the SLHD, however, there are some exceptions, such as areas near the Cooks and Parramatta rivers (Figure 13 and Figure 14, below).

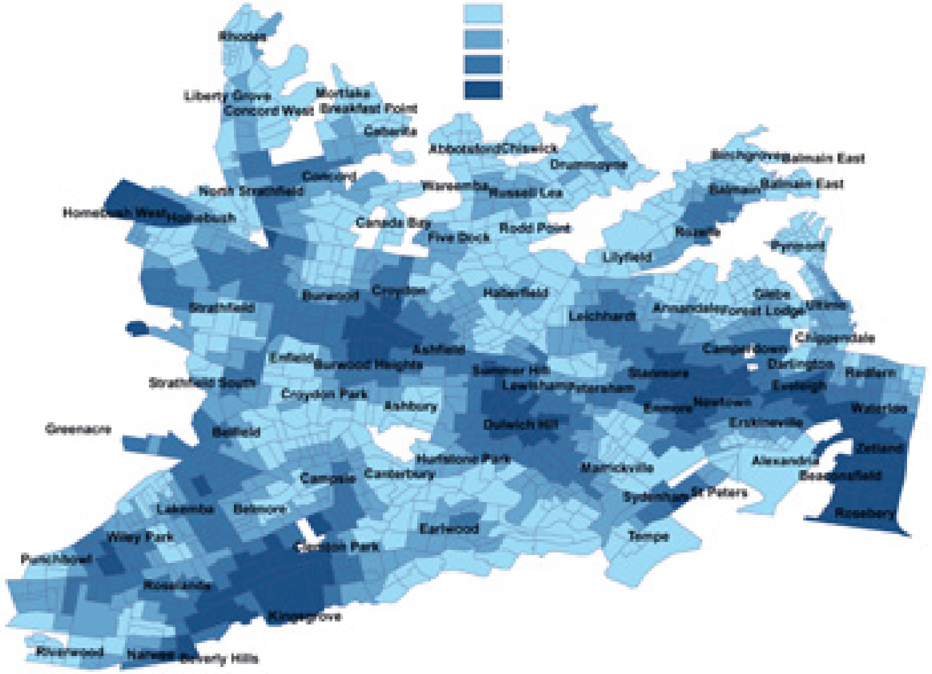


Figure 13 Average distance to closest public open space larger than 1.5 hectares – by SA1

0–405.4
405.400001–786.2
786.200001–1244.1
1244.100001–2530.1

Source: RMIT University, n.d.

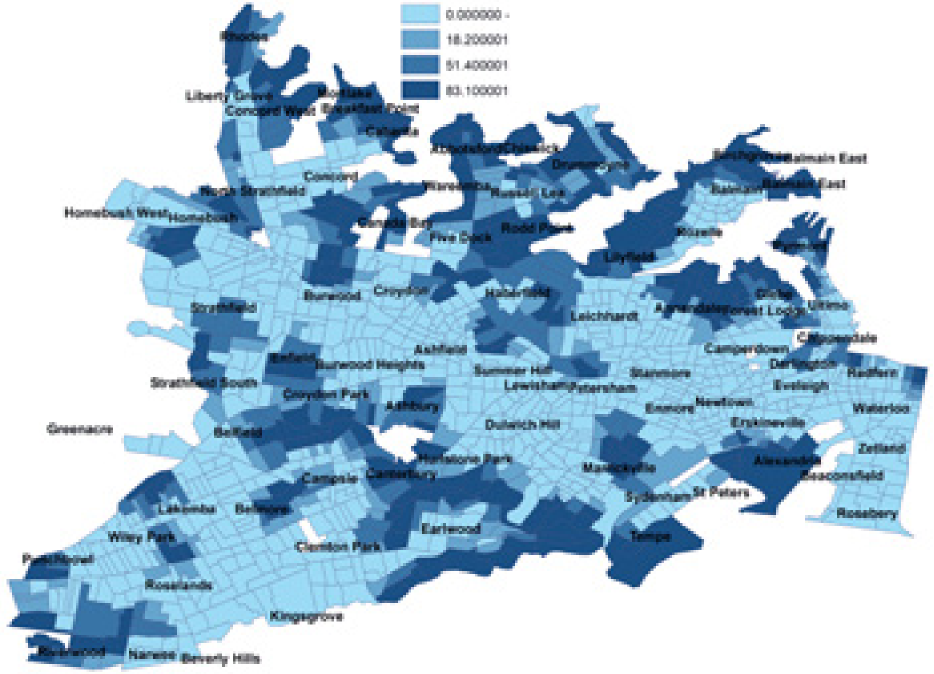


Figure 14 Percentage of dwellings within 400 metres or less distance of public open space larger than 1.5 hectares – by SA1

0–18.2
18.200001–51.4
51.400001–83.1
83.100001–100

Source: RMIT University, n.d.

3.2.3 Living with disability and/or providing unpaid care

Complete data on people living with a disability are not available at the SLHD level. In the 2016 Census, 28,402 residents (4.5%) reported they needed assistance with core activities (see Figure 15 for spatial distribution), while 53,279 (8.4%) reported they provided unpaid care to a person with a disability (see Figure 16 for spatial distribution).

The ratio of unpaid carers to residents requiring assistance with core activities is notably lower in the southwestern part of the SLHD (Figure 17), indicating that care needs may be unmet and/or there may be a greater dependence on paid care.

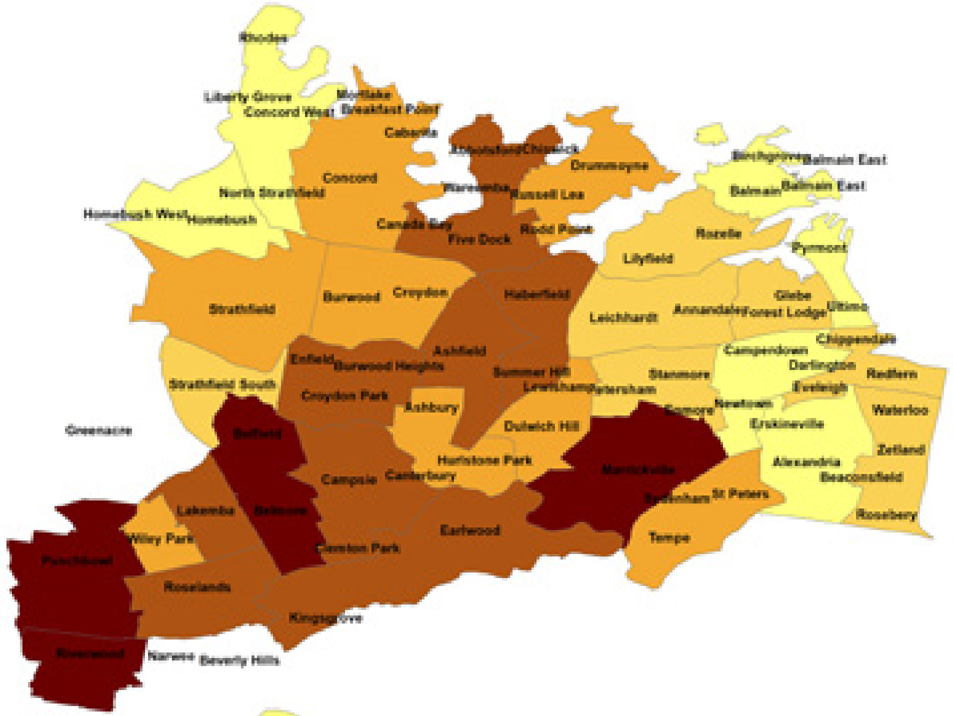


Figure 15 Percentage of residents needing assistance with core activities, by SA2

1.533133–2.774791
2.774792–4.016448
4.016449–5.258106
5.258107–6.499763
6.499764–7.741421

Source: Australian Bureau of Statistics, 2016c)

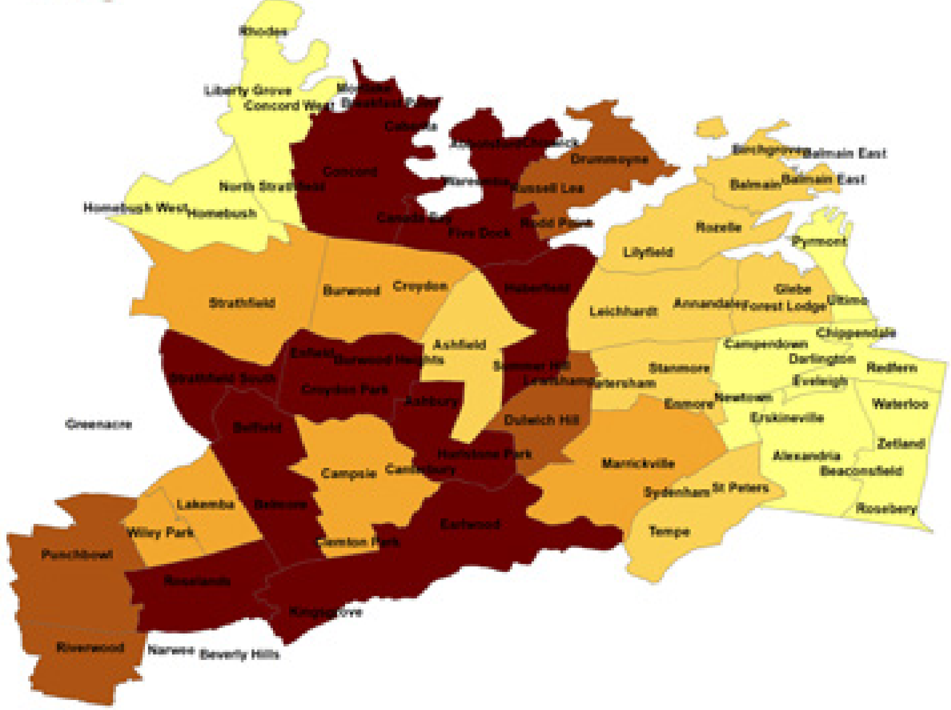


Figure 16 Percentage of residents providing unpaid assistance to a person with a disability, by SA2

5.088894–6.263775
6.263776–7.438657
7.438658–8.613538
8.613539–9.788419
9.788420–10.963301

Source: Australian Bureau of Statistics, 2016i

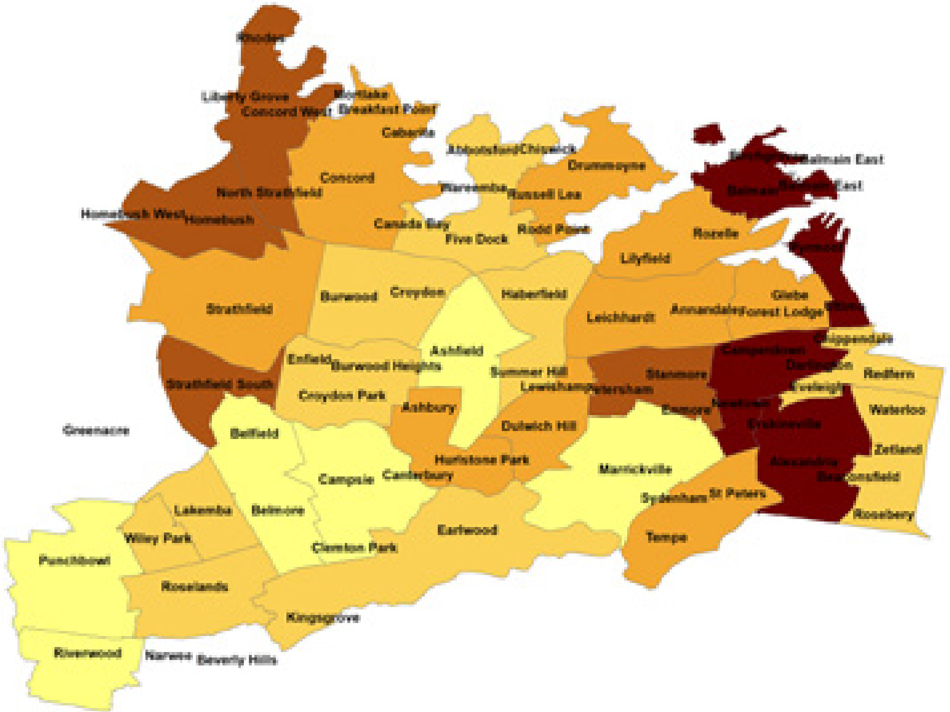


Figure 17 Ratio of (a) residents providing unpaid assistance to a person with a disability to (b) residents requiring assistance with core activities, by SA2

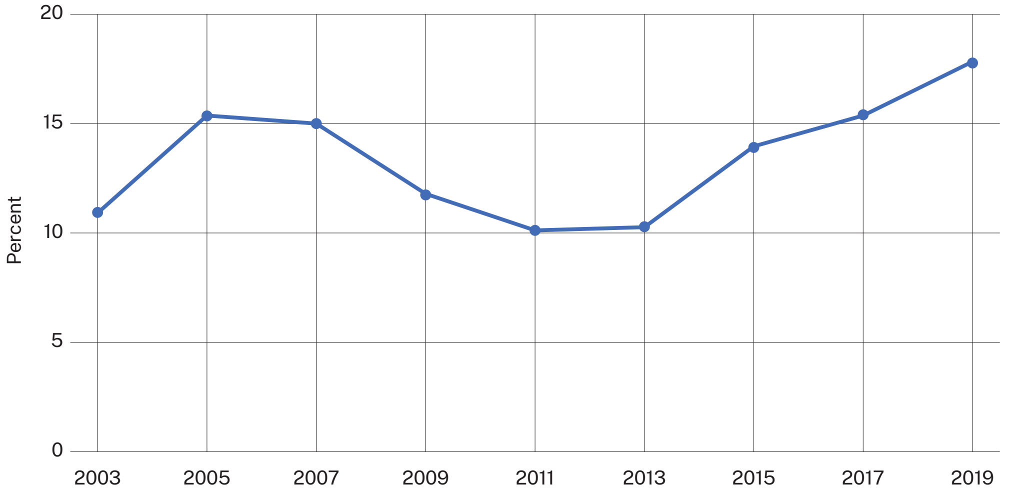
1.221077–1.750907
1.750908–2.280738
2.280739–2.810568
2.810569–3.340399
3.340400–3.870229

Source: Australian Bureau of Statistics, 2016i

3.2.4 Living with mental illness

Data from the NSW Health Survey (Centre for Epidemiology and Evidence, n.d.) show that the proportion of adults living in SLHD experiencing high or very high psychological distress in 2020, was 17.7% (95% confidence interval (CI) 12.3–23.0). This is slightly more than the state-wide figure (16.7% (95% CI 15.4–18.1). There has been a steady increase from 11.4% (95% CI 7.6–15.2) in 2010 (Figure 18, below).[3]

Figure 18 Percentage of adults experiencing high or very high psychological distress in SLHD 2003–2019



Source: Centre for Epidemiology and Evidence, n.d.

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[3] The inclusion of mobile phone numbers in the NSW Health Survey from 2012, has substantially increased the Aboriginal sample, and this change in design means changes since 2012 reflect both changes that have occurred in the population over time and changes due to the improved design of the survey.

4 Evidence summary

This section summarises the evidence in relation to the three focus areas: risks and consequences of COVID-19 infection, changes to work and changes to health services.

First, we describe differences in risk of infection with COVID-19 and differences in health outcomes once infected. We then describe differences in how people have been affected by pandemic responses, focusing on changes to work and changes to health services.

4.1 Risks and consequences of COVID-19 infection

4.1.1 Worldwide and Australian evidence

The risks and consequences of the COVID-19 pandemic have been disproportionately felt by certain groups, especially those living in situations of vulnerability and those who experience stigma and discrimination. This has been most stark in countries heavily hit by the pandemic, showing socioeconomic and cultural/ethnic inequalities in both prevalence and mortality. Locations with higher income inequality experienced higher number of deaths due to COVID-19, and worsened outcomes (Elgar et al., 2020; Sepulveda & Brooker, 2021). Existing inequalities, including educational, economic and locational disadvantage, health status and access to health care, have been associated with worse outcomes (Bambra et al., 2021).

In addition to the physical health impacts, infection with COVID-19 affected wellbeing more broadly; for example, it led to income loss/unemployment, housing issues, grief and trauma, and stigma.

Parents and carers have sometimes passed away so people have actually lost their parents and that's pretty traumatic (i13)

Some people infected with COVID-19 went on to experience long-term symptoms described as 'long COVID' (Lopez-Leon et al., 2021). There is increasing evidence that long COVID disproportionately affected already disadvantaged and marginalised populations and is likely to have an ongoing "cascade of social (e.g., work and employment, housing and service access, disability support) and health (exacerbating chronic suffering and comorbid conditions) consequences" (de Leeuw et al., 2022, p. 1).

Internationally and locally, there were spatial differences in COVID-19 infection rates. People living in lower socioeconomic areas experiencing poverty and/or economic stress were more likely to be exposed to and infected by COVID-19, and also more likely to experience serious health consequences, including hospitalisation and death (Baena-Díez et al., 2020; Bambra et al., 2020; Tan et al., 2021; Yoshikawa & Kawachi, 2021).

In Australia, in the time period up to 31 October 2021, the number of people who died due to COVID-19 was over four times higher for people living in the most disadvantaged neighbourhoods compared to those living in the least disadvantaged neighbourhoods (ABS, 2022b).

Although the number of infected people was much higher in younger age groups (see Table 4), older people experienced a much higher incidence of mortality (ABS, 2022b). The risk of serious illness from COVID-19 increased with age, especially for those over 70 years old. Residents in aged care facilities were particularly affected, with significant numbers of deaths occurring (Australian Government Department of Health, 2022). For example, during 2020, 7% of all COVID-19 cases in Australia and 75% of all deaths, were in people living in residential aged care facilities (Australian Institute of Health and Welfare, 2021b).

People from minority cultural and ethnic populations were shown to be disproportionately affected by COVID-19 morbidity and mortality (ABS, 2022b; Clay & Rogus, 2021; Ezell et al., 2021; Khanijahani et al., 2021; Moore et al., 2022). For example, in Australia, people born in the Middle-East had a 13 times higher age standardised death rate (29.3) from COVID-19 than Australian born people (2.3)(ABS, 2022b).

4.1.2 Local evidence

The pattern of COVID-19 infections, hospitalisations and fatalities in SLHD has mirrored that of the nation. There were 102,595 confirmed or probable COVID-19 cases in SLHD up to 21 February 2022. Of these, 3,986 were hospitalised, 371 were admitted to an intensive care unit (ICU) and 253 died from COVID-19. The characteristics of these cases are presented in Table 4.

Figure 19 shows the spatial distributions of the COVID-19 cases, hospitalisations and fatalities. At the suburb level, there was a strong negative correlation ($r(75) = -0.60$, $p < .001$) between case rate and IRSD score (a lower IRSD score means a higher level of disadvantage) (see Figure 20). Similarly, there was a strong negative correlation ($r(75) = -0.76$, $p < .001$) between a suburb's hospitalisation rate and its IRSD score (see Figure 21). There was only a moderate negative correlation ($r(75) = -0.43$, $p < .001$) between a suburb's fatality rate and its IRSD score (see Figure 22).

Table 4 Characteristics of confirmed or probable COVID-19 cases in SLHD up to 21 February 2022

Characteristic	Number of confirmed or probable COVID-19 cases	
Gender*		
Male	52,924	51.6%
Female	49,481	48.2%
Not stated/inadequately described	189	0.2%
Transgender	1	< 0.1%
Indigenous status		
Not Aboriginal or Torres Strait Islander	41,626	40.6%
Not stated/unknown	58,942	57.5%
Aboriginal and/or Torres Strait Islander	2,027	2.0%
Age group		
0–19	19,016	18.5%
20–49	63,935	62.3%
50–69	14,686	14.3%
70+	4,941	4.8%
Not stated/unknown	17	< 0.1%

* NCIMS does not allow any gender categories other than these four to be recorded.
Source NCIMS, NSW Health

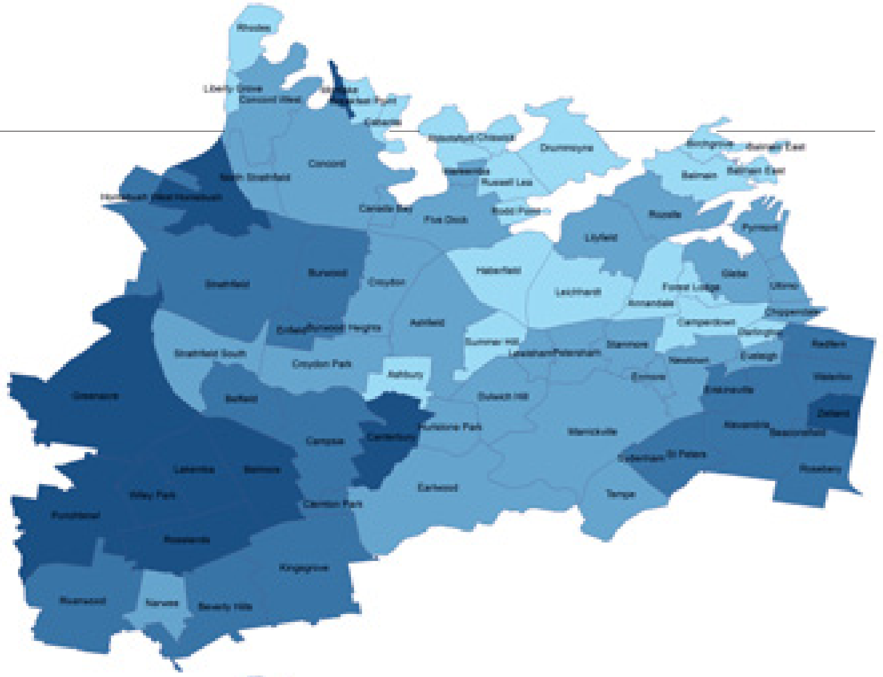


Figure 19a Reported COVID-19 cases, per 100,000 persons to 21 February 2022, by suburb

■	8,516–12,380
■	12,390–15,420
■	15,430–20,160
■	20,170–26,270

Source: NCIMS, NSW Health

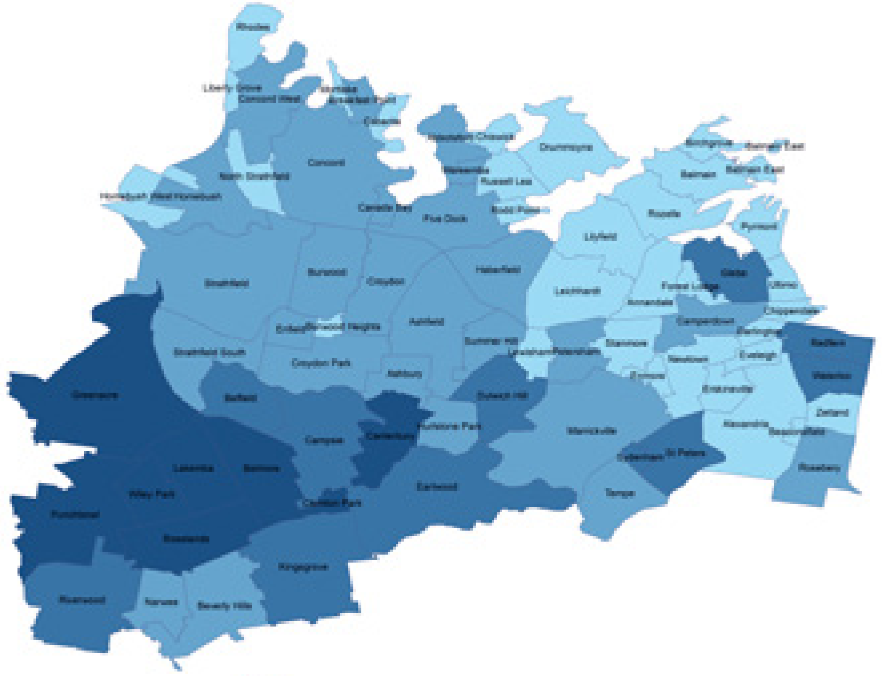


Figure 19b Reported COVID-19 hospitalisations per 100,000 persons to 21 February 2022, by suburb

■	121.126780–389,888884
■	389.888885–843.30885
■	843.30886–1,080.63003
■	1,080.63004–1,613.63096

Source: NCIMS, NSW Health

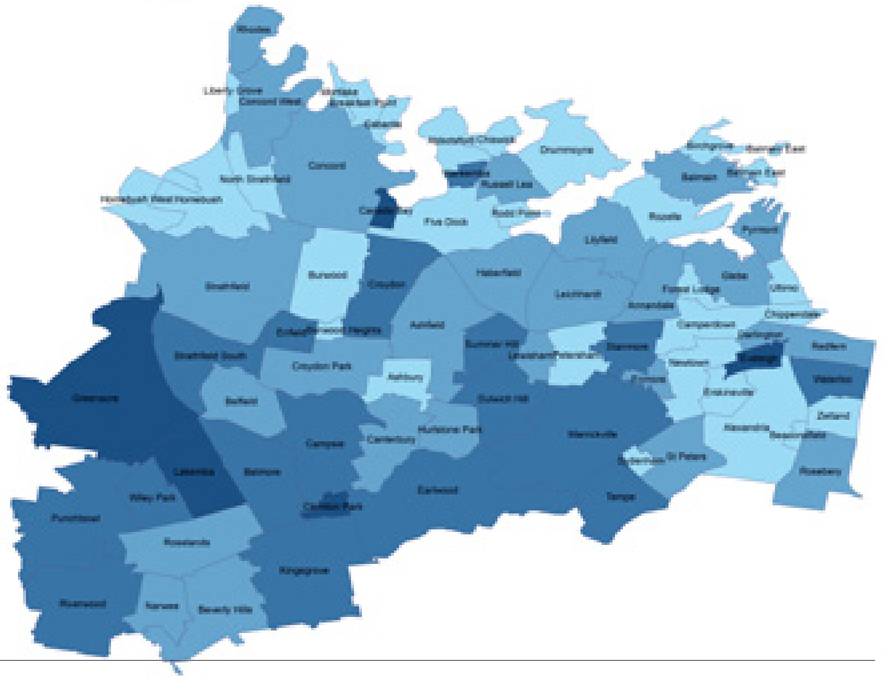


Figure 19c Reported COVID-19 fatalities per 100,000 persons to 21 February 2022, by suburb

■	0–12.4781629
■	12.4781630–45.4098247
■	45.4098248–112.485937
■	112.485938–420.420406

Source: NCIMS, NSW Health

Figure 20 Relationship between socioeconomic disadvantage and reported COVID-19 case rate to 21 February 2022

● Suburb

Note: Lower IRSD score means more disadvantaged. Only suburbs with IRSD score < 990are labeled.

Sources: Australian Bureau of Statistics (2016b) and NCIMS, NSW Health

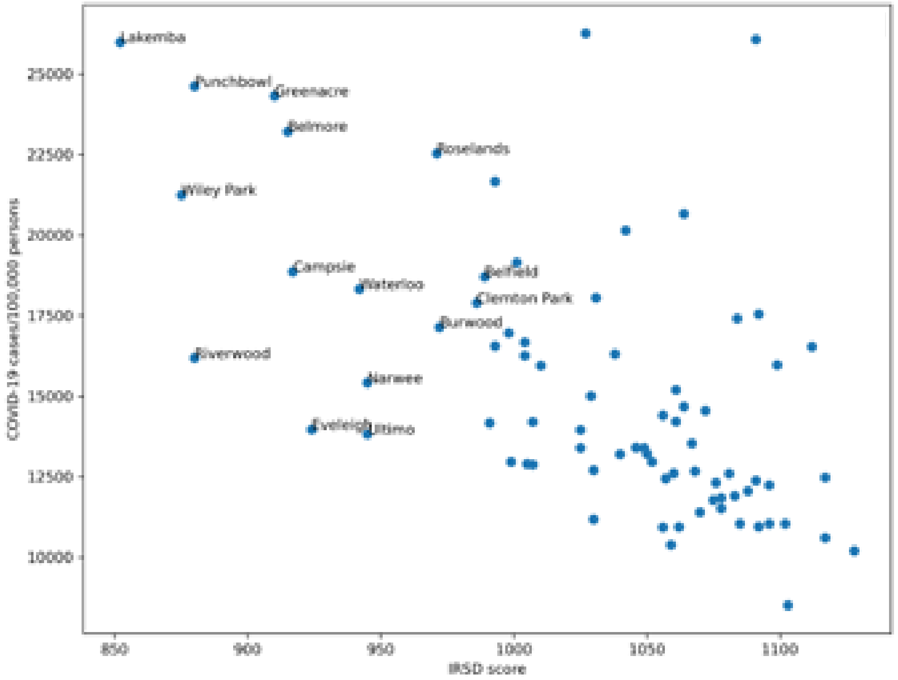


Figure 21 Relationship between socioeconomic disadvantage and COVID-19 hospitalisation rate to 21 February 2022

● Suburb

Note: Lower IRSD score means more disadvantaged. Only suburbs with IRSD score < 990are labeled.

Sources: Australian Bureau of Statistics (2016b) and NCIMS, NSW Health

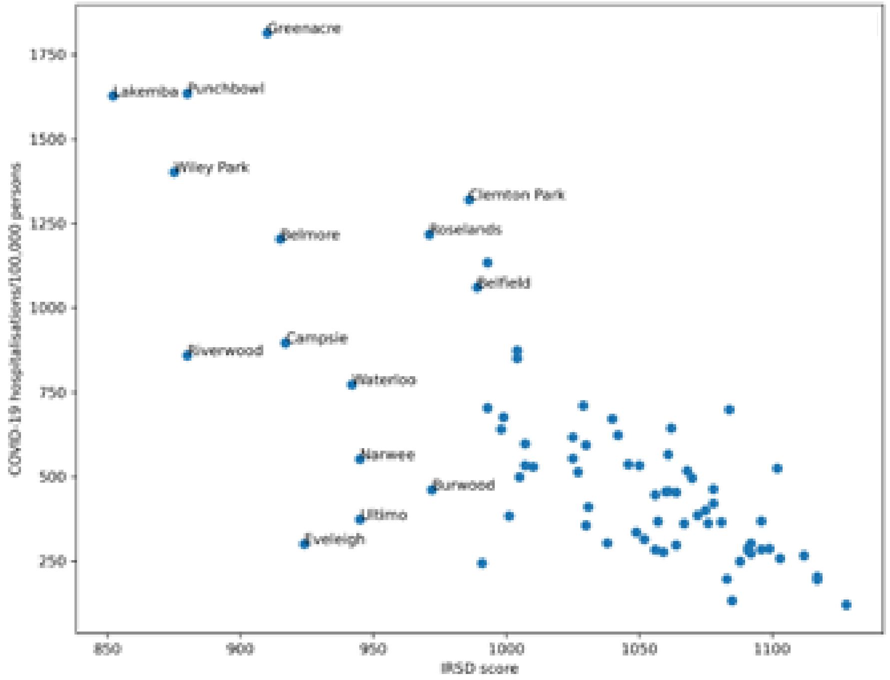
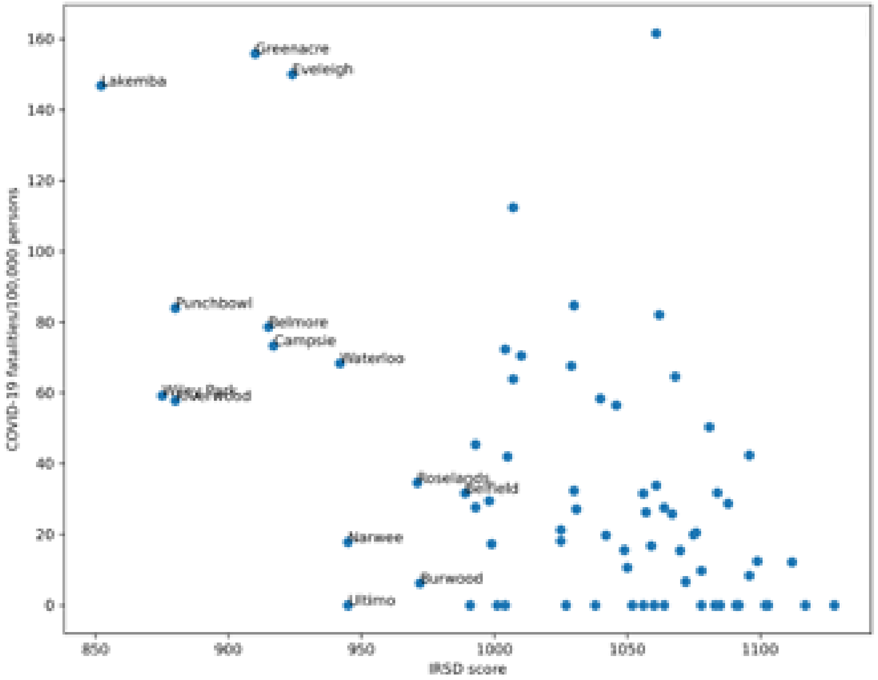


Figure 22 Relationship between socioeconomic disadvantage and COVID-19 fatality rate to 21 February 2022

● Suburb

Notes:
1 Lower IRSD score means more disadvantaged. Only suburbs with IRSD score < 990are labeled.
2 Excludes Clemton Park which has a small population (1,665) and a large residential aged care facility.

Sources: Australian Bureau of Statistics (2016b) and NCIMS, NSW Health



For the logistic regression analyses of hospitalisation and fatality likelihood, 62,029 cases with incomplete/unknown information or belonging to a category with a very low frequency were dropped, leaving 40,566 cases. The logistic regression model of case hospitalisation likelihood (Table 5) was statistically significant ($\chi2(6) = 2{,}117.72$, $p < .001$). The model explained 13.3% (Nagelkerke R2) of the variance in hospitalisation risk and correctly classified 93.5% of cases. Aboriginal and/or Torres Strait Islander cases were more than 60% more likely to be hospitalised than non-Aboriginal or Torres Strait Islander cases (adjusted odds ratio (AOR) 1.64, 95% confidence interval (CI) 1.37–1.96). Likelihood of hospitalisation increased with age, with a case aged 50–69 more than two times as likely to be hospitalised as a case aged 20–49 (AOR 2.63, 95% CI 2.37–2.92), and a case aged 70+ about 12 times as likely to be hospitalised (AOR 11.60, 95% CI 10.43–12.92). Increasing IRSD score (i.e., decreasing socioeconomic disadvantage) was associated with a decrease in the likelihood of hospitalisation (AOR 0.997, 95% CI 0.996–0.977): a case living in Punchbowl (IRSD score 862) was twice as likely to be hospitalised as a case living in Balmain (IRSD score 1,091), other things being equal. There was not a statistically significant relationship between gender and hospitalisation likelihood.

Similarly, the logistic regression model of case fatality likelihood (Table 6) was statistically significant ($\chi2(6) = 779.00$, $p < .001$). The model

Table 5 Logistic regression model of COVID-19 case hospitalisation likelihood in SLHD

Independent variables	AOR[a]	95% CI (lower)	95% CI (upper)	p value[b]
Gender				
Female[c]	1.000			
Male	1.047	0.964	1.136	.280
Indigenous status				
Not Aboriginal or Torres Strait Islander[c]	1.000			
Aboriginal and/or Torres Strait Islander	1.639	1.371	1.959	**< .001**
Socioeconomic disadvantage				
IRSD score of SA2 where case lives	0.997	0.996	0.997	**< .001**
Age group				
0–19	0.769	0.661	0.896	**.001**
20–49c	1.000			**< .001**
50–69	2.631	2.370	2.920	**< .001**
70+	11.604	10.426	12.915	**< .001**
Model fit statistics				
Chi square	p < .001			
Nagelkerke's R2	0.133			
Prediction success	93.5%			

[a] Adjusted odds ratio: The odds of a person in the category being hospitalised, relative to the reference category, controlling for other variables in the model. For example, an AOR of 2 means twice as likely.
[b] Statistically significant values in bold.
[c] Reference category.

explained 32.7% (Nagelkerke R2) of the variance in fatality risk and correctly classified 99.5% of cases. Likelihood of death from COVID-19 increased with age: a case aged 50–69 was more than 60 times as likely to die as a case aged 20–49 (AOR 63.56, 95% CI 19.73–204.81) and a case aged 70+ was more than 550 times as likely to die (AOR 562.74, 95% CI 179.13–1,767.82). Male cases were more likely to die than female ones (AOR 1.53, 95% CI 1.13–2.06). There was not a statistically significant relationship between Indigenous status and likelihood of death, nor between IRSD score and likelihood of death. Note that many fatalities occurred in aged care facilities in a small number of SA2 areas, making it more difficult to establish an association between IRSD score and fatality likelihood. Note also the large confidence interval (0.24–2.47) for the Indigenous status AOR.

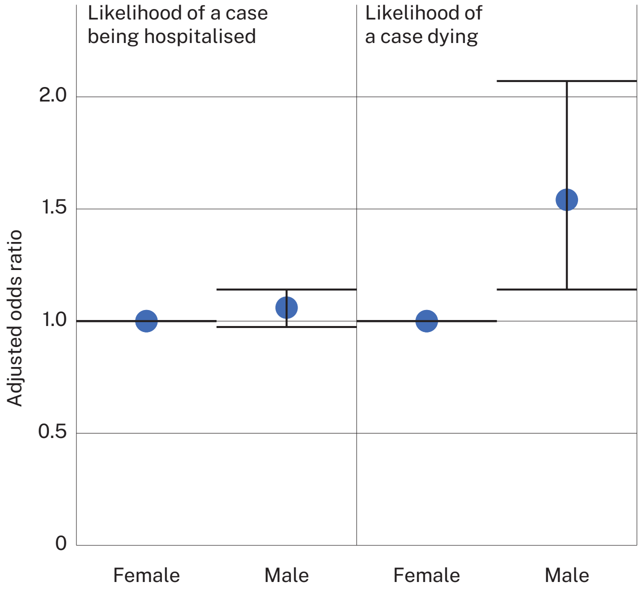
In summary, people living in the more socioeconomically disadvantaged areas of SLHD were more likely to be infected, to be hospitalised and to die from COVID-19. However, once a person did become infected, we can find no evidence that they were any more likely to die, other things being equal, than someone living in a less disadvantaged area. Further, while Aboriginal and/or Torres Strait Islander people infected with COVID-19 were more likely to end up in hospital, there is no evidence that they were any more likely to die, other things being equal, than non-Aboriginal and Torres Strait Islander cases (Figure 23(b)). This is despite the COVID-19 vaccination rate among Aboriginal and Torres Strait Islander people lagging that among the general population (Woodley, 2022) (our modelling did not control for vaccination status because the data were not available).

Table 6 Logistic regression model of COVID-19 case fatality likelihood in SLHD

Independent variables	AOR[a]	95% CI (lower)	95% CI (upper)	p value[b]
Gender				
Female[c]	1.000			
Male	1.527	1.131	2.061	.006
Indigenous status				
Not Aboriginal or Torres Strait Islander[c]	1.000			
Aboriginal and/or Torres Strait Islander	0.774	0.242	2.469	.665
Socioeconomic disadvantage				
IRSD score of SA2 where case lives	0.999	0.996	1.001	.248
Age group				
0–19	0.000	0.000		.981
20–49c	1.000			**< .001**
50–69	63.559	19.725	204.806	**< .001**
70+	562.740	179.133	1767.824	**< .001**
Model fit statistics				
Chi square	p < .001			
Nagelkerke's R2	0.327			
Prediction success	99.5%			

a Adjusted odds ratio: The odds of a person in the category dying, relative to the reference category, controlling for other variables in the model. For example, an AOR of 2 means twice as likely.
b Statistically significant values in bold.
c Reference category.

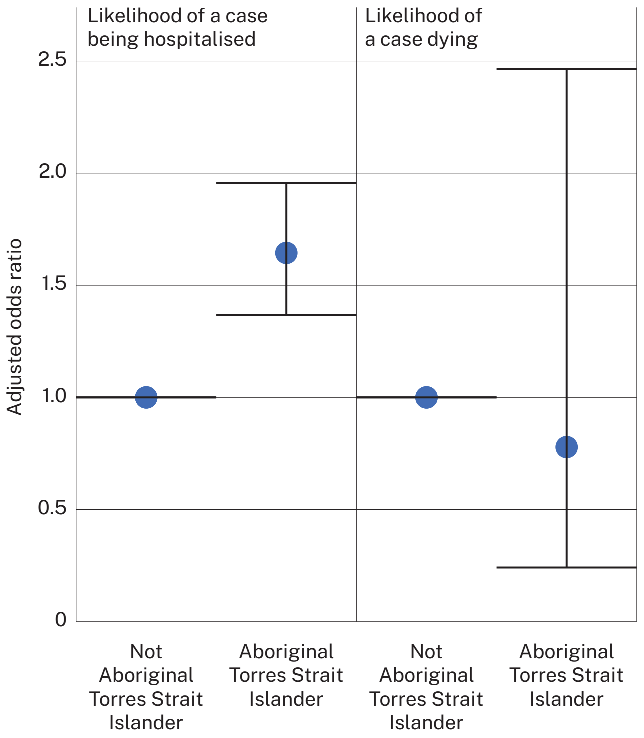
Figure 23a Likelihood of a COVID-19 case in SLHD being hospitalised/dying based on gender



Bars show 95% confidence intervals

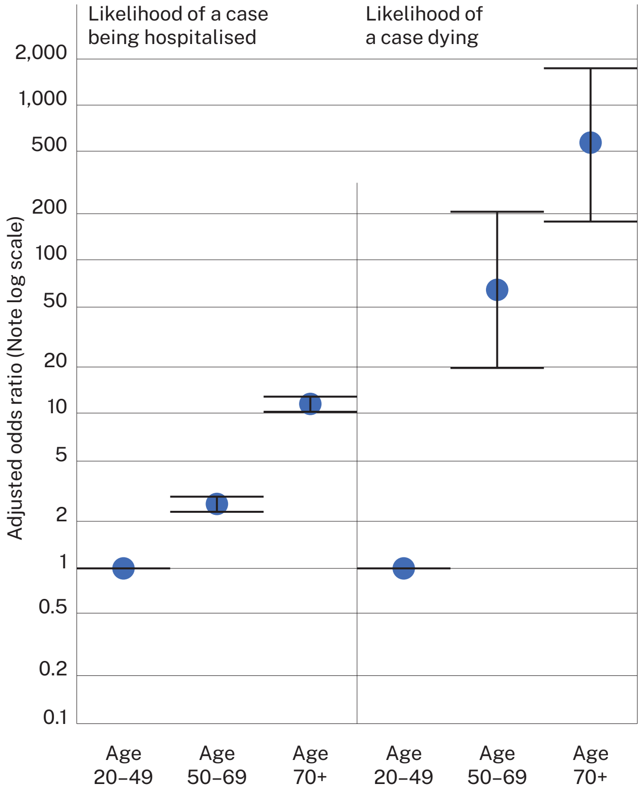
These findings suggest that, in SLHD at least, the COVID-19 care provided to Aboriginal and Torres Strait Islander cases, and to cases from disadvantaged areas, was at least as good (in terms of preventing death) as that provided to non-Aboriginal and Torres Strait Islander cases and those from less disadvantaged areas. (See Equity-focused response in SLHD on p.109 for details of the District's targeted interventions.)

Figure 23b Likelihood of a COVID-19 case in SLHD being hospitalised/dying based on Indigenous status



Bars show 95% confidence intervals

Figure 23c Likelihood of a COVID-19 case in SLHD being hospitalised/dying based on age



Bars show 95% confidence intervals

4.1.3 Factors contributing to disparities in infection risk and consequences

There are a variety of potential intertwined reasons for the observed disparities in the case, hospitalisation and fatality rates and risks. Several studies identified spatial disparities in COVID-19 infection rates related to intersecting vulnerabilities, including low income, poor housing quality, overcrowding, unaffordable rent, underlying illnesses and occupational exposure (Ahmad et al., 2020; J. T. Chen & Krieger, 2021; Ghosh et al., 2021; Kamis et al., 2021; Khanijahani et al., 2021; Whittle & Diaz-Artiles, 2020). The intersecting stressors experienced by economically marginalised people may also have weakened their immune response, increasing their vulnerability to COVID-19 (Bambra et al., 2021; Segerstrom & Miller, 2004; Tawakol et al., 2019).

The risk of COVID-19 transmission was amplified by the built environment. Crowded or communal-style living and difficulty in adhering to physical distancing, accelerated transmission (Aitken et al., 2021). An analysis of Australian COVID-19 outbreaks showed that they most commonly occurred in the workplace/industry setting (22%), followed by education settings (14%), residential aged care (13%) and hospitals (10%) (Hogarth et al., 2022). People living in apartments with poor ventilation and in close proximity to others (such as high-rise social housing), together with facilities with living arrangements involving staff mixing with both community and residents (e.g., residential aged care, live-in rehabilitation treatment, dormitories and prisons) are particularly at risk. There are well-documented structural issues relating to regulation and oversight of these sectors, and the physical and social vulnerabilities of residents, that make these settings particularly vulnerable (Commonwealth of Australia, 2020, 2021, 2022).

Working conditions can lead to inequalities in exposure risk. Many low-paid essential workers (e.g., those employed in industries such as food, cleaning, transport and manufacturing) are unable to work from home, are more likely to work in roles involving contact with other people, and are more likely to rely on public transport to access work (AIHW, 2021c; Holloway et al., 2021). Areas with high levels of essential workers tend to have higher numbers of household members (Holloway et al., 2021). These workers are also more likely to work in casual or zero-contract roles without access to paid sick leave and other protections (Equity Economics, 2020; Jarvis, 2021; Moore et al., 2022). For some people working in insecure jobs, complying with public health directions can be a barrier to getting tested, isolating and quarantining. They may lose income if they have to attend a testing clinic or have to isolate while waiting for results and after testing positive. These types of jobs often have increased exposure to COVID-19 (e.g., through customer contact or working in shared spaces). Employees are more likely to experience income loss due to COVID-19 control measures (such as closure of hospitality venues). In addition, lower-paid workers are less likely to have savings and other sources of support that would enable them to choose not to work if they are concerned about risk of infection and transmission. Cost can also be barrier to accessing protective measures, such as face masks and RATs. See Essential and frontline workers on p. 63 for a more detailed analysis.

Colonisation history and structural racism have been identified as contributing to minority groups experiencing increased vulnerability to COVID-19 (for example, through overcrowded housing, underlying health conditions, limited access to and utilisation of health services, and workplace exposure) (Braveman et al., 2022; Dickinson et al., 2021; Egede & Walker, 2020; Parolin & Lee, 2022). People from minority ethnic/cultural backgrounds are more likely to work in low-paid, insecure jobs (Sherrel et al., 2019) and sometimes do not have access to welfare support (O'Sullivan et al., 2020). Some studies suggest there is higher vaccination hesitancy among those who speak a language other than English at home (Biddle et al., 2021). CALD people may also experience lower quality of care when they access health services (Chauhan et al., 2020; White et al., 2019). Health care workers from CALD backgrounds have also been disproportionately affected by COVID-19 infection. For example, in the UK, a disproportionately high number of black, Asian and minority ethnic (BAME) physicians and health care workers in the National Health Service died during the pandemic (Phiri et al., 2021). In Australia, 37% of frontline health care workers were born overseas, with around 26% from non-English-speaking backgrounds (Eastman et al., 2021).

Some policy measures also involved significant punishments, such as fines, if they were not followed, and NSW Police were given special powers to lock down apartment buildings. Policy measures were also, in some situations, applied differentially. There is evidence that related fines were much higher in areas of social-economic disadvantage and with large Indigenous populations (Rachwani & Evershed, 2022). In Sydney, in July 2021, the Public Health Order was amended to impose stricter lockdown conditions on certain LGAs identified as 'being of concern'. Within SLHD, these included Canterbury-Bankstown, Burwood and Strathfield. Residents of these areas experienced, in addition to existing measures, curfews, limitations on outdoor exercise, retail closures, work restrictions, testing requirements and work authorisation requirements. There were also spatial differences in vaccination availability. For example, in July 2021, vaccinations were redistributed from NSW rural and regional supply to vaccinate Year 12 students in the LGAs most affected by COVID-19.

An Australian survey of understanding, attitudes and uptake of health advice in relation to COVID-19 (McCaffery et al., 2020) found that people with lower health literacy and people who primarily speak a language other than English, had more limited understanding of COVID-19 and how to protect themselves. They were also more likely to endorse misinformed beliefs about COVID-19 and vaccination. People with chronic disease are more likely to experience poor COVID-19 health outcomes and are also more likely to have low health literacy (McCaffery et al., 2020). A recent survey from SLHD shows that mothers in the SLHD from non-English-speaking background are more likely to seek information from family members, religious or community leaders and social media than from face-to-face services, hence "there is a clear case for government agencies to communicate with CALD communities using culturally appropriate methods" (Hyland-Wood et al., 2021; Wen et al., 2021, p. 6). Evidence also suggests that appropriate information for refugee and migrant communities is often limited (Abdi et al., 2020).

People living with chronic disease and/or disability are disproportionately affected by COVID-19. If infected, they are more likely to experience severe illness or complications, and more likely to die (ABS, 2022b; Commonwealth of Australia, 2022; Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability, 2022). For some, such as people with disability living in care homes, they also experience greater risk of exposure to COVID-19. People with disabilities have also been affected by changes to access to services during the pandemic (Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability, 2022).

An interviewee described how access to services changed when there was a positive case identified within the household of a person living with disability:

> *As soon as we see a COVID situation, whether it's mum or dad or Johnny being positive, we see providers pull out, not provide the care that they require. Very horrendous situations where either the […] parents are left in precarious, awful settings, nearly to the point where they put themselves at incredible risk to their own wellbeing (i9).*

People living in low-socioeconomic status (SES) neighbourhoods, poor-quality housing or CALD communities, and people experiencing mental illness, often have higher rates of chronic disease. These populations also tend to have poorer access to, and experience of, health services. The health services accessed by these groups have often been disrupted by COVID-19 (see Changes in health services). For example, a UK study that synthesised longitudinal data from over 59,000 people identified that those experiencing psychological distress pre-pandemic were more likely to experience health care and economic disruptions, and clusters of disruptions in multiple areas (e.g., loss of employment/income and housing) during the pandemic (Di Gessa et al., 2021). The intersection of vulnerabilities was also identified in our interviews, for example:

> *There are a lot of trans community that are also people with disabilities, or people with chronic illnesses as well. And so, the risk around COVID and COVID symptoms for those communities is really high and really difficult (i7)*

This intersection of risks and poorer outcomes has been described as a 'syndemic'–a co-occurring synergistic pandemic which interacts with, and is exacerbated by, chronic health and unequal social conditions (Bambra et al., 2020; Singer & Rylko-Bauer, 2021). In Australia, we saw particularly how insecure, low-quality working conditions and crowded housing resulted in an unequal burden on some already marginalised populations (AIHW, 2021c; Horne et al., 2020; van Barneveld et al., 2020). A survey participant noted that one of the lessons of the pandemic lay in highlighting the workings and impacts of social determinants of health on marginalised people: "the district, the government, whoever, has actually had to work with this population group […] It was just that the population wasn't invisible anymore […] and it will be quick to lose that side of things unless we harness it" (i18).

4.2 Changes to work

The impact of changes to work, including working from home and flexible work practices, on health equity was identified as a critical theme to explore at the scoping stage of the EFHIA. COVID-19 had a significant impact on employment and work practices for all people living in Australia, but the changes induced by the pandemic were not distributed evenly; nor were they experienced equally, and evidence suggests strong spatial and occupational differences. During the pandemic, the primary fault line was between people who could work from home (WFH) (because they were in computer and desk-based roles) and those who could not. The latter were employed in caregiving and person-contact roles that required physical proximity, like in aged and disability care, or in roles requiring physical presence at work, e.g., physical production, warehousing and transport (Productivity Commission, 2021). Early in the pandemic, these workers were deemed 'essential' or 'frontline' workers and experienced a different set of challenges, as elaborated further below. Confronted with successive waves of COVID-19, the health care workforce also stood out as uniquely impacted from pandemic-induced changes to work, and additional workload.

Across most areas of work, the pandemic triggered major changes in work environments, practices and procedures, including adapting to new technologies and ways of working, both at home and at workplaces. For instance, risk management plans to mitigate exposure and risk of infection became commonplace (McKinsey Global Institute, 2021). Successive rapid changes tested organisations' and workers' adaptive capacities and resilience in unprecedented ways, with flow-on consequences for people's social and emotional wellbeing (Plimmer et al., 2020; Productivity Commission, 2021).

The economic instability that ensued from the pandemic and its associated restrictions created major employment and financial impacts, with loss of work and income for many people (AIHW, 2021c; Jarvis, 2021). It also increased uncertainty and adverse consequences for precarious workers (also referred to as 'casual' and 'insecure'), underemployed people and the 'working poor' (a category of workers concentrated in certain population segments and social groups) (AIHW, 2021h; Australian Bureau of Statistics, 2017; Jarvis, 2021; Roberts et al., 2021).

Together, these changes can, and do, have an important impact on health and health equity. Employment and its quality/conditions are significant determinants of the health of workers, families and communities, through access to economic and social resources, financial security and their health-related consequences (access to health care, housing and other living conditions (see Benach et al., 2014; Brydsten et al., 2018)). But work is also connected to physical and mental health in a myriad of other ways. There is strong evidence that work impacts mental wellbeing via stress and anxiety (Donnelly & Farina, 2020), and through dynamic relationships with core protective factors like control, participation, inclusion and resilience (Cooke, A et al., 2011). As an essential social role, employment also affects self-esteem and sense of identity and efficacy (De Cuyper & De Witte, 2008). These different factors actively modulate psychological health and people's (a) ability to maintain a healthy lifestyle and positive outlook, (b) resilience, and (c) life satisfaction – with corresponding health outcomes.

Pandemic disruptions and uncertainty affected all of these components of mental health and wellbeing to some extent (Aknin et al., 2022; Bakkeli, 2021; Batterham et al., 2021; Donnelly & Farina, 2020). Population characteristics and wider determinants of health (such as housing, physical environment and social/community assets/supports) intersect with employment to further shape health and equity outcomes (Cooke, A et al., 2011). This complex interplay continues to create disparities in health outcomes and differential impacts on determinants of health throughout the course of the pandemic.

This section summarises information drawn from consultation with key informants and community stakeholders, evidence gathered through literature reviews conducted by HERDU, and local data. First, we explore the effects of the transition to remote and flexible work and its impacts on health and health equity among different segments of the population. We show how workplace conditions, demographics and social circumstances, and structural determinants continue to shape opportunities and outcomes. Second, we turn to unemployment and precarious work and the distinctive patterns of health challenges they create for many people already disadvantaged in various ways. Last, we focus on essential workers and health system workers as two groups experiencing specific and additional challenges during the pandemic.

4.2.1 Working from home (WFH)

The most obvious impact of COVID-19 on work was the dramatic shift to flexible work and WFH. Flexible working arrangements were implemented in various ways throughout the pandemic, at times legislated and mandatory, at others negotiated on an ad hoc basis within businesses. Employers were strongly encouraged or mandated by Public Health Orders to have staff WFH during lockdowns if they could do so. These arrangements remained in place after restrictions eased, with many employees continuing to WFH one or more days per week. Hence, the idea of WFH in this section covers a range of configurations including flexible work.

Census data from 2016 show that approximately "35% of workers had jobs that were amenable to WFH. This potential to WFH is associated with higher levels of education and higher incomes, and full-time jobs" (Productivity Commission, 2021). Census data also show that the proportion of people who could WFH was much lower in areas of socioeconomic disadvantage and places that had less social infrastructure, transport and open space access, e.g., Southwest and Western Sydney (Holloway et al., 2021). Within SLHD, disadvantage is concentrated in the southwestern suburbs of Riverwood, Punchbowl, Wiley Park and Lakemba, and the inner-city suburbs of Redfern, Waterloo and Glebe (see Figure 10, above). Analysis of mobility/transport data during NSW's COVID-19 Delta wave (Hanrahan, C. & Nguhen, K., 2020) indicated that, in those southwestern suburbs in particular, fewer people switched to WFH. Remote work lowered exposure to COVID-19 and therefore, this constituted a built-in inequity in terms of risk of infection and risk to physical health.

Participants confirmed WFH provided feelings of security and safety (i3; i15; i10; FG refugee health), particularly at the start of the pandemic when so little was known about the virus' spread. "Everyone was panic buying and doing all that stuff and kids were being pulled out of school and it was a very stressful time for people", one participant recalled (i3), while another said staff worried "they'd get infected [...] if somebody had been to the gym that day, and that's when gyms were taking off" (i18).

Remote work presents additional benefits, according to key informants in our consultation: "I mean, you do miss your colleagues. Of course you do. But in connection terms, it's also a really great way of saving time" (FG refugee health). Workers saved on travel time and cost, and appreciated the flexibility and autonomy gained from WFH. This is in line with research showing reduced commuting and flexible work can lower stress and improve work-life balance and family time, in turn leading to improved wellbeing (ACTU, 2020; McCaffery et al., 2020; Oakman et al., 2020; Plimmer et al., 2020; Productivity Commission, 2021).

Some managers we interviewed shared that the shift to remote work opened new opportunities in terms of both the pool of jobs/candidates available and establishing new connections with "global players" (i2). Focus group participants noted that WFH benefited people with disability and chronic health conditions (mental or physical) and older people who suffered from chronic illness/disability; a potential "silver lining" for this disadvantaged group of workers that was also emphasised in recent research (Schur et al., 2020, p. 521). Increased recognition of individual needs and workplace accommodations with resources and support, therefore, have the potential to increase participation, inclusion and work satisfaction (Holloway et al., 2021; Productivity Commission, 2021; Schur et al., 2020; Workplace Gender Equality Agency, 2021).

Remote work is underpinned by the rapid adoption of new technology and new means of virtual communication. Participants explained that this transition was not without problems and that "muddling through" the initial phase caused frustration, stress and loss of both productivity and sense of self-efficacy (i3). There were challenges in terms of management, and within teams, "relationships were impacted", as one manager explained:

> *The staff have been really disturbed. There's been pressure to work at home. From a management point of view, it's been really challenging. Because trying to keep a team together when we were working but not doing home visits, they didn't want to be in the office together [...] Then everybody spread, so it looked – we could have remote contact, and it was a bit more friendly (i18).*

Mostly, these were temporary impacts and improved over time. In the case of the community sector and CALD-specific providers in our interviews, some lacked the digital infrastructure and equipment to facilitate the transition to remote work for their employees, leading to stress and uncertainty (see also Weng, Enqi et al., 2021).

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[4] Note this focus group was for a NSW wide service (not SLHD specific)

The changes in work processes that accompanied remote work were seen as most positive when they included ways to stay connected with colleagues through different "touchpoints" (e.g., SMS, online check-ins and huddles): "We're very careful to protect that time", one manager shared (i8). Conversely, a sense of isolation, missed opportunities to interact or collaborate with colleagues, and "Zoom fatigue" or "video call fatigue" (i7) emerged as negative impacts of remote work in our discussion with key informants (see also Plimmer, G., Nguyen, D., Franken, E Teo, S, 2020). This is perhaps why some informants favoured a hybrid, flexible model, where some days they WFH and others face-to-face.

The need for scaffolding the transition to remote work and for clear communication from leadership regarding expectations and performance, were recurring themes in our interviews. These needs were identified as paramount to an enhanced sense of control, efficacy and mental wellbeing at work. When they were not implemented or were poorly implemented, participants explained that WFH led to "feeling pressure to work more", resulting in work stress and fatigue: "[Employees] are now working longer, it's extending into people's home life […] we're very conscious of the digital impact" (i8). There is evidence of these negative effects in the literature (Oakman et al., 2020), and workers' unions are now demanding a "right to disconnect" (ACTU, 2020).

While spending less time commuting when WFH, was seen by many as beneficial (particularly among those dependant on stressful and unenjoyable modes of transport), it could also be detrimental to health and wellbeing (commuting time can be used to relax, transition between home and work, read, listen to music/audio books, etc.).Accordingly, most people's ideal commute time is non-zero, although a large proportion would prefer theirs to be shorter (Redmond & Mokhtarian, 2001). Furthermore, commuting provides opportunities for active travel, physical activity and social interaction.

While evidence suggests that people tend to make more non-work trips (e.g., grocery shopping) when WFH (de Abreu e Silva & Melo, 2018; He & Hu, 2015), these trips may not have fully compensated for the loss of commuting-related physical activity, especially where non-work trips are made using non-active transport modes (Bieser et al., 2021). As such, people living in neighbourhoods that have adequate active transport facilities (e.g., foot and bicycle paths) with nearby shops and services will have greater opportunity to maintain or even increase their physical activity levels when WFH. This is especially so for women, who, in general, are more averse to traffic and therefore much less likely than men to use a bicycle for everyday transport without access to safe, low-stress bicycle routes/networks (Standen et al., 2021).

Relatedly, a health practitioner warned that longer work hours and WFH generally means a worsening of sedentary lifestyles, with less physical activity and potential weight gain that can be challenging to reverse (i6). Similarly, a recent survey of mothers and young children in SLHD showed increased snacking and screentime, with 60% of participants reporting no increase in physical activity (Wen et al., 2021). Issues of reduced incidental exercise and more social isolation were reported as disadvantages of WFH by the Productivity Commission (2021). These trends of reduced physical activity and unhealthy eating behaviours were confirmed in a recent global survey on the effects of COVID-19 restrictions (Ammar et al., 2020). There are significant health risks associated with reduced physical activity and sedentarism that need careful consideration (Narici et al., 2021).

Besides these considerations, it is important to note that WFH is not lived in the same way across population groups. Lived experience was partly shaped by differing levels of restrictions on mobility across the SLHD. The stigma and additional restrictions and policing applied to 'LGAs of concern' during the Delta wave, were experienced as discriminatory according to participants and health practitioners. For instance, focus group participants talked of "finger pointing", feeling like lockdown was not a "common experience anymore", and a "divide between the two cities" or "an east and a west split" that was "unfortunate" (FG mental health; FG social housing). These sentiments negatively impact social and community cohesion and psychosocial stressors. A recent systematic review of evidence regarding pandemic-related discrimination also showed that racial discrimination increases during pandemic periods, particularly with the targeting minority groups associated with pandemic diseases (Yashadhana et al., 2021). Evidence of pandemic-related racisms in the literature included heightened abuse, surveillance and avoidance, with subsequent negative impacts on mental health and healthcare access for minoritised and racialized groups (ibid).

In the context of COVID-19 in Sydney and potential discrimination, there is evidence of Indigenous and disadvantaged areas experiencing higher levels of COVID-19 related fines, with the most advantaged suburbs having a rate of fines three times less than most disadvantaged suburbs (Rachwani & Evershed, 2022). It is unknown whether the income generated by the fines will be reinvested in those communities. For service providers working with refugee communities, the trauma of policing was an additional and distinct impact on refugees living and working in these LGAs, as noted during our focus group:

> *They've got police helicopters hovering over Wetherill Park and things like helicopters, amongst refugee populations, would be incredibly intimidating. For a lot of people, the last encounter in their home country was a helicopter gun ship coming through and murdering their grandma in front of them and blowing up their village. So the effect that the sound of a helicopter has, and just the vibration of a helicopter through things. I'm sure there were a lot of wet beds out there of kids losing their bladders out of absolute sheer terror (FG refugee health).*

In addition, living conditions, gender and family situations and financial capacity, among other factors, also make remote work a highly uneven experience. Neighbourhood attributes (walkability, parks and greenspace) and housing quality and size, directly impact the ability to and experience of WFH, with adverse mental and socioeconomic health impacts for people living in small, poor quality or overcrowded housing (Amerio et al., 2020; Bower et al., 2021; Oswald et al., 2022). This is a significant issue for residents of SLHD, considering the lack of affordable housing in the inner suburbs of Sydney (Morris, 2021). The uneven distribution and access to outdoor public and green spaces is also a concern, as research shows it affects liveability and physical and psychological wellbeing (Bower et al., 2021; Waitt & Knobel, 2018). People living in the western and southwestern areas of SLHD have generally poorer access to public open space than people living in other parts of the SLHD (see Access to public open space on p.38). One participant remarked that a young, part-timer in their organisation lacked a suitable space and the financial means to WFH in good conditions, , and so had to move back with their family. This example highlights intersectional factors like age and socioeconomic status which shape unequal experiences.
An Australian study exploring the wellbeing of renters during COVID-19 pandemic found that renters reported negative impacts on mental wellbeing, attributing this to their housing situation, including physical environment, access to resources such as greenspace, financial stress of being unable to pay rent, and precariousness (Oswald et al., 2022). The additional expenses incurred from WFH (for instance, ability to cool or heat old and poor quality housing and Internet/data expenses) represent an important burden on workers (particularly low-income earners) according to a recent Australian survey (ACTU, 2020), with potential negative impacts on health and wellbeing.

There is also evidence from our consultation and the literature, that the 'digital divide' linked to age, literacy or cost, create additional barriers to working and studying for home for some segments of the population, compounding existing disadvantage (Foley 2021; The Centre for International Research on Education Systems, 2020; (Jesus et al., 2021a; Signorelli et al., 2020). Only 35% of public housing residents had Internet access according to the 2016 Census (Australian Bureau of Statistics, 2018). In SLHD, social housing tenants have been identified as a particularly digitally disadvantaged group, with a 2021 survey of Waterloo social housing residents finding that 57% had limited Internet access and 14% had no access at all (Counterpoint Community Services, 2021).

Remote learning then,can also be a challenge that carries equity implications. Children from low-income families (approximately 20% of the school student population, though more in the Canterbury LGA) are particularly impacted by school closures. They have poorer access to learning devices, such as laptops and the Internet, and to quiet learning environments. They may also have lower digital literacy, less learning support from parents, and a less supportive school environment. As such, they may be at greater risk of long-term educational disengagement and harm as well as poorer emotional wellbeing (ACER, 2020; Drane et al., 2020)The Centre for International Research on Education Systems, 2020).

Lastly, juggling home schooling and other caring or child rearing duties during periods of lockdown, while at the same time WFH, was singled out as extremely challenging by our participants, causing considerable stress and strain on relationships: "It's hard to be a parent at any time, but you're also then responsible for their education" (i15). The impact on women as workers and parents is disproportionate and a key concern in terms of equity. Parents of primary school-aged children are particularly affected because of the need for learning support (ACER, 2020). Participants in our consultation also emphasised that lone parents, who are mostly women, and parents caring for children living with disability, were worst affected, as described by this service provider:

> *Carers who are kind of pressured to work from home and when they are in the midst of a caring role, this mum was telling me that work is expecting her to sit in on two-hour meetings. And her son, who has challenges with toileting and stuff, when he needs to go, he needs to go and she's got to be there to support him. And she's finding it really hard.*

> *So she was asking whether we could provide a letter to explain to her work that she can't be available for two-hour meetings (FG carer).*

These findings are echoed in the literature, showing women spent more time than men doing unpaid care work (childcare, eldercare, remote learning supervising) during lockdowns, with more severe outcomes in terms of wellbeing. Women also bore a disproportionate economic burden with more women forced to reduce work hours or leave the labour force altogether (Abufaraj et al., 2021; Xue & McMunn, 2021a). Indeed, ABS statistics show many single parents (mostly women) were unable to work and care for children and left the workforce (Jarvis, 2021 at 19). These additional burdens impacted women financially and mentally, with negative flow-on effects for children because of disrupted routines (Wen et al., 2021).

4.2.2 Economic changes: unemployment and precarious work

COVID-19 and its associated restrictions have caused major economic disruptions and instability for workers in Australia. Many people experienced loss of work and income because of stay-at-home orders, mandated business closures, border/travel restrictions and the general downturn associated with reduced economic activity (ABS, 2022a; AIHW, 2021h). The Alpha wave of the pandemic in 2020, caused the nation's deepest recession in a century, with the effective unemployment rate (which takes into account people working zero hours and those who left the labour force) reaching 17% (Davidson, 2022). During the Delta wave in 2021, the effective unemployment rate dropped to 9% as more people returned to employment, but this was skewed towards higher-paid positions (Davidson et al., 2021).

Indeed, workers in insecure jobs (casual and part-time workers) lost work far more than those in standard, permanent positions (Nahum & Stanford, 2020). Casualised workforces, including retail, hospitality and tourism, were worse hit than others (ABS, 2021b; Jarvis, 2021). Southwest Sydney was disproportionally impacted by restrictions and job losses, with three of Sydney's fifteen Statistical Area Level 4 (SA4) regions (Inner South West, South West and Parramatta) accounting for nearly half of the city's job losses during the lockdown period (ABS, 2021b, 2022c). Certain demographics have also been disproportionally affected by job/income loss, including women (McKinsey Global Institute, 2021; Wood et al., 2021), younger people (Nahum & Stanford, 2020), migrants and CALD minorities (AIHW, 2021e; Headspace, 2021), and LGBTIQ+ and gender diverse people (Equality Australia, 2020). This is evident from income support data showing the largest increases were in areas already facing disadvantage, while higher-income areas have bounced back quicker (Davidson et al., 2021).

Unemployment and job insecurity affect many determinants of health at the individual and community level (Brydsten, 2018; McDonough, 2000). Job security, the work environment and quality, financial compensation and job demands, impact mental and physical health (McDonough, 2000). Employment status has also been linked to risk of COVID-19 hospitalisation, with research in Germany showing a higher risk for unemployed compared to employed people, demonstrating social inequalities in hospitalisation risk despite near-universal health care system coverage (Dragano et al., 2020). Recent research has shown that unemployment and insecure work were some of the greatest stressors when it came to deteriorating mental health during the pandemic, with associated worsening depressive symptoms, anxiety, loneliness and life satisfaction (Bakkeli, 2021; Donnelly & Farina, 2020). This trend was also observed in Australia, as rates of mental distress followed a similar pattern to financial stress over the course of the pandemic (AIHW, 2022b).

Key informants that we spoke to, and who work with vulnerable groups, add weight to these findings. They also observed that loss of employment caused "higher stress levels" in their clients and a loss of routine, with adverse effects on sleep, diet and exercise (i6). In areas of locational disadvantage already associated with low income/savings and insecure housing, participants mentioned increased stressors like housing precarity, rampant food insecurity, poor mental wellbeing (including for children) and family conflict, when people faced loss of work (i5).

Housing is an important social determinant of health, and insecure housing linked to low-income/insecure work has come under renewed scrutiny during the pandemic because of the significant financial and personal costs associated with it, particularly in the context of a forced move or eviction (Ong ViforJ et al., 2022; Tenants' Union of NSW, 2022). Service providers also shared that clients in small and crowded housing experienced lower wellbeing in general: "The families that are really struggling are the families that only have one toilet and live in a small home" (FG carer). Within this space, women face specific challenges in earnings, wealth, housing and care, particularly as they age. The national Household, Income and Labour Dynamics in Australia (HILDA) survey found the leading concern for single women over the age of 45 was acquiring secure accommodation (M. Hamilton et al., 2020). Older women are one of the fastest growing groups of homelessness in the Greater Sydney region due to the rising cost of rent, lack of jobs (Power, 2020), insecure work (Pit et al., 2021) and career interruptions as they take on caring responsibilities (M. Hamilton et al., 2020). The pandemic is likely to have aggravated economic instability for older women, with associated negative health impacts, as caring duties, social isolation, unaffordable and insecure private renting, fear of homelessness and the inescapability of poverty, contributed to deteriorating mental health (AIHW, 2021d; Enticott et al., 2022; Equity Economics, 2020; M. Hamilton et al., 2020). A large European Survey has also found that, although women's health "benefited from home working, partial home working and unemployment, other gender-related factors have cancelled out these beneficial effects" (Wels & Hamarat, 2022 at 6).

As such, interviewees across SLHD observed a deepening of existing vulnerabilities with added financial and other "pressures" meaning "things […] are on the edge", as elaborated by a participant:

> *Generally poor, disadvantaged, vulnerable families always struggle; they're the ends of the line. They always struggle, they always have less family support, and they have less people to come to back them up […] they need work and people can't call on someone to have a break (i14).*

The temporary increase in government income support, namely the Coronavirus Supplement (an additional payment for existing and new income support recipients), had the effect of reducing inequality and easing financial stress for low-income earners; until these payments were withdrawn in March 2021 (Davidson, 2022) . The weaker COVID-19 Disaster Payment was introduced for people who had lost work/income because of lockdown in 2021. However, this support did not extend to over 80% of people on the lowest income support payment, a category than has grown by an estimated 25% compared to pre-pandemic levels, to 1.7 million people (Davidson 2022). Disaster payments were phased out by the end of 2021, while a pandemic leave payment was introduced for workers with no sick leave but who were sick with COVID-19, caring for someone who was sick, or if they were a close contact. The JobSeeker payment rate was left largely unchanged and at poverty level. The result has been a widening of income inequality and likely higher poverty, according to recent research examining the recovery phase of the pandemic (Davidson, 2022).

Participants commented on the benefits of the initial enhanced safety net, as it provided security and guaranteed access to basic necessities. One person expressed worry about the government "try[ing] to recoup some of its Centrelink benefit", perhaps a legacy of a perceived punitive welfare system (as with the 'Robodebt' scandal) and an indication of a reduced level of trust in government among some groups (lower level of trust in government has negative impacts on community cohesion and behaviour compliance, which was a possible issue for the management of COVID-19, see (Han et al., 2021; Lau et al., 2020). Crucially, work/income support payments like the Coronavirus Supplement, were not made available to certain groups, including temporary migrants, international students, and asylum seekers, creating situations of acute financial stress, according to a survey conducted in Australia (Berg & Farbenblum, 2020). This was confirmed by participants and staff "on the pointy end", who saw an influx of demand for social/community services and "found it particularly difficult" (FG Refugee health):

> *So, the asylum seeker program, people on temporary visas were not eligible for anything; no JobKeeper, no JobSeeker. A lot of them lost whatever job they had. So, we're just looking after hundreds of people who are totally destitute […] providing food packages, essential money for things like paying electricity bills so their electricity is not cut off, and from a health point of view, it's also about supporting people with life-sustaining medication and, because they don't have a Medicare card, they're not eligible for the PBS. So, a script that would cost you and I $16.40, is actually $128.60. So that's the one to keep mum's blood pressure stable so that they don't spiral out of control with their hypertension, end up having a stroke, going to ED, going to ICU, going to rehab (FG refugee health).*

Exclusion from social benefits and pandemic stimulus measures for migrants and asylum seekers occurred in other high-income countries, with severe adverse impacts on determinants of health and essential needs like housing, food and medication (MacCarthy et al., 2021; Quandt et al., 2021; Serafini et al., 2021). In other cases, accessing help is disincentivised because financial autonomy remains a condition for residency application (Burton-Jeangros et al., 2020). These compounded pressures led, at times, to worsened mental wellbeing from acute stress and

Table 7 Components of BCEC's composite index of precariousness employment

Dimension	Job insecurity	Lack of control	Working conditions
HILDA survey indicators used in BCEC index of precariousness employment	• Self-reported probability of losing job in the next 12 months • Self-reported dissatisfaction with job security • Casual or short-term contract • No union membership	• Irregularity of work schedule • Difficulty in balancing work and non-work commitments • Preference for more/fewer hours	Lack of availability of family/compassionate leave • Lack of availability of sick leave • No extra leave entitlements

Source: Cassells et al., 2018

anxiety for asylum seekers and migrants (Quandt et al., 2021; Santow, 2020; Serafini et al., 2021). This is particularly the case when other informal support networks are compromised by financial hardship, and/or dedicated community services close during lockdowns (Burton-Jeangros et al., 2020; Deal et al., 2021).

Equally concerning was the exclusion of casual employees, university workers and gig/zero-hour contract workers from JobKeeper and disaster payments, despite accounting for over half of the job losses in 2020, and an even larger share in 2021 (Nahum & Stanford, 2020; Stanford, 2021). Workers who were both casual and part-timers made up three quarters of all job losses in 2021 (Stanford, 2021). Because women experience higher rates of casual and precarious employment than men, they were also disproportionally affected (Stanford, 2021).

The new support payments were also, in part, a response to the emergence of a newly vulnerable group in the pandemic, known as both the 'working poor' and 'precarious workers', that is, people employed or underemployed on low or insufficient wages and with little savings or financial buffer ("living from pay check to pay check", as one participant put it, i5). This group is particularly vulnerable to economic shocks and not able to weather them well. There is evidence showing that precarious employment is an emerging social determinant of health through different pathways connected to chronic stress (uncertainty about the future), income instability, worse psychosocial working conditions, adverse physical conditions (low OHS prevention), greater workload, unequal workplace power relations and material and social deprivation (Benach et al., 2014).

There are no data available on the number, characteristics and spatial distribution of precarious workers living in SLHD. However, the Bankwest Curtin Economics Centre (BCEC), which has developed an index of precarious employment using data from the HILDA survey (see Table 7), reported in 2018 (Cassells et al., 2018) that, at the national level:

- Women had consistently higher levels of precarious employment than men
- Precarious employment had increased for both men and women since 2009, but more rapidly for men
- The industries with the highest levels of precarious employment were, in declining order:
  - Accommodation and Food
  - Agriculture, Forestry and Fishing
  - Arts and Recreation Services
  - Retail Trade
  - Construction.

We expect that the precarious work situation in SLHD would be similar, noting that there are very few residents employed in the Agriculture, Forestry and Fishing industry.

The pandemic has aggravated some of the risks and adverse health-related impacts of precarious work. For example, precarious workers in some sectors were classified as essential workers (e.g., those working in supermarkets, warehousing and on construction sites) and were exposed to a high COVID-19 risk. On the other hand, because many casual workers do not have leave provisions, one participant explained that they "cannot afford to wait for the [COVID-19] test to come back [...] they cannot isolate and cannot afford not to work" (i2), or not to move across work different work sites.

As such, precarious workers faced impossible decisions and trade-offs in terms of their health and wellbeing, and that of their families and co-workers, on the one hand, and material deprivation/financial instability on the other. In some cases, as one participant reported, workers faced the threat of dismissal and non-renewal pressuring them "back to work" (i5). Adverse impacts were more pronounced for workers excluded from pandemic payments and on temporary visas because of even more unequal power dynamics with employers (potential "coercive control", i5), inadequate labour market regulations, and a lack of safety nets (Chaudhuri & Boucher, 2021). At the community level, these work conditions for precarious workers led to increased infection rates in places where they lived and outbreaks on construction sites, in aged care facilities and in food distribution centres.

While precarious workers tend to experience lack of support and more disadvantageous social relations at work (Benach et al., 2014), they also faced additional "stigma" and blame for spreading COVID-19, adding more psychosocial stress. One participant shared their worry of "the blaming that happens on marginalised communities", emphasising "isolation and quarantining is a privilege and some people don't have that privilege" (FG social housing). Since responsibilities and decisions regarding the precarious contracted workforce are in essence decentralised and/or outsourced to third parties in many sectors, during the pandemic this ultimately meant "putting the risk back onto the workforce" (i2). The cumulative impacts of such low control and low social support, with uncertainty and sometimes increased work intensity is likely to negatively affect quality of life and health.

Participants were alarmed by these trends, as they recognised that many of these underemployed, casual and precarious workers are women, migrants and LGBTIQ+ and gender-diverse people who already faced significant structural barriers in the labour market prior to the pandemic. As one expert elaborated in relation to trans and gender-diverse populations:

> *[They] are in less stable jobs and work positions, less stable living positions. Economically, a little bit worse off due to a range of forms of discrimination and cis-genderism. And so, whenever there's any economic hardship being experienced by the broader Australian community, we know that it hits trans community if not as hard, ever harder. And so, there are definitely a lot of trans people that are struggling financially. Struggling to find living situations that are working for them, that are safe, and that kind of thing (i7).*

There is also evidence suggesting employment disparities are worse for LGBTIQ+ people(Equality Australia, 2020). Furthermore, there is growing evidence of the link between economic insecurity and intimate partner violence (onset and escalation) in pandemic times in Australia, raising concerns for the health and wellbeing of women (Morgan & Boxall, 2022). Aboriginal and/or Torres Strait Islander women, women with long-term health conditions and women with children are disproportionally affected and at risk of violence because of other risk factors interacting with economic insecurity (ibid).

Overall, the pandemic has highlighted the ongoing splintering of the workforce along the lines of standard, secure employment versus precarious, insecure employment (Stanford, 2021), and the distinctive adverse health challenges linked to precarious employment (Bakkeli, 2021; Donnelly and Farina, 2020). The effects of economic instability and unemployment on health and health equity are still unfolding and will become increasingly apparent over time (latent and longer-term impacts).

4.2.3 Population focus

The COVID-19 pandemic triggered important changes to the labour market and to work practices in Australia. It also highlighted, and at times deepened, patterns of inequalities, as discussed in the previous section. In what follows, we foreground the impacts of changes to work on groups of workers who were identified at the scoping stage as experiencing disproportionate or specific impacts with implications for equity.

Essential and frontline workers

Frontline workers must leave their homes to maintain the essential functions and infrastructures of the economy across different work arenas, such as on site-customer interaction, indoor production and warehousing, transportation of goods, construction sites and farms (McKinsey Global Institute, 2021). Many of these occupations are staffed by people who are younger, women, migrants (people on temporary visas, refugees, undocumented people) and from CALD minorities (Clay & Rogus, 2021; Holloway et al., 2021; St-Denis, 2020a). Considering the low-paid nature of much of this work, essential workers also tend to be more socioeconomically vulnerable and concentrated in areas of locational disadvantage and with higher numbers of people living in each household (Holloway et al., 2021). In 2021 for instance, Western and Southwestern Sydney experienced concentrated patterns of COVID-19 infection

(ABS, 2022a) connected to the large proportion of essential workers going to work, becoming infected and in turn infecting their families (Holloway et al., 2021). A similar pattern of COVID-19 infections overlapping with areas of socioeconomic and locational disadvantage, was observed in other high-income countries like the UK (Public Health England, 2020), USA (Chang et al., 2021), Canada (St-Denis, 2020a) and France (Jannot et al., 2021). In this respect, the pandemic has spotlighted and deepened existing structural vulnerabilities and systemic social and spatial disadvantage (Solis et al., 2020; St-Denis, 2020a).

"None of it really comes as a surprise", one participant said (i5). And, besides the immediate negative health consequences from infection with COVID-19, our key informants reported that increased risk of exposure at work, perceived lack of protection and fear regarding the safety of family members, caused stress, anxiety and increased family conflict/tension, particularly when vaccination was not widely available in mid-2021 and children were ineligible. As one social worker shared, in places with many essential workers and high transmission, negative impacts on mental health was significant:

> *That was definitely felt. They felt scared, they felt like they could catch the virus, they felt scared to go out, they felt scared when they did go out if something had happened […] they have so many fears about where they live, let alone fears of the virus and the fears of the vaccine. There's so many levels of fear for them and their children (i14)*

Essential workers caring for children were particularly prone to stress and anxiety, as they needed to manage ever-changing childcare/school arrangements and infection risk. There is other evidence from the US and Canada that parents working in occupations associated with high risk of COVID-19 exposure were forced to make difficult trade-offs in their work and personal lives, with women and minority populations disproportionately affected (St-Denis, 2020b; Sterling et al., 2020; Xue & McMunn, 2021b). Among CALD communities in south and western Sydney, one practitioner suggested changes to work could have adverse flow on consequences for young people:

> *Of course, people in the more affluent suburbs are able to work from home. They have the type of jobs that […] so there's such a big inequity about who can work from home and who can't, and it will be interesting to see how many eldest daughters […] have had to take on a role of carer at this time and how that washes up eventually as well […] if their parents have to go to work or aren't very literate, the technology that you need, then the older sister plays a big role (FG refugee health)*

In locked-down 'LGAs of concern', essential workers going in and out of these areas also dealt with new barriers to accessing work that were challenging to navigate for an already stressed population, as a participant shared: "when you're getting told by the policeman, you can't […] you've got to leave coming from Redfern to Paramatta or something like that, that was pretty hard" (FG social housing).

While some frontline workers lost their jobs (particularly those working in hospitality, cleaning and retail), others who remained employed experienced additional workload and work intensification. One participant explained that workers in commercial cleaning (one of Australia's largest employers of temporary migrants/international students (SBS, 2021) had to meet more stringent cleaning standards within the same work hours and pay, leading to an increase in health and safety incidents (already rife in the industry). They also noted increased prevalence of mental ill-health connected to stress, uncertainty, fear of the virus, underpayment and lack of control and recognition (Bakkeli, 2021; Batterham et al., 2021; McMahon et al., 2020).

As previously mentioned, a large proportion of essential workers are refugees or migrants, some with indeterminate legal status and/or limited work rights. During our consultation, some participants explained that these workers distrust and fear government and official institutions. As a result, they can be reluctant to engage with the mainstream health care system and contact tracing, making the early detection and management of outbreak at workplaces very difficult. These workers also faced additional barriers to "accessing mainstream services" (i2) and the required testing and vaccination to carry on working in instances where eligibility is conditioned by Medicare status. These barriers add another layer of stress, anxiety and financial instability, according to our interviews (i2; i5). Migrant workers who are "not tied to community" (i2) were also identified as worse off by participants, as they could not rely on community or family support networks in navigating work challenges and the uncertainty of the pandemic. Evidence from Europe also suggests reduced access to family support, health-related risks and worsened work situations during the pandemic are associated with lower life satisfaction (Bakkeli, 2021).

While essential workers faced unprecedented challenges to keep the economy running, participants also emphasised that government and agencies had risen up to the challenge (for instance with priority testing and vaccination): "there is a bit of a recognition by the government that we can't actually do without them and that they need to be looked after" (FG refugee health).

Health system workers

The pandemic imposed a dramatic shift in the ways people in the health care sector did their work, with the pandemic response forcing the development of new work processes to manage risk exposure (infection control, training, PPE), major changes in service delivery, staff redeployment and diversion of resources to prepare for and/or deal with the influx of COVID-19 cases. These rapid transformations have had differential impacts on staff, their health and wellbeing. From the outset, it is important to note that the health care workforce is not homogenous and covers a range of occupations, sectors and settings, creating diverse and uneven pandemic consequences (Lotta et al., 2021). Within SLHD, there is a large and demographically diverse workforce, with employees engaged across a range of professions and work levels spanning managerial, administrative and clinical expertise (Sydney Local Health District, 2015).

Throughout our discussions with key informants, there were two main areas of concern that emerged as impacting staff's health and health equity with mixed outcomes. First, maintaining staff safety while ensuring continuity of care and service delivery; this also required the development of innovative work processes. Second and as the pandemic has continued on with no clear end in sight, coping with increased workload, pandemic fatigue and ongoing uncertainty/unpredictability have become significant issues. These complex challenges have impacted individual and collective resilience, this being the third theme discussed in this section.

Pandemic response: staff safety, WFH, and new processes

There is strong evidence that health care workers in patient-facing roles are at greater risk of contracting COVID-19 (and dying) than the general population (Kirby, 2020; Nguyen et al., 2020; Quigley et al., 2021; Rafferty et al., 2021). In Australia, doctors, nurses and other health care workers are nearly three times more likely to get COVID-19 than other Australians (Quigley et al., 2021). During the 2020 wave of COVID-19 in Melbourne, 70 to 80% of Victorian health care workers were infected at work according to estimates, with nurses and workers caring for older people among the most affected groups (Smith, 2020). In Sydney, there were also significant pressures on the health system in 2021-22 during peak infection times, with sick and furloughed health care workers.

Similar to findings reported in international and Australian literature, managing the risk of COVID-19 infection and safety at work was a significant challenge that impacted staff, sometimes with equity implications. Different roles have different levels of exposure to risk and some staff were reluctant to be on the frontline and in high contact jobs at the start of the pandemic, when very little was known about the virus and its transmission. "People were petrified understandably", one manager commented (i3), while a frontline health worker said: "especially there are mums, they didn't want to be exposed, but we have to get care to people" (i11). Staff working on the frontline in quarantine hotel facilities known as Special Health Accommodation (SHA), not only experienced higher risk of infection, but also stigma, discrimination and high levels of scrutiny at different times of the pandemic (email communication key informant validation, April 2022).

Implementing infection control measures in some areas, like psychiatric wards or working with older people, people with dementia or disability, came with an "extra level of challenge" (i13) and stress for staff, according to participants (i11, i13, FG carer). Others were concerned about infecting vulnerable co-workers and families in a balancing exercise that was "at times uncertain, at times quite scary and confronting" (i15), staff shared, and with reported negative impacts on mental health and wellbeing for some staff who were "highly anxious" (i16) at times, as also expressed by managers:

> *A lot of these midwives and doctors are actually going home to families where they are –or vulnerable elderly parents, or whatever it might be, that the risk that then poses to them […] we're all pretty stressed, not just at work but also at home and being really mindful of that [is important] (i15)*
>
> *One of the biggest issues for me in terms of morale for myself was that last year we weren't vaccinated […] we didn't know exactly the risks. I wasn't seeing my parents and just because I was working on [clinics], we were worried, I was worried (i10)*

A perceived lack of PPE and changing rules for PPE in different sectors/LHDs, also raised anxiety in the first stage of the pandemic. However, it was acknowledged that the management of risk exposure and the provision and communication around PPE had consistently improved, and this was perceived positively. Transparent communication around risk, exposure and available mitigation measures (e.g., masks and PPE at the start of the pandemic, rapid antigen tests and air purifiers later on) was emphasised as an important lesson from the early days of the pandemic.

Cognisant of these challenges and the need to protect staff, SLHD has worked on the development of flexible working arrangements to enable, since mid-2020, staff, who can do so, to WFH. Many participants shared that this transition to more flexible working arrangements (primarily WFH) was not uniform, "people experienced it very differently across the district" (i3). As the review conducted by the Strategic Initiatives Division of SLHD early in the pandemic indicates, this initial shift to WFH was 'highly variable', with some teams and departments moving partially or entirely to WFH, some being shifted to an online only environment because of COVID outbreak, and others not being able to WFH at all (Knoblanche, 2021). Hence while some participants experienced the benefits of flexible WFH (similar to those described earlier), others expressed that requests to WFH had been denied. Some reported that this caused stress, frustration and feelings of disempowerment and lack of control, negatively affecting their mental wellbeing and work satisfaction. There is evidence that health workers unable to work from home experienced stress and anxiety while working in patient-facing roles and on the frontline (Alexopoulos et al., 2020; De Kock et al., 2021). On the other hand, other studies show stress and burnout rates higher among physicians who were not directly involved in the treatment of the virus, compared to those immediately on the frontline (Dinibutun, 2020; Wu et al., 2020). Relatedly, in terms of respite and leave-taking, participants said that opportunities to do so have been limited and not distributed equally across different teams and departments on the frontline (e.g., ICU nurses, midwifery staff and SHA staff were reportedly more impacted) creating inequities and built-up fatigue.

The pandemic response required the development of new work processes and communications which were experienced positively by participants when they felt listened to, included and given more autonomy in the process. As one health manager (i15) put it, it was paramount that staff "felt like they were on the journey with us" and that their health and safety was valued:

> *I think that's been really essential. It's been about, even just ensuring that we're continually updating our teams as to what changes have occurred, because at times those changes were happening three times a week, you know. And so trying to make sure that [...] we were there supporting them, we were advocating for them in forums with other teams, with the executive (i15)*

The management of COVID-19 across SLHD required more sustained communication between different sectors of the district to share information and rapidly solve problems.[5] Very regular meetings across different departments, hospitals and health services, enhanced feelings of inclusion and participation among staff. Crucially, this was underpinned by a "favourable context" (i3) of shared goal, increased resources and time commitment. Particularly in supporting marginalised and vulnerable groups, "the amount of services that have joined up [...] doing that proactive support" (i18) was highlighted as an important enabler for staff to combine efforts in providing tailored, quality care. Managers and senior staff we spoke to reported many positive impacts. One participant explained "there was so much more collaboration and efficiencies" (i3), while another also mentioned "enhanced collaboration" and "increased degree of communication" (i13), with "extra level of responsiveness and flexibility that staff have developed" in the organisation (including from the top echelons) as a result and additional benefit from this change. With "increasing collaboration between all the teams" came "a real focus on the important roles that every individual plays in any of these sort of scenarios", another staff said (i15).

Collaboration with external stakeholders was enhanced and strengthened through the pandemic, for instance with aged care and disability care providers, Aboriginal Health services, Department of Communities and Justice (DCJ) and NGOs. Coordination within and across agencies was essential to SLHD's integrated and effective response to the pandemic, according to a recent study(Liu et al., 2022). Newly formed community of practice groups within NSW Health, also contributed to preparedness, outbreak management and vaccination in these priority areas with some success (see Section 5. Equity-focused response in SLHD).

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[5] This collaboration extended through forming Community of Practice working groups between health and other sectors (disability, aged care and community sector/NGO, see equity-focused response in SLHD).

Considering the need for rapid response, some staff also reported being given additional control over decisions, access to more resources and facing "less red tape", "forms", "rules and regulations", and gatekeeping, which facilitated the development of adaptive capacities and autonomy:

> *I thought, certainly at a bureaucracy level, there's been a philosophy of if it passes the pub test and makes sense to help people, then just do it (FG aged care).*
>
> *And the freedom that came with COVID. If you had an idea in COVID, people ran with it.'Great.Yes.Do that'. The home visiting side of things for vaccinations. 'Yes. Of course, we thought of that, let's do that'. So people felt really empowered (i18).*

Put together, this sense of heightened collaboration and "teams working together", "living through a crisis" inspired a sense of "real pride in the organisation" and feelings of "real camaraderie"(i3) with positive impacts for staff cohesion and wellbeing. "I think there has been a real acknowledgement of everybody's contribution and everybody's place, and in making this all work" (i15).

Some participants felt that operational communications were not always as inclusive as they could have been, with workers "miss[ing] out of the loops" or "email chains" and feeling at times disempowered. Evidence from overseas research also indicates that material and institutional support in adapting to pandemic conditions in the health sector, is crucial for staff mental wellbeing (Lotta et al., 2021). In parallel, some collaboration with external partners (e.g., aged care and disability care) was challenging, perhaps reflecting underlying and pre-existing issues of funding, training and staff shortages, and this caused some frustration and stress for SLHD staff.

Health care staff also had to adapt quickly to new service models and develop innovative solutions that are described in more details later in the report (see 4.3. Changes in health services p.73). These changes were sometimes perceived as "incredibly derailing" (i9) and "disruptive" (i18), as staff have tried to adapt as best they could, and in some cases, they created additional workload at short notice. Indeed, working with external collaborators and organisations for instance, contributed to increased fatigue in some cases (email communication key informant validation, July 2022).

On the other hand, some staff also reported feeling energised, "empowered" and enthusiastic about their capacities to adapt and deliver services. As this staff member shared, the "momentum of change and excitement [...] that's what kept everybody going, I think, through the fatigue and stuff" (i18). The pandemic also provided opportunities for training in new areas and/or upskilling: "the way we all moved to different services and had different experiences, and use skills differently and were able to influence" (i18). As another manager put it: "staff have developed new expertise…become more skilled" (i13), for example in managing the outbreak in different settings, or with nurses upskilling to ICU care. This was perceived as positively enabling social determinants of health like education/training, autonomy and self-efficacy. Redeployment was also positive with "benefits in terms of relationship building" and connections for staff across fields and services, but also within the same field. One staff member shared "if we were back in the office together, they'd consult with me and they wouldn't have otherwise." (i10).

Pandemic fatigue: increased workload and staff wellbeing

The pandemic has not only demanded new and rapid adaptation to workplace changes, it has also been accompanied by increased workload for many health care workers who saw the scope of their work and responsibilities increase. Many participants shared that the pandemic has had a "big impact on wellbeing" and "staff are tired" (i13). This is not surprising as health care workers, shoulder two dimensions of fatigue experienced during the COVID-19 pandemic. First, the immediate feelings of tiredness or depletion of physical and mental reserves (most evident in frontline health care workers engaged in the treatment of the virus). Second, the general pandemic fatigue, defined by WHO (2020) as the demotivation to remain vigilant and mitigate the negative consequences of living life in the midst of a pandemic (see also Masten & Motti-Stefanidi, 2020). This latter dimension of more pervasive feelings of physical and mental health fatigue and demotivation, is most evident in the general population where the virus impacts on everyday life (ibid).

Health care workers are therefore disproportionately burdened by pandemic fatigue owing to the dual role that they occupy: as both on the frontline of the rapid and evolving COVID-19 prevention and treatment response, and as citizens of the state upon whom restrictions are imposed (and in some cases, imposed differentially owing to exemptions for essential services)(Drysdale et al., 2020). As one participant summarised, the "impact on staff trying to juggle home schooling and all the other requirements of their lives, as well as providing face-to-face service, has been tricky” (i13). Extended isolation periods in SHA for SLHD quarantine health system workers when infection prevention and control (IPAC) breaches occurred, is another example of the severe disruption to personal and professional lives endured by staff, and with consequences on staff welfare (email communication key informant validation, April 2022).

There is also strong evidence that immediate and long-term effects of pandemic fatigue on health workers directly involved in the treatment of COVID-19, predominately in tertiary care or hospital settings, included physical and mental fatigue, stress and anxiety and burnout (Ilczak et al., 2021; Sasangohar et al., 2020). A recent study among frontline Australian health workers shows one in 10 experienced thoughts of self-harm or suicide (Bismark et al., 2022). In addition, this added mental and work load has contributed to what is generally known as compassion fatigue (the perceived inability to provide care) and/or vicarious traumatisation (Alharbi, Jalal et al., 2020; Drysdale et al., 2020; Li et al., 2020). Stress and anxiety, depressive symptoms, inadequate sleep and burnout have also been commonly reported among health care workers who are not directly on the frontline (Alanazi et al., 2021; De Kock et al., 2021).

While all staff may be vulnerable to pandemic fatigue, this can be experienced differentially according to the capacities and support needs of each work category. Key informants noted that peer health workers and community-based workers in particular, bore the brunt of this dual exposure. As members of the communities that they support, they are personally negatively impacted, “distressed” and anxious because of the COVID-19 outbreak and restrictions, while also needing to respond to increasing needs/demands for services from communities in the context of work (i7; i5). When work structures are scaled down (e.g., shift to online) or under strain as well, workers can feel insufficiently supported to face the mounting challenges of pandemic fatigue and additional workload, chipping away at their capacity to adapt and “bounce back”:

> *It takes energy to run services and provide that emotional, physical labour, and care for people […] during the pandemic it’s not that it doesn’t happen, but it’s more difficult. And so, it’s just more complicated to find all the energy to build that back up, before you have to then go and provide it again (i7)*

Evidence from the literature also shows that certain groups of health care workers have suffered worse impacts from pandemic fatigue, additional workload, burnout and chronic stress. Staff with less control and autonomy, such as nurses, experienced a significantly higher level of stress at work during the pandemic compared to doctors and paramedics (Ilczak et al., 2021). Being female was another factor linked to increased stress and anxiety among emergency medical personnel in that study (ibid). In addition, in high-income countries, workers in home care (e.g., disability care and palliative care) and aged care settings tend to be older, lower-paid workers, who are more often women and/or from a CALD background (Commonwealth of Australia, 2020; Eastman et al., 2021; Gonçalves et al., 2021; Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability, 2022; Sterling et al., 2020). As an already marginalised, or even “invisible” workforce (Sterling et al., 2020), these workers operate in close proximity to vulnerable groups and, in a study in the US, reported facing heightened risk of virus transmission, and difficulties accessing training, adequate PPE and vaccinations (ibid). Health workers in the disability sector in Ireland, similarly faced adverse consequences for health and wellbeing during the pandemic (McMahon et al., 2020), as did palliative care nurses in Portugal, who reported high levels of work and patient-related burnout (Gonçalves et al., 2021).

Our engagement with participants working with or in the aged care and disability sectors indicates that pre-existing vulnerabilities (like staff shortages and high work pressures) have been exacerbated by the pandemic, with reported negative impacts on staff, and potential worsened physical and mental health outcomes. In the focus groups we ran, some participants expressed the feeling that aged care and disability care have been “forgotten” and under-resourced in the pandemic response: “It feels, and this is probably common all the time, it feels like our clientele and the vulnerable group were a bit left behind, I think” (FG aged care). Participants working with the disability and aged care sectors were concerned that infection training and protection for workers (PPE, testing, vaccination) was not always adequate. Reports from the Royal Commission into Aged Care Quality and Safety (2020) and from the Royal Commission into violence, abuse, neglect and exploitation of people with disability (2022), also noted significant lack of PPE and infection control expertise. One participant in our consultation, added that many disability workers are contracted casuals not always working in optimal conditions:

> *I really feel for disability support workers [who], you know, put their hand up to work […] I’m very surprised with the way in which [private] providers treat their staff […] they’re almost seen as, this is awful to say, but disposable pawns, where they’re used as a means of getting something done without much care, and this is a generalisation, for their own wellbeing (i9)*

Staff also spoke of stress and lack of control and the difficulties in managing infection risk while supporting their clients/patients. It is a fine balance to strike, as this disability expert put it:

> *But also, at the same time, very remarkable stories of what some disability support workers have done, and the lengths they’ve gone to, to provide amazing support for their residents, and really putting their own wellbeing at risk in many respects (i9)*

Staff shortages and high work pressures pre-pandemic have also been aggravated when workers become infected, need to isolate or are barred from working across different facilities/homes. This can cause serious financial stress for precarious workers and creates additional workload for remaining staff. In the absence of a surge workforce, they want to “keep going, trying to help […] to the detriment of their own health”, adding to pandemic and generalised fatigue. As one participant reflected, in the short term, “there’s going to be a lot of exhausted staff and a lot of staff who haven’t had a break at all […] that does have to take a toll somewhere” (FG aged care). If not managed, these pressures have the potential to exacerbate inequalities for workers who are already disadvantaged because of gender, age or minority position (AIHW, 2021h; Quigley et al., 2021).

The impact of pandemic fatigue on the wider health care sector is another area of concern, especially for those who those who are not directly on the front line but who are equally engaged in the prevention and management of the virus. This group occupies a ‘middle ground’, between immediate physical and mental fatigue experienced by the frontline health workers and the demotivational fatigue experienced by the general population. Scenarios affecting all health care workers are increasingly characterised by uncertainty, unpredictability and reduced agency/control, which may be present both within and outside of the health care setting, and thus present additional challenges in managing pandemic fatigue (Drysdale et al., 2020). Beyond the immediate physical and mental challenges of the pandemic, participants talked about the difficulties of coping with uncertain scenarios. They spoke of policy and direction that “changed every three minutes” (i3) (understandably many added) and the impossibility to foresee the length of lockdowns, the duration of service disruption or the possibly of new waves of infection.

As a result, and in a rapidly changing situation, planning activities and events has become very challenging for health and community workers. As one of them emphatically put it:

> *We applied for funding to do a program, can’t do it… We were trying to do a[n] [event] with the community, all the agencies that work in [location] to try and welcome them back. Well, that was planned for this year, cancel, cancel, cancel, cancel (i14)*

This can dampen momentum for action, as this worker also said “we need to be much more proactive. I mean my work is proactive, but it’s been less so because of this [COVID-19 uncertainties and disruption]” (i14). More broadly, participants expressed that there was at times, a desire to conserve energy and use time wisely. The next phase of living with COVID-19 raised concerns and unpredictability for some staff as to what that would look like for service delivery and handling non-vaccinated clients. Chronic uncertainty, worry and stress at work is likely to have adverse consequences on core protective factors for mental health and wellbeing, with research showing differential, persisting and worse impacts already experienced among certain minorities based on age, race, socioeconomic status (Australian Bureau of Statistics, 2020; Y. T. Chen et al., 2021; Dickerson et al., 2022) and gender and sexuality (Equality Australia, 2020; Jones et al., 2021).

Resilience

Rapid changes to work, increased workload, pandemic fatigue and other difficulties derived from COVID-19 restrictions and disruptions, have put staff’s adaptive capacities under increasing pressure, bringing to the foreground the question of resilience. Participants emphasised that the “resilience to support other people” continues to be “really complicated” (i7) in the health and community sectors, as the disaster response to COVID-19 extends over a long period of time, and “building back up” can be a challenge. Research has documented how health care workers regularly utilise ‘surge capacity’ in many aspects of their work; that is, a collection of mental and physical adaptive systems that people draw on for short-term survival in acutely stressful situations (Habersaat et al., 2020; Masten & Cicchetti, 2016), and this can extend to non-human resources within interconnected systems (Drysdale et al., 2020; Masten & Motti-Stefanidi, 2020). These resources make up individual resilience, but resilience is not just as an individual attribute or a singular isolated trait of a person, family or community. Within a social systems' perspective, it can also be understood as a broader and multifaceted capacity.

As the global pandemic is a multisystem disturbance, a systems-based understanding of resilience is warranted. That is, "resilience is best defined as a systems concept referring to the successful adaptation of a complex dynamic system to threats or disturbances, drawing on distributed capacity through many processes" (Masten & Motti-Stefanidi, 2020, p. 98). As resilience is distributed across systems and relationships, these can be united in order to mobilise responses to challenges. In this light, resilience is a collective and systems-based property that needs to be nurtured by organisations, work context and relationships.

At the same time, 'surge capacity' and capacity for resilience are not boundless, and over time they get eroded, as one nurse we interviewed concluded:

> *I'll probably still stick to part-time and maybe find another form of employment if I can. Because it's not something I want to stick around with; it's very stressful, it's very demanding […] you can only adapt for so long […] you start to think of the important things for you at the end of the day (i11)*

Another participant expressed concern that pre-COVID-19 workplace challenges, such as staff shortages and funding issues, meant that "there is absolutely zero buffer" (i6) in the health system at the moment. Even when regular services come back, staff shortages potentially create additional workload and pressure for the workforce (Knoblanche, 2021). A few participants also mentioned examples of staff burnout and resignations. This was raised as an issue for remaining staff's health and wellbeing, as they would be called upon to take up more work in the short term, further depleting their capacities for resilience in the long-term.

Continuing to provide access to support services to staff, including mental health support (e.g., Employee Assistance Program) and basic services (e.g., transport, food, housing to isolate) has been shown to mitigate some of these adverse mental health impacts (Hughes & Fairley, 2020) and enhance resilience. Changes in tasks and interactions, together with adequate staffing, are also among protective factors identified in aged and disability care (Gonçalves et al., 2021; McMahon et al., 2020; Sugg et al., 2020). Participants in our consultation also pointed to "clear", "honest" and "transparent" communication strategy, including communicating about unknowns, best/worst case scenarios or issues that may arise, as a central lever to strengthen staff collective resilience and alleviate some stress/anxiety. Bouncing back to business as usual is not a desirable prospect, as one manager put it: "Now that [staff] are back in their substantive roles, it's just going back to more of the same. And I don't think anybody's looking, me included, we're not looking forward to just getting back into business as usual" (i18). Instead, participants emphasised the opportunity to continue listening and empowering staff so that they carry the enthusiasm and learnings they gained from adapting and responding to the COVID-19 crisis, as this can feed into resilience building.

4.3 Changes in health services

As documented by the WHO (WHO, 2020b, 2021) and another global systematic review (Moynihan et al., 2021) the pressures on health systems since early 2020 have been very significant. There were wide ranging impacts with ongoing service disruptions, including in high-income countries (94% of countries surveyed by the WHO in 2021 were affected), affecting availability and access to quality health services across all major health areas.

Health services in SLHD respond to a broad spectrum of needs and range across health promotion, disease prevention, diagnostic services, treatment, management of chronic health issues, emergency and critical care, rehabilitation, palliation, psychosocial and other support services. SLHD is also active in partnering with other agencies to deliver integrated care and promote healthy homes, neighbourhoods and communities, via coordinated, preventative care and early intervention. SLHD policies, practices and interventions implemented to reduce the spread of, and harms to health from, COVID-19 have induced significant changes to health services in the district. Resource reallocation and prioritisation, combined with physical distancing and density restrictions, have dramatically altered health care delivery. Tertiary care and services in hospital settings were particularly affected with stringent infection protocols and controls on visitations. During successive outbreaks, many face-to-face services were completely stopped as they were deemed non-essential or too high-risk. Other care was postponed or rescheduled, and staff were redeployed en masse. Changes to health services in SLHD were made in line with NSW Public Health Orders and the COVID-19 Infection Prevention and Control Response and Escalation Framework, a risk matrix that determines alert levels and appropriate response (Clinical Excellence Commission, 2022).

The adoption of new technologies with video and/or phone consultations enabled SLHD to pivot and resume care virtually for some of the services that were stopped. Weighing up risks of infection to COVID-19 with the need for ongoing services is a difficult equation to solve. There is also a continual tension in balancing COVID-19 risk, staff safety and the socio-medical needs of a very diverse population with differential capabilities. Some of the unintended consequences of these changes may only have short term impacts, while others may be more long-term. Importantly, changes to health services and their attendant consequences have been experienced differently based on population characteristics and demographics.

SLHD's vision is to provide "excellence in health and healthcare for all", ensuring equitable access to high quality, patient/client /family centred care is embedded as 'core business' in all areas of the district (Sydney Local Health District, 2018). The far-reaching and ongoing impacts of the pandemic puts SLHD's mission and recognised excellence in care (Australian Commission on Safety and Quality in Health Care, 2018) under strain. The demand for care may have also changed, with reports of decreased presentations at Emergency Departments (ED) for instance (up to 38% decrease in the first three weeks of the pandemic but it has rebounded since with some fluctuations during peak outbreaks), see (AIHW, 2021g; Bureau of Health Information (BHI), 2022). We therefore examined the impacts of changes to services on health outcomes and health equity with a focus on the key dimensions of equity: access, availability and quality (Levesque et al., 2013).

In this section, we bring information collected during our consultation with staff and service users together with evidence from the latest research on pandemic-induced disruptions to health services, to inform our assessment. First, we focus on the consequences of resource prioritisation and the temporary interruption of a range of health services. Second, we turn to changes in client/patient behaviours that have affected health care seeking and access. But as outcomes are determined by the dynamic interaction between service users and the health system (Levesque et al., 2013), we also consider significant changes to service delivery, like the virtual care and other restrictions that have shaped health care utilisation and consequences for patients and staff. In the last part of this section, we focus on impacts for specific population groups. Overall, we found that pre-existing inequities and disparities in health outcomes have, in some cases, been reinforced. New vulnerabilities and inequities for certain groups have emerged as a result of COVID-19 restrictions and changes in care, but there is also evidence of adaptive capacities and resilience.

4.3.1 Prioritisation

Disruption in health services can be attributed to both planned and unplanned changes to service delivery in the context of COVID-19 preparedness and response. In high-income countries, disruptions are more often the result of intentional changes implemented through government policies (62%), according to a 2021 survey by the WHO (WHO, 2021). Strategic (intentional) service delivery modifications (e.g., limiting community-based services or outpatient care) and changes to essential public health functions (e.g., population-based services like disease prevention) have been routinely used to prepare for COVID-19, deal with surges and protect the safety of staff and service users (WHO 2021).

In NSW at the start of the pandemic, resources were quickly diverted to preparing for and managing COVID-19 outbreaks. This extensive preparation proved to be valuable in dealing with successive waves of COVID-19 infection when hospitals began facing a growing volume of patient presentations, particularly during the Delta wave in Sydney in 2021. Participants described that caring for patients infected with COVID-19, and measures to limit the spread (to other patients and staff) in hospital settings, put significant pressure on the health system. Activities needed to be refocused to ensure adequate staffing levels. Staff were redeployed and enrolled in contact tracing activities and vaccination, as these became an increasingly central part of the COVID-19 response in NSW, and therefore in SLHD (SLHD, 2020, 2021). For a while, “we just focused on COVID”, “COVID was the number one priority and everything else was on the backburner” (i10), participants explained, with “money” and “staff taken from various places and put into the COVID response” (i16). There was also explicit decision-making regarding maintaining very low risk and exposure to COVID-19 that led to many services being shut down. Strict virus suppression became a priority that also had important consequences on health services and equity, as discussed in more detail below.

Several implications arose from this. First, the allocation of “finite resources” (to use the words of a participant-FG aged care) within the hospital system under pandemic conditions, shifted existing questions of equity and ethics from the realm of the abstract, into the very concrete terrain of imminent threats and competing needs. As highlighted by health experts in SLHD, prioritising the allocation of finite resources to COVID-19 prevention and treatment raised pressing questions of opportunity costs and distributive justice: do such interventions reflect a “fair and appropriate distribution of benefits, risks and costs” for different cohorts of patients? (Fisher et al., 2020, p. 961) These types of questions also caused worry and concern among participants working with older people, for whom appropriate treatment can already be a contentious matter. “Expectations of families” can be “at odds” with clinicians’ recommendations, one aged care specialist said (FG aged care). With age being a strong predictor of poor outcome in the event of a COVID-19 infection, “who gets active treatment versus who doesn’t” was a potential issue (FG aged care). Having said that, the health care system in Australia was not overwhelmed by COVID-19 the way other Western countries were. While the ethics of setting priorities for the allocation of resources was also carefully considered at the international level (WHO Working Group on Ethics and COVID-19, 2020), Australia had standards and safeguards for quality of health care (see NSQHS Standards, Australian Commission on Safety and Quality in Health Care).

Second, and given the considerable pressure on hospitals at the height of COVID-19 waves, it was apparent in our discussion with key informants that managing competing priorities was a challenge. How to safely manage high COVID-positive patient numbers and care for COVID-negative patients, while maintaining safe staffing levels, potentially risked negatively impacting the quality and appropriateness of care. For instance, one participant explained that the trade-offs between “patient’s best interest” and ensuring staff safety amidst critical shortage, can potentially lead to poorer health outcomes (i11) (e.g., through additional sedation a patient may require a longer recovery time, in addition to potential mental health impacts through limitations on supports such as psychologists). Another participant detailed how the expansion of COVID positive pathways across non-COVID care areas in hospitals also had the potential to limit access to (non-COVID) care.

Within the wider health care system as well, while staff and resources were diverted to COVID-19, we heard from participants that strategic meetings, planned changes and improvements, and even day-to-day care were severely disrupted. It became “hard to get business as usual done”, one senior interviewee said and with new programs “a whole lot of things have all been put on ice; so there have been huge flow-on effects” (i13). Non-COVID care and case management, even those described as “complex” and “urgent” matters by staff (i16), had to be sidelined temporarily as well:

> *Sometimes I was told last minute to go to the drive-thru [testing clinic]. And I would be like, but I’ve got a complex case discussion with DCJ scheduled (i10)*

Prioritising COVID-19 management with diverting resources and staff inherently generates inequities then, for accessing other care, as summed up by this participant:

> *There’s an inequity in the amount of attention that has been given to the things that we need to do on a day-to-day basis, and I think actually the community has felt it because they can’t access care in as timely a way. Non-COVID related care (i13)*

In our interviews there were mixed perspectives on the prioritisation of COVID-19 and the suppression strategy that required suspension of most face-to-face services or home visits. Regarding the closure of services, one staff commented, “there wasn’t capacity to have a balanced discussion” and whether it was “helpful or not. It was just eradication. That’s it” (i16). Another also explained “we’ve taken a very risk averse-approach” but still delivered face-to-face and home visits, “still seeing clients in the community” (FG carer). About redeployment and prioritising COVID-19 care, one participant shared “it made sense originally, but I just felt like it didn’t make sense in the end” (i10). Managing the magnitude and extent of service disruption and minimising impacts on essential services remains a challenge in a rapidly changing context.

4.3.2 Temporarily stopping health services

Overview

With a focus on critical care, health care rationing and diversion away from clinical care, the pandemic has had major impacts on health services (Chiumento et al., 2021), creating unmet needs. The literature defines unmet health care needs as “characterised by three types of behaviours likely to be induced by the pandemic: forgoing care for fear of contracting COVID-19, having pre-scheduled care postponed and being unable to obtain medical appointments or treatments when needed” (Arnault et al., 2021). Two of these dimensions, postponement and unavailability, pertain to access and availability of care. Missed care may not always cause harm and there is international evidence that reduction in health care use has been larger among those with milder illnesses (Moynihan et al., 2021). However, pre-existing vulnerabilities and unequal patterns of access and use suggest a more complex picture and outcomes. Pre-pandemic, there already existed large inequalities in access and use of health care, with groups in lower SES and CALD persons experiencing more difficulties in their ability to meet their health care needs (AIHW, 2006; Dixon-Woods et al., 2006; Korda et al., 2009; Nkhoma et al., 2021). Some groups also experienced inequities in terms of health care quality, such as ethnic minority women (Basile Ibrahim et al., 2021).

In SLHD, access and availability of care was impacted as planned primary and specialist care, and health promotion, and protection activities were cancelled or put on hold. People faced major difficulties in making new appointments when services shut in line with Public Health Orders, Red Level alerts and staff redeployment (some of these disruptions are documented in (SLHD, 2020, 2021). Surgical activity was also disrupted: it was reduced by a third in 2020 and surgical outcomes, such as length of stay, complications and ICU admissions, increased before returning to comparable levels after the first wave (McBride, Steffens, et al., 2021). Participants reported that many services and departments were affected, with some services closed for extended periods of time (e.g., dental and oral health services) and others suspending home visits and assessments (e.g., child and family services and drug and alcohol services) or operating at limited capacity with care postponed, or very scaled down:

> *We were quite big on a couple of groups […] running, gym and swimming groups, are important from a physical health point of view, but really provided that social and community connection. So there are parts of our services that we’ve been unable to deliver […] For both lockdown periods our team has been redeployed, so completely removed from the service or reduced in some capacity. So, again, reducing that access and the capacity for people to access that care when it’s so important (FG mental health)*
>
> *When things have got really dangerous, we’ve had to stop face-to-face, but you can’t actually do a face-to-face assessment on a six-week-old baby by video conference. They have to be weighed and their head circumference [measured] (FG refugee health)*

Disruptions affected the whole continuum of care, including primary care in community-based services, but also hospital-based care like elective surgeries, referrals for time-sensitive conditions, and outpatient diagnostic and treatment. There were reported disruptions for the end of the continuum of care as well, notably rehabilitation services, post-surgery appointments and long-term care. Participants also pointed to specific service areas and programmes that experienced disruptions, such as child and family health services, allied health, mental health services, psychosocial support and care coordination for priority populations (including LGBTIQ+ people), substance use disorders, HIV and STI testing (servicing LGBTIQ+ people as well), management of chronic conditions and dental care. Participants noted that for many areas of health that benefit from early intervention, like eating disorders, child health and development, or for complex socio-medical needs, the absence of services was potentially detrimental and likely to affect prognosis/ health outcomes: “[staff] were constantly as well then responding to crises rather than that early intervention stuff”(i10).

SLHD pursued a careful approach to changes in health services that was “risk assessed” and “evidence based” as per NSW Health guidelines to reduce potential COVID-19 transmission (SLHD, 2021).Some services and health promotion activities were moved to online/virtual care as quickly as feasible (SLHD, 2021), or where possible patients were offered alternative services (e.g., non-urgent oral health patient appointments were offered Oral Health Fee for Service scheme vouchers, email communication, key informant validation April 2022). However, the decreased availability and accessibility of services and clinicians, combined with the postponement of investigation and treatments, raised concern among staff regarding the effects on delaying care, detection and intervention,and the potential long-term negative impacts for patients (physical and mental health) and services (additional workload). Delayed care is likely to generate additional waiting list pressures and stretch resources. For instance, in child and family health, one staff explained the impacts of service disruption:

> *The disruption is to access to our services, so we’re not able to provide a face-to-face service like we normally would [...] our waiting lists have become much, much, much more extensive. That is a real issue for us that people have to wait as long as they do now for an appointment, it goes beyond 12 months with a number of our services. And when we know that we’re talking about particularly vulnerable families who don’t have options of accessing private allied health or medical services…(i4)*

In areas where waiting lists for community-based services were already substantial then (like oral health, occupational therapy, speech pathology, counselling and mental health), several other interviewees shared concerns for future availability and further delayed care. Participants also noted that health and equity impacts would be experienced differently by different groups considering pre-existing health-related inequalities and vulnerabilities (burden of disease/health status), and or differential impacts of the pandemic on already vulnerable groups (via social determinants of health and other restrictions/effects of the pandemic).

Areas of impact

Some service disruptions raise particular concern regarding the likelihood of negative health outcomes and how these might be distributed. **Primary care and community-based services** stand out as significant areas both from a health outcome and an equity perspective. As described by the WHO, primary care refers to health processes and systems that are key in ‘providing first-contact, accessible, continuous, comprehensive and coordinated patient-focused care’ and there is strong evidence of the links between primary health care, better health outcome, improved equity and cost-efficiency(WHO & UNICEF, 2020). As a foundational building block of the health system, “disruptions in this setting can cause severe impact [...] for service delivery and the overall health and wellbeing of patients” (WHO, 2021, p.5).

There is mixed evidence regarding the rise and fall of Australian general practitioner (GP) activity, with variations also recorded based on location (see (AIHW, 2020b; Scott, 2021). During our consultation, some participants reported greater triaging of patients by GPs (especially if presentation includes any COVID-like symptoms) and GP services being unavailable and or much harder to access for consultations or referrals. For older patients, access to GPs was also more restricted for home visits and visits in RACFs. A recent ABS survey (2021a) also shows variations based on relative disadvantage, with people living in areas of most socioeconomic disadvantage more likely to report waiting longer than they felt acceptable for a GP appointment compared to areas of least disadvantage (18.7% compared to 14.1%). This was seen as an issue in our discussions, because for parts of the population, such as older people or more disadvantaged individuals and families, GPs are the first and primary point of access. Prior to the pandemic, older and or isolated people and people living with socioeconomic and locational disadvantage, already experienced a variety of barriers to access, ranging from cost to distance and availability of health providers (AIHW, 2021i; Korda et al., 2014). Decreased availability of GP services induced by the pandemic can create more unmet needs and more barriers to access.

SLHD also has a long track record of a comprehensive and holistic approach to health promotion and primary care embedded in communities and community-based facilities. The District centres “prevention, early intervention, assessment, treatment, health maintenance and continuing care services” delivered to thousands of people and families (33,500 people, 40,000 children and 31,500 parents in 2019-2020) (Community Health Services, SLHD, 2019). Community health programs and services suffered major disruptions.[6] Allied health services (e.g., physiotherapy, speech pathology, podiatry, psychology) and health education initiatives were temporarily suspended (e.g., Healthy Children initiatives like ‘Go4Fun’, ‘Munch and Move’, ‘Live Life Well@ School’ and Active Ageing programs), routine care was cancelled, testing and intervention postponed, and new referrals could not be processed while staff was redeployed.

The potential for negative repercussions of delayed care in the **child, youth and family health sector** in particular, was a recurring theme in our consultation, “a whole lot of families that have been lost in terms of trying to access non-COVID care” (i13), one staff commented. The closure of services and the suspension of home visits, like SLHD Sustained Health Home Visiting program, limited early detection, triage and treatment of child development issues and child safety/wellbeing. Delayed antenatal care and vulnerability assessments for pregnant women and people was also noted as the source of potential negative (physical and mental) health consequences and aggravating disparities (i16), as also evidenced in the literature (Altman, Gavin, et al., 2021a; Preis et al., 2020; Whipps et al., 2021).

There is strong evidence of deep socio-spatial inequalities already in this space pre-pandemic: children in Canterbury (low SES and many with English as an additional language) experienced high developmental vulnerabilities across all domains in 2018, above the NSW average and around four times higher than children in Leichhardt (AEDC, 2018). For children and family already more “on the margin” of the health system, like CALD and low SES communities, the negative health impact of service interruption, including on child development, may be particularly acute as one practitioner explained:

> *It’s probably impacted much more on our clients who are from a culturally and linguistically diverse background. Partly because they may not necessarily have access to those financial means at the end of the day to access those other services, who don’t have a strong knowledge of what our health services are about. And I think particularly during those periods of lockdown, where they’re potentially more isolated as well. They don’t have those broader rings of service or support that might even be for other families. And that’s probably then come out a little bit more in terms of children with developmental vulnerabilities not being picked up sooner (i4)*

Service disruptions leading to additional wait times also intensified the risk of disengagement from health services for some families:

> *It really highlighted so in Sydney Local Health, the wait times for stuff like OT [occupational therapy] and speech were already massively long [...]So some of the really complex families, they’d be on the wait list for a long time, then not rock up to a few appointments and then be discharged. So this was prior to COVID originally, and COVID really exacerbated that situation (i10)*

Evidence from qualitative research among low income CALD families in Europe, also substantiates this claim where restricted access to resources and family health services was linked to poor health outcomes for children and worsened mental health for parents (Barboza et al., 2021; see also Neece et al., 2020). Overall, if the home environment, family and living conditions are poor, there is strong evidence that adverse impacts on children can be life-long (see NSW Health’s first 2000 days framework), hence SLHD’s strategic priority to “invest in early years” (SLHD Key priorities for 2021/22).

Another consequence from the suspension of integrated care programs that promote early intervention, health education and support families in various ways, has been increased and more prompt escalation to the DCJ: “much more reports, much more complexity” (i10). Providers explained there were fewer referrals to child and family health services (i4) and instead “families are pushed into DCJ’ with increased reporting to them. ‘A lot of families had contact with DCJ that wouldn’t normally” (i16), one social worker added. The closure of schools and school-based programs compounded this problem according to participants.

This is connected to the disruption of community services responding to violence, abuse and neglect, where participants noted that adverse impacts were significant for groups of users who were already vulnerable. Combined with lockdowns and mobility restrictions, this leaves vulnerable people experiencing intimate partner violence (IPV) (particularly and overwhelmingly women) and in precarious and dangerous situations with little reprieve and limited access to resources:

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[6] Telehealth options were offered in community services but when patients were unable to take it up (barriers to access) and/or preferred a face-to-face appointment, significant delay in care occurred (email communication key informant validation, March 2022).

> *Women have been really stuck in their violent situations. I mean, some of the women I'm working with at the moment, COVID has been sort of the worst. Because they haven't had the ability to kind of see their friend who they have for support or get out of the house for any reason […] some of that safety planning you do with families around domestic violence, even around mental health. Often you're talking to people, go for a walk or do this or do that and that's not accessible to them. So yeah, I think absolutely that's going to have long-term impacts (i10)*

A recent Australian study documented similar issues that have increased in complexity compared to pre-pandemic times, with disrupted services, more emotional distress, substance abuse, women dealing with financial/job loss, and decreased access to housing (Heward-Belle et al., 2021). One social worker further noted that the suspension of in-person drug and alcohol services also had flow-on effects for children and families when treatment is a condition under child protection services (i16). Studies with agencies working with IPV from CALD background in the US, similarly described escalating needs from clients but a shrinking of resources and capacities because of the pandemic, compromising access, availability and quality of care (Garcia et al., 2021; Williams et al., 2021). On a community level, this led to "amplified inequities and loss of community", while individually pre-existing inequities for survivors were magnified with more adverse impacts for migrants and those with poor English, cultural barriers or limited access to technology (Williams et al., 2021).

Our consultation also highlighted the disruption which **specialised care in community health** had on substantial equity impacts, including in place-based health services for Aboriginal and/or Torres Strait Islander people, reproductive and sexual health (HIV and other STI testing saw a significant decline in SLHD), sexual health clinics (including services used by LGBTIQ+ people) and multicultural and refugee health services. For instance, one staff member notes that suspending "normal ways of connecting to community" in-place was likely to create disproportionate negative impacts for Aboriginal and Torres Strait Islander people:

> *I can anticipate that our Indigenous families have probably been more affected […]. Where in the past, we have had some place-based services like at Red Link, or at Glebe Public School, for example, and out of Marrickville West. Where we know that there might be a higher number of Aboriginal families accessing now. So those services, we haven't been able to provide those (i4)*

These services recognise the specific and additional needs of target populations and are designed to ensure safe, appropriate, inclusive and patient-centred care (Byron, 2010; Glover et al., 2021). They are also often the preferred and main access point for groups of users with low SES who tend to access prevention services less (McGowan et al., 2021). There is also evidence that some minority groups and women underutilise mainstream services for fear of stigma, discrimination and ill-treatment(Equality Australia, 2020; Jamieson et al., 2013; Sifris & Penovic, 2021). Consequently, practitioners anticipated that they may delay or forego seeking health care during the pandemic when specialised care is closed and/or more difficult to access and people face additional insecurity and financial hardship. For minority groups like Aboriginal and Torres Strait Islander people and CALD persons, one expert in human services noted the difficulties associated with temporarily closing specialised community health:

> *It's very hard to stay connected with them through these times, especially because many of them will often feel more comfortable fronting up to their local, whether it's your local community centre or local Aboriginal medical service. And with stay at home orders and all the various restrictions that have come up in the last 12 months around COVID, a lot of people have actually been disengaging a lot from their usual health services (i5)*

Considering the higher burden of chronic illness, disability and/or complex health needs among some of these groups of service users, including Aboriginal and Torres Strait Islander people (AIHW, 2020a), CALD people who are long-term residents of Australia (Jatrana et al., 2018), asylum seekers and refugees (Cooper et al., 2019; Shawyer et al., 2017), this is likely to have a severe negative impact if detection and treatment is interrupted for long. Evidence from the US already suggests potential negative impacts, with research showing that among CALD minority populations, screening and outpatient procedures declined further than pre-pandemic levels (Amornsiripanitch et al., 2021; Annadurai et al., 2021; Y. S. Chen et al., 2021; Fedewa et al., 2021; Zhou et al., 2021).

One expert commented on the disruptions to support services used by LGBTIQ+ people (SLHD services and specialised services run by partner community organisations), during a global health crisis:

> *A health pandemic is not a great time for people to be feeling fear around accessing services, or seeking support, or things like that. So I think that trans people around the world are definitely having to reckon with all the usual cisgenderism of society and medical services. But during an increasingly medicalised time, I think that's not any easier (i7)*

In addition, with specialised sexual health clinics closing for lengthy periods of time, "there are people who aren't able to get tested at the moment", one expert said: "They get tested in an affirming way [at specialist clinics] […] I definitely saw people who said in no uncertain terms, that they were really glad to come to this clinic, and they wouldn't go to another one" (i7). Studies from the US among LGBTIQ+ people, also show some difficulties in accessing sexual health care in some cases (around one in five Black participants (Y. T. Chen et al., 2021); mostly among young men (Sanchez et al., 2020)), while in other cases it is accessing other (non-sexual health) care that has become difficult for HIV-positive gay/bisexual men, causing stress and anxiety (Rhodes et al., 2021).

In the case of reproductive health and abortion services, there is also evidence that Australian women have experienced "compounded and intersectional barriers to access" during the pandemic, particularly those from marginalised and 'at risk' groups (Sifris & Penovic, 2021, p9) (see also Moreau et al., 2021).

Chronic and complex care represents another area of service disruption with the potential of severe negative health outcomes (aged care and disability care fall in this category and are examined in more details in 4.3.6. Population focus, p. 99). Key informants spoke of people suffering from chronic health issues, whether physical or mental, as particularly affected by cancelled appointments, suspended home visits and limited availability of services in hospitals and in the community. Recent figures from ABS confirms that people with a long-term health condition were more likely to report waiting longer than they felt acceptable for an appointment, than those without a long-term health condition, for both specialist (23.3% compared to 16.9%) and GP visits (18.7% compared to 13.5%) (ABS, 2021a). Unmet nursing care has also been found to lead to marginalisation and inequality in care and health outcomes (Kalánková et al., 2021).

When it comes to **mental health**, psychological distress (depression and anxiety) and the demand for mental health support services increased during the early months of the COVID-19 pandemic, before most (but not all) indicators of psychological distress returning to pre-pandemic levels by mid-2020. Most, particularly older people, showed resilience in life satisfaction and connecting with others. However, people with pre-existing mental illness, those affected by job loss and/or loneliness and carers were more likely experience severe and chronic disturbance to daily function and increased risk of suicide (AIHW, 2021j, 2022b; Aknin et al., 2022). A survey of psychological distress prior to and during the COVID-19 pandemic, showed that the proportion of the population experiencing severe psychological distress (that would identify them as being at risk of a serious mental health issue), rose from 8.4% to 10.9% of adults during the waves in 2020 and 2021, with women under 24 years exhibiting the highest rates of distress (AIHW, 2022a).

International research suggests that during the early months of the pandemic, thoughts of self-harm and suicide increased more in some counties. For example, data from the UK between late March and late April 2020, indicated that 18% of respondents had thoughts about suicide or self-harm (Iob et al., 2020). Google trends showed high search rates for loneliness, worry and sadness, and decreases in suicide related searches in Western European countries and the US during a similar time period (Brodeur et al., 2021). ED presentations in NSW for self-harm or suicidal ideation accelerated above long-term trends only in females, particularly in girls aged 10–17 years in all geographical regions, with the greatest increase in more socioeconomically advantaged regions (Sara et al., 2022). Preliminary data from the Australian Institute of Health and Welfare, showed that suicide rates in Australia were slightly lower in 2020 (12.1 per 100,000 population) than in 2019 (12.9 per 100,000 population), however the number of Aboriginal and Torres Strait Islander people dying by suicide increased to 27.9 per 100,000, up from 27.1 per 100,000 in 2019 (AIHW, 2022a). While the reasons for the overall decreased suicides are unclear, the correlation with increased social safety nets, community cohesion or a sentiment of shared societal concern about facing the pandemic together, may have helped. It is also possible that greater help seeking, including a record number of people presenting to support services such as Lifeline and Beyond Blue (AIHW 2022), may be associated with lower suicide rates.

Redeployment of staff reduced inpatient and community psychosocial support services. In our consultation, practitioners in the **mental health sector** spoke of some cases of worsened symptoms and increased presentation to emergency, as patients saw it as their only option “in order to receive that face-to-face care, it’s been to present to ED rather than to present to the GP” (FG Mental Health). The latest data from the AIHW (2022a) shows suicidal behaviour was one of the most frequent reasons to attend ED among young people (aged 15-24), and that there was increased demand for mental health services and crisis and support organisations in 2020 and 2021. For in-community mental health treatment, participants reported that difficulties of access had worsened:

> *Patients are reporting that it’s really hard to access services more so now with the difficulties with–yeah, a lot of psychologists I know, they’ve closed their books, so they just can’t take on anymore. And, it’s creating a real gap […] which is allowing or creating a kind of space of people not getting the care and treatment that’s probably required (i1)*

Several studies also document mental health patients being prematurely discharged, having treatment suspended/remaining on waiting lists and having limited support during the pandemic, with significant negative impacts on wellbeing and worsened health outcomes in some cases (Branley-Bell & Talbot, 2020; Diaz et al., 2021; Gillard et al., 2021; Le et al., 2021). The deficit in culturally competent and appropriate mental health services adds another layer of difficulty in getting care for CALD minorities within this landscape (Gillard et al., 2021), and for sexual and gender minorities (Diaz et al., 2021).

Unmet mental health care needs are not distributed evenly. There is only partially available data on this in Australia, but higher levels of need and demand for services have been identified among: people in financial and economic uncertainty, those with unaffordable housing costs, families with children at risk who may need child protection services, older people needing support including for those who live in RACFs, and informal carers who provide care for older people and those with disability (AIHW, 2021a, 2021b; Centre for Change Governance and NATSEM, 2021; Mental Health Commission, 2019). In the C&ESPHN/SLHD catchment specifically, women experiencing perinatal depression, CALD Communities, people who have attempted or are at risk of suicide or self-harm, Aboriginal and Torres Strait Islander people, and adults living in the LGAs of the Canterbury portion of Canterbury-Bankstown and Strathfield, were identified as having higher rates of unmet care (C&ESPHN, 2017). There is limited availability of affordable mental health services (clinical psychologist and psychiatrists) in Australia, and geographical disparities in service provision; e.g., Leichhardt has eight times more psychologists working in private and general practices than Canterbury, 80 vs 10 clinical full-time equivalents (FTE) per 100,000 (National Mental Health Commission, 2019).

Disruptions to noncommunicable disease services, like dental care, cancer screening and treatment, hypertension and diabetes management, also carry potential negative (mental and physical) health impacts and longer term consequences for patients and users, particularly among groups already experiencing inequities in access, and worse health outcomes. In cancer screening for instance in Australia, the number of screening mammograms fell sharply in early 2020 because of restrictions and the suspension of services, before recovering later in 2020, although younger women and women speaking a language other than English who already have a lower participation rate in the program (45% compared to 56% for English speaking women), have been slower to return (Australian Institute of Health and Welfare, 2021a). Similar trends were observed in Ireland, where cancer screening recovery is uneven (people underutilising the service pre-pandemic are slower to return) (A. C. Hamilton et al., 2021). In NSW, breast screening programs were temporarily suspended and even after restrictions eased, the participation rate for women aged 50-74 remained well below pre-pandemic levels by the end of 2021 (down 22% from 2019) (Bureau of Health Information (BHI), 2022).

In other areas like dental health care, the pandemic has severely disrupted access, with SLHD Oral Health and Sydney Dental Hospital suspending most of their services in 2020 and experiencing major disruptions in subsequent outbreaks. While there were pathways for vulnerable patients, reduction in services for people already waiting for treatment were significant, as this social worker explained:

> *Oral health is a huge issue full stop. I’ve got clients who need their teeth removed, and I don’t know how I’m ever going to get them dentures; they’re going to wait forever if they can ever get it (i14)*

NSW public dental waiting lists for both child and adult assessment and treatment, has seen a substantial increase since the start of the pandemic, and while there is stabilisation and recovery among adults, the gap for children remains (NSW Health, 2022b). One Australian study focusing on children from low SES and the equity implications of service disruption, concluded: “given the chronic and progressive nature of dental disease, the deferral of necessary dental care is likely to contribute to poorer oral health and long-term problems” (Farmer & Hopcraft, 2021, p. 369).

In other areas of health, for people managing long-term illnesses, interruption of care and lack of communication from providers are some of the most significant factors in predicting depression and anxiety symptoms (Alguwaihes et al., 2021-diabetes; Cabona et al., 2021-ALS with gender also a factor). In some instances, this can lead to physical deterioration and hospitalisations as well as negative mental health impacts (Brimicombe et al., 2021). There is also evidence that delays to oncological care greatly increases experiences of generalised anxiety for low-income people (Y. S. Chen et al., 2021), and delayed dental care is associated with depression among older adults (Luo, 2021).

Elective surgeries were also suspended at the height of COVID-19 surges due to system-level changes and resources being diverted to COVID-19 patients, along with staff assisting in the pandemic response (McBride, Steffens, et al., 2021). While these procedures are elective, this does not mean they are not urgent (such as with coronary artery bypass grafting or cancer resections) or needed. Elective surgeries include procedures such as varicose vein treatment, knee replacement or septoplasty, which have seen some of the greatest increases in waiting times since 2020, and a jump in patients waiting over a year for their procedure (AIHW, 2021f). One participant also mentioned gastric band surgeries, “a life changing operation” whose cancellation is “very disheartening” for patients who already suffer mental health distress and physical health issues. In a study looking at the early months of the pandemic in Australia, the postponement of gender-affirming surgeries for trans and gender diverse people was also associated with increased odds of suicidal and self-harm thoughts, at over three times the national average (Zwickl et al., 2021). In the US, findings emerged of a strong association between delayed surgery and depression among older adults (Luo, 2021). There is also some evidence that with the cancellation of elective surgeries, benign health issues escalate and then require unplanned emergent surgeries, as with gallbladder disease (Kim et al., 2021).

Elective surgeries are usually reprogrammed when the peak of infections passes, but waiting times have significantly increased for most intended procedures between 2019-20 and 2020-21, according to the latest reported Australian data (AIHW, 2021f). This is particularly the case in Metropolitan LHDs in NSW, where waiting list pressures increased during Delta wave (Bureau of Health Information (BHI), 2022)With the Omicron wave, the Royal Australasian College of Surgeons NSW further estimated that “the number of people overdue for elective surgery following the case surge was likely to surpass the backlog seen after the first pandemic wave” in 2020 (Carroll, 2022), raising concerns for medium-term negative health impacts. Indigenous people continued to experience longer median waiting times compared to the rest of the population (57 days versus 48 days) in 2020-21, and this gap is unlikely to be closed considering the increased waiting times overall (AIHW, 2021f). Similarly, in terms of recovery in the US, there is evidence that disparities in access to surgical procedures persists after elective surgeries resume, with differences based on patient age (36–50 years), language other than English, unmarried status, lack of insurance, low SES, and distance from care. Patients within these groups experience greater odds of decreased access and not having surgeries scheduled (Lin et al., 2021). There is also strong evidence to suggest that patients with significant mental health issues already experienced poorer surgical outcomes prior to the pandemic (McBride et al., 2018; McBride, Solomon, et al., 2021), so increased delays during the pandemic are unlikely to have improved health or health equity outcomes.

On the other hand, the Federal and State governments took proactive steps to support equitable access to urgent elective surgery during the pandemic through Collaborative Care Agreements with private hospitals and additional funding to fast-track delayed elective surgeries (Biggs, 2020; NSW Government, 2020). The delivery of selected urgent surgery was outsourced to private hospitals on behalf of public hospitals, and patients were prioritised based on the urgency of care and irrespective of their private health insurance status. As such, private hospitals provided eligible patients urgent elective surgery with no out-of-pocket costs or private billing.

While health care services were disrupted, it is also important to note that broader community support services and infrastructures were also affected by the pandemic, and this compounded and added to the effects of loss of services. Community centres stopped face-to-face contact, resettlement services were reduced, family support and play groups, youth support groups and mental health support groups were cancelled, with only a few reorienting to online–these provide avenues for health promotion, preventative action and social connection which were lost during the pandemic with negative consequences for mental health, wellbeing and social cohesion, particularly for people in LGAs of concern.

Besides the suspension and delays of some services, the assessment of the quality of care that was maintained was mixed, as noted by this frontline worker:

> *The frequency of support is still very minimal, I think, or delayed […] I think the patients are adapting to what's required. I think that they're appreciative of the service that will continue, and they'll preference that over not having it at all (i1)*

Appraisal varied with some participants reporting lower quality care (more infrequent, much shorter consultations), while others were more satisfied with maintaining some continuity of care. The literature also contains mixed evidence regarding the effects of the pandemic on quality of care, with disparate information and indicators collected (Braithwaite, 2021; Coma et al., 2020). Besides the high-level WHO (WHO, 2020a) recommendations for continuing to provide quality of care in situ, harnessing existing skills in quality of care and patient safety (Staines et al., 2021), and leveraging quality improvement tools (Shah et al., 2021), can be useful approaches to continuously improving care even during periods of disruption.

Implications for equity

There has been significant research documenting the impacts of health services disruptions and their effects on specific groups and potential disparities. There are different and parallel impact pathways to consider. Barriers to access care and reduced availability of services has higher impact on people who had high need and high use of health care services before the pandemic, namely older people and people with chronic health issues or existing diagnoses (pre-pandemic health status, use of care). The lack of availability and cancellation of public health services was also more likely to impact people who were reliant on hospital care and public sector/community sector care, that is people who were socially and economically vulnerable and who did not have private health insurance. Evidence from 26 European countries also suggests that people over 50 years old at this particular intersection of poor health and low SES, faced the most unmet needs during the pandemic (Arnault et al., 2021).

There is strong evidence that economically vulnerable people tend to experience poorer health outcomes (AIHW, 2016) and lower health care use for equal health needs "due to differences in social structure (e.g., education, social stratification), health beliefs (attitudes, values and knowledge about health and health services) or enabling resources (e.g., income, health insurance and availability of health providers)" (Anderson 1995 in Arnault et al., 2021, p. 2). The pandemic has increased economic and financial vulnerabilities for many people with low SES, including Aboriginal and Torres Strait Islander people and CALD groups (disproportionately impacting women, lone parents, young people and people with disabilities (AIHW, 2021h; Equity Economics, 2020; Wood et al., 2021), which combined with the lack of availability of public health care may increase their foregoing of care, and deepen existing inequities. We see evidence of this in the community health sector in the US for instance, where women from CALD minorities using subsidised community health services experienced the most disruption (DeGroff et al., 2021; Fedewa et al., 2021). Similarly in Canada, there were increasing inequities for people living with chronic pain who were from low SES and minority groups, as they reported far more challenges in accessing services and psychosocial support (Dassieu et al., 2021).

More broadly, there is also strong evidence that for similar levels of needs and health-seeking behaviours, CALD persons experience and or report more disruptions to health care with pandemic-induced changes to services. For instance, in the US there are disparities in access to primary care (Federman et al., 2021), diagnostic services for Black and Hispanic men with rates not recovering (Annadurai et al., 2021), chronic care management (Baptist et al., 2020; Clawson et al., 2021), and quality perinatal services (Altman, Gavin, et al., 2021a; Baptist et al., 2020; Barbosa-Leiker et al., 2021; Clawson et al., 2021; Kemmerer et al., 2021; Whipps et al., 2021).

Overall, groups that already experienced limited social support and access to resources (like socially vulnerable groups and certain CALD populations) underutilise the health system because of overlapping barriers to access, multiple disadvantages and need for specific care (linked to fear, discrimination, language and appropriateness of service). These groups were also likely to be affected by the disruption of primary, community and specialised care, and as this could have longer term consequences, strategies to re-engage these groups is needed.

People with underlying conditions and mental health issues were also particularly affected by disruptions to mental health and psychosocial support. Considering they also tend to experience poorer living environments, and have low literacy, they may have difficulty complying with public health orders and navigate disrupted services and new barriers to access.

4.3.3 Changes in client/patient behaviours

The pandemic has also triggered changes in user/patient behaviours, with people foregoing care and or significantly delaying health care seeking behaviour. There is local evidence from a SLHD hospital that the first wave in 2020 saw reduction of accident and trauma related injuries, probably due to lockdown and other changes to peoples' behaviour (McBride, Steffens, et al., 2021). There were also reductions in specialities such as melanoma and emergent gynaecological issues that may be due to patients not undergoing check-ups or screening (ibid). This is a trend observed worldwide according to the latest WHO survey on health services disruption in early 2021. On the demand side of health services, (1) community fear and mistrust in seeking health care, (2) patients not presenting to appointments, and (3) financial difficulties and mobility restrictions caused by COVID-19 lockdowns represented the three main causes of disruptions (WHO, 2021). Participants in our consultation highlighted these same responses among service users, but they were not evenly distributed. First, community fear of contracting COVID-19 was concentrated among older people who are more at risk of severe illness, and this led to important changes in health seeking behaviour:

> *I think there's people who are not wanting RACF care, but then also not wanting anyone coming into the home to deliver services, because they're worried about what we might bring in, turning up (FG aged care)*
>
> *They've been very reluctant to accept any community services because they don't want people coming into their homes (i17)*

Participants also pointed to a decline in hospital presentation among older cohorts because "people are trying to avoid the hospital" (FG aged care), and as another specialist added: "People were afraid to come to hospital […] in fact even the ones that were coming to hospital during peak times, they don't want to be admitted to hospital, because they are afraid" (i17).

While some older patients adapted and partly shifted to virtual care, focus group participants shared that many were "fearful for their own wellbeing", "didn't want to put themselves at risk", "hanging on really when they shouldn't" and not "getting help for a long time". One provider concluded, "I think it will be a bit scary, I think, of what we'll find when we actually are able to get into people's houses" (FG aged care). In some areas of health, fear of contracting COVID-19 among older cohorts of service users is creating new vulnerabilities in cancer screening, for example with more older women cancelling mammography appointments than pre-pandemic in some parts of the US (Amornsiripanitch et al., 2021).

Second, some people living in areas of high-COVID-19 transmission during the Delta wave were more concerned about moving in the community and accessing services. The adoption of phone and video consultations mitigated some of these negative effects. But social and community health workers also reported deep fears and missed appointments among CALD and socioeconomically vulnerable people in LGAs of concern. This carries long-term negative implications for further delayed care and disengagement from health services, since people who miss appointments can get taken off waitlists altogether (i10), as also highlighted by this provider: "[services] have high demand, waiting lists et cetera, so only certain people are able to navigate and get to that waiting, through that period of waiting" (i14).

In this complex space, an important factor mediating patient behaviour and the potential foregoing of care, is public health communication. A review of Australia's strategy at the start of the pandemic, noted that people's engagement with and response to public health information is "heavily influenced by their cultural and social identity, age, gender, and access to resources" (Hyland-Wood et al., 2021, p. 2). As such, pandemic risk communication is not merely messaging but an "interactive process" (ibid) that requires ongoing engagement with communities (Seale et al., 2022). Yet, participants expressed that CALD populations and people with low levels of (health) literacy have faced difficulties accessing and following COVID-19 information and government guidance:

> *I have a lot to do with a multicultural community in Sydney, and if there's not clear, transparent and easy understanding communication that's happening, I think that we'll continue to have problems (FG mental health)*

Combined with a climate of fear and anxiety around the virus, and some stigmatising media coverage, conflicting messaging from unreliable sources and misinformation about COVID-19 among CALD communities (Ayre et al., 2021; Wen et al., 2021) is likely to have contributed to reduced health-seeking behaviour, according to some participants (FG refugee health; i14). Evidence from overseas suggests similar issues of fear of exposure and lack of information on restrictions and available services among migrant and refugee communities in Canada (Benjamen et al., 2021). SLHD held meetings with community organisations and leaders to provide information and resources across a range of media. Frequently changing information and limitations on content and form of information were also identified as impacting 'trust' and therefore patients' use of services:

> *From a service perspective, the inconsistencies in terms of those rules filtering down, what we can and can't provide, how we can and can't provide it and the short notice in terms of how we have to remodel and change that, it does sort of undermine that trust with reaching out to people and their reliance on a service (FG mental health)*

Social determinants of health play a critical role in access to health systems, and CALD persons, Aboriginal and Torres Strait Islander people, refugees and low SES populations, already faced barriers to accessing care because of factors, such as cost, literacy, locational disadvantage (less transport infrastructure, higher cost and distance to travel) and social exclusion, before the pandemic (ABS, 2021a; Harrison et al., 2020; Javanparast et al., 2020; Nolan-Isles et al., 2021; Taylor & Lamaro Haintz, 2018). As noted earlier, these groups have experienced an exacerbation of barriers and disadvantage, including job and income loss. Financial concerns, (fear of or actual) health-related costs and decreased mobility brought on by the pandemic, therefore all contribute additional barriers to the foregoing of care (Flores et al., 2021). In our consultation, some participants also reported examples of limited or no access to private transport (more COVID-19 safe), and the inability to rely on networks of friends and families for low SES and CALD communities.

Evidence from high-income countries regarding missed appointments, corroborates the widening of disparities for financially vulnerable and minority groups. A number of studies show patients from CALD backgrounds and low SES are more likely to forego care/miss appointments like diagnostic services (Adigwu et al., 2021; Flores et al., 2021), avoid cancer screening particularly among women (Amornsiripanitch et al., 2021), forego routine treatment, and experience medication interruption including for mental health treatment (Di Gessa et al., 2021; George, Banerjee, et al., 2021; George, Danila, et al., 2021).

Some frontline staff reported that during the pandemic patients were consistently not showing up to appointments in a range of health areas, like primary routine care, management of chronic issues (e.g., blood pressure checks, treatment review and prescriptions) or post-surgery management. Further along the care spectrum, this manifested with fewer referrals to specialist services in hospital outpatient clinics, according to participants in our consultation. There is a risk of long-term adverse health consequences and, considering how these conditions are already concentrated among certain groups (ABS, 2018; AIHW, 2020a), this could widen inequalities in health outcomes.

The broader picture that also emerged from our consultation, is that service users tended to forgo preventative care a lot more because of competing priorities, COVID-19 restrictions and financial insecurities associated with the pandemic. One practitioner working in an area of high socioeconomic disadvantage and with many CALD clients commented, clients let things "drop":

> *People haven't gone to do things they would routinely do, they just put it off. I've got a lot of clients with oral health care needs, and to get through that system is really hard […] A lot of people just put off doing things, pap smears, anything that was like that (i14)*

The increased risk of foregoing care among groups that already experienced inequalities in health and in access to health care prior to the pandemic, like women, CALD people, socioeconomically vulnerable and older people, needs to be addressed to minimise and mitigate the widening of inequities.

Despite these multiple challenges, participants, both service providers and users, noted positive changes of behaviour linked to levels of adaptation, empowerment and resilience on the part of service users. One senior staff person explained that with the temporary suspension or reduction in services, people with complex and chronic care needs took more responsibilities for their own health. During outbreaks in particular, they were less inclined to rely on the health team or ambulances for minor issues: "patients were contacted, and they seem to not be coming to ED and inpatient admissions. They seem to be a bit more proactive in looking after their health. This is anecdotal" (i18). This echoes some of the literature suggesting the pandemic is an opportunity to identify and address inappropriate or unnecessary care (Moynihan et al., 2021). Other service providers made observations along similar lines of clients adapting positively:

> *I continue to see people drive for recovery and through all these adversities still trying to access care and support (i1)*
>
> *It's not been an easy time for anyone and often we see how resilient people are as well. So it's a really good learning (FG refugee health)*
>
> *They're certainly less dependent on our service. They know where to go. […] We still might need to support them to push things through. But […] knowing the services, and knowing that people are there, I think possibly has made a big difference(i18)*

Service users spoke of challenges and overcoming them in various ways, tapping into existing or newfound sources of resilience and ways to adapt:

> *I've had a number of relationships which I've developed further, specifically because of COVID, because we couldn't meet at our […] centre […] and so we've been doing Zoom […] It's helped me become more resilient. Yeah. And I needed to become more resilient because of COVID (P2_FG mental health)*
>
> *[lockdown] was a big negative impact, but I have – I think, kind of like what [other participant] has said, because you just have to live with it, I have found new ways to be resilient as well (P3_FG mental health)*
>
> *I have not felt fearful during the outbreak, not in the least fearful, I haven't. You need to have some sort of resilience and not expect people to be pandering to you (P1_FG social housing)*

COVID has probably changed everything […] we do have to learn to live with it […] We didn't have a vaccine before in the first year, but now we've got a vaccine I think there shouldn't be any problems with our moving on (P2_FG social housing)

The pandemic challenged service users to change behaviours and to find other sources of support and care in difficult circumstances, but it also illuminated people's strength and capacities.

4.3.4 Changing the way services are delivered

Virtual care

Adapting to the disruptions induced by the pandemic has required major changes to the way services are delivered. The pandemic has catalysed a shift across the health sector with a rapid transition to 'virtual care'. This umbrella term encompasses several modalities and interventions, including telephone conferencing, video conferencing, remote monitoring, communication via message/emails/patient portals, and personal electronic health records (NSW Health, 2022d). Pivoting to virtual care to support service delivery while minimising risk of exposure to COVID-19, is one of the central strategies deployed in high-income countries to mitigate the impact of the pandemic on health services, and this has had many potential advantages (WHO, 2021). The use of virtual care in NSW has rapidly expanded for GP, specialist and other outpatient services, and accelerated even more during Delta wave (Bureau of Health Information (BHI), 2022). SLHD has been particularly proactive and innovative in the area of virtual care, with the introduction of **rpa**virtual Hospital in February 2020. While originally designed to broadly complement existing health services, **rpa**virtual had to rapidly scale up and pivot to focus on delivering pandemic-related care and management of COVID-19 cases (Shaw et al., 2022). Since March 2020, RPA Virtual Hospital has delivered a range of services, including at home COVID-19 care for mild illness, antenatal and paediatric care, mental health care, medication and symptom monitoring. Patient Reported Experience Surveys results show positive results attesting to the acceptability and quality of care delivered by RPA Virtual Hospital (Raffan et al., 2021; Shaw et al., 2022).

Evidence suggests that reduced access barriers of virtual care can benefit patients. A 2020 survey showed that patients receiving virtual care from a NSW Health service rated the care positively or very positively (91%) (Bureau of Health Information (BHI), 2021) . In our consultation, health and community workers in SLHD also reported **positive impacts** from the adoption of telephone and video conferencing. First, they found that these tools could improve availability and facilitate access to services by creating more/flexible pathways to engage with health services and health promotion. For instance, a couple of participants explained that service users with poor mobility or living too far to attend appointments, could join support groups or information sessions thanks to virtual care (i1; i6). Refugee health services found enhanced "opportunities for health education" too: "We're able to put a lot of those [health education programs] online and that's been a fantastic resource to have" (FG refugee health). Virtual care made it easier to access a range of services in aged care as well:

> *I think the teleconferencing with patients that the geriatricians have been using, that also our OTs, our physios, the Zoom sessions, etcetera. I think that, again wouldn't have happened without COVID […] The whole teleconference thing has been a positive, and again I think we'll continue to use that method for patient care in the future (FG aged care)*

Telehealth appointments can lower some existing barriers to access (cost, travel time, lack of transport, availability of specialist services) and be more convenient and welcoming for people (Barbosa-Leiker et al., 2021; Bureau of Health Information (BHI), 2021; Khairat et al., 2019). For instance, families, especially in CALD and/or refugee communities, experience many challenges with access that can be mitigated when telehealth is used "judiciously", staff added:

> *It is such an effort for families to come to navigate different suburbs, to navigate a hospital system, to navigate it with kids when they don't have anyone they can leave their kids with. That they can't organise someone to pick up from the school (FG refugee health)*

There is evidence of similar positive impacts in the mental health sphere as well, with telehealth and phone appointments being less "intimidating" and therefore increasing the reach of the service:

> *It can almost be of a –sort of an accessible entry point for engaging with our service […] it does take away the anxiety of, perhaps, having to find a new bus route or getting to the service or all these sorts of things (FG mental health)*

Virtual care can even act as an incentive for people to learn how to use digital tools, particularly among older cohorts. Participants in one focus group mentioned, "we did technology lessons with them [… this] pushed a portion of people onto technology to learn" (FG aged care). Another participant shared:

> *Some people have really been able to benefit from Telehealth […] some carers that might not have ever used Telehealth, they might not ever have used a Zoom to connect in a social way, have taken it up and yeah, they've found that really supportive (FG carer)*

Second and crucially, video and phone conferencing and messaging/check ins with patients, ensured continuity of care, even amid service disruption and infection waves, and this was appreciated by patients: "And whilst it hasn't been the same as what they've wanted to do, they've been able to get help" (FG carer, see also i1). Virtual care therefore is one avenue of "ensuring that we're not having families fall through the cracks, but we're also maintaining the safety of staff" (i15), one staff person said. While "it's been really tricky" (i15), they added, there was anecdotal evidence from health and social workers that the majority of people did not disengage from services after the transition to virtual care; in one case, they even gained new clients (i14). This was premised on staff actively reaching out, "increasing communication" (i14), maintaining relationships and building on existing interpersonal connections of trust and care: "having someone who they already know, who is a trusted person makes a big difference to them to try to understand what's happening" (i14).

An additional benefit for some providers was the efficiency gains from the move to virtual care; in one specialist service, phone triage and online education sessions freed up time for other essential tasks for frontline health staff:

> *We actually had time, for the first time, to really go back and have a very good look back at people who had arrived a year earlier, that we'd sent them off hither and thither to do a thousand things. So we actually went back and checked to see whether they'd done that, and whether they had made that appointment and had they had their women's health check and had they been to the dentist, and all the other things we'd organised for them (FG refugee health)*

Providers in the tertiary sector also reported many benefits of virtual care through online coordination and silo breakdown: "collaboration across all the services within our hospital, both paediatric and adult, has been enhanced a hundred-fold" (i13) with the use of digital tools to discuss complex cases and liaise with other hospitals or health professionals. Virtual care can therefore increase efficiency and quality of care in these instances.

However, there are also concerns that virtual health can exacerbate existing health inequities or create new inequities if quality services are not accessible, available or appropriate for groups who need them. There is extensive literature documenting disparities in availability and access for CALD minorities, older people, people from low SES, people with limited digital and/or health literacy and those with limited access to a strong Internet connection (Kanti Mistry et al., 2021). These groups are not mutually exclusive and can also experience intersecting and overlapping barriers to access. There are suggestions of a "digital paradox", where the "population groups that could potentially benefit most from these innovations are the ones that would experience the highest barriers to access" (B. L. H. Wong et al., 2022, p. 4). Our consultation highlighted similar patterns of disadvantage.

CALD groups are less likely to access virtual care services according to most recent studies in the US and UK (Guendelman et al., 2017; Walker et al., 2020). There are different reasons for this, including primarily a lack of access to digital equipment and/or (reliable) internet access, low levels of technical literacy, varied levels of English literacy and language barriers, and some concerns over privacy and quality of services (Alam et al., 2019; Guendelman et al., 2017; Kemp et al., 2021; Leng et al., 2016). This can severely affect service delivery for vulnerable members of these communities, particularly **older people** and **women**, participants emphasised (FG refugee; i15; i16). Staff identified language barriers and access to interpreters as the two most significant barriers in our consultation. They noted that online health information and health portals (e.g., vaccine eligibility platform and booking system) were hard to navigate in terms of finding relevant information for people with limited English (email communication key informant validation, March 2022); and they were not (readily) available in other languages:

> *We've got an issue with people […] we don't have translations of these services and so people are using Google Translate. And that's not only an imperfect translation of what we're trying to communicate, but it also, it sometimes affects the way our platforms work (i8)*

As staff transitioned to virtual care and work from home, participants expressed that interpreting services were difficult to access for patients and staff, and they experienced long wait times. As a result, some patients faced appointment cancellations, missed appointment rescheduling, had to rely on informal translation from family or friends (raising privacy and/or accuracy issues), or received care without translation. Data from SLHD interpreter services shows that there were appointments available during that time, but they were not taken up or resulted in "no shows" (email communication key informant validation, March 2022).

A senior staff also expressed that services were "certainly […] available and utilised" (i15). This seems to indicate that issues lay with processes around access, and the belief that having an interpreter involved in the delivery of virtual care would be "a little more difficult in itself" (i15). The example from a service provider who temporarily suspended the intake of new patients requiring translation because it was too difficult to establish relationships, supports this:

> *At the beginning of the COVID stuff, we started doing an initial consult with someone you don't know, with an interpreter on the phone, it's way too hard to build rapport. I don't think we can do this […] We didn't know what was going to happen so, for a short time, we stopped seeing new patients who were non-English speaking (i6)*

There were mixed views on the impact of the shift to virtual care for people from CALD backgrounds, particularly when translation was required. Virtual care could alter the quality of the interaction, especially when translation was done over the phone. In 2021 in SLHD, 75% of interpreting services were done over the phone, and only 5% via video (SLHD Population Health Clinical Stream Report 2021). This could be partly due to the lack of adequate equipment to conduct video appointments in some parts of the District (email communication, key informant validation March 2022). Overall, translation access and quality, and the logistics of phone translation and electronic appointments, may have contributed to lower telehealth use among people who were not fluent English speakers (Phimphasone-Brady et al., 2021).

Lower SES is also associated with lower use of virtual care (Darrat et al., 2021; Elbaz et al., 2021; Foley et al., 2020; Hansen et al., 2019). Anecdotal evidence from our discussions with key informants, highlighted limited access to smart phones, laptops and other digital devices as an issue, especially if they are shared in a family, and there is limited Internet access because of cost:

> *families that are experiencing poverty, don't have the same access to technology (i4)*
>
> *one of the biggest challenges for families is they may have the device but they don't necessarily have the data. So we can say yes, do Telehealth, that's great but if you've got no data, you can't do Telehealth (FG carer)*

General literacy and health literacy is a factor that often intersects with low SES and/or CALD status in studies on barriers to access and virtual care (Khoong et al., 2021; Spooner et al., 2017; Walker et al., 2020). Developing accessible material in different formats, and across different channels, in plain English and translated into community languages other than English has long been recognised as an important step to mitigate such barriers (Houghton, 2020) and SLHD Diversity Hub actively provided such a response (see equity-focused response in SLHD, p.109). There is also a need to provide easy access to assistance, for example in the form of culture-sensitive support services to troubleshoot issues and accompany patients (Elbaz et al., 2021; Shaw, J. et al., n.d.). RPA Virtual Hospital created a similar navigation role to “educate people before they were linked” so “patients had someone go in and kind of assist them with the technology side of things” (FG carer).

Issues of ‘digital divide’ and ‘digital inclusion’ run through questions of access to virtual care and potential inequalities. As one participant expressed, virtual care is “skewed towards high capability communities” (i8) and inequalities in technology savviness and access remain a problem, particularly for older cohorts of patients and service users. Another staff member commented about technological issues:

> *It’s actually stopping people – a lot of people aren’t able to – they don’t have a computer, or they don’t know how to use it. And so that’s actually stopping a large proportion of people from getting support as well (i1)*

Studies on virtual care (phone/video visits) for older people paint a similar picture (Darrat et al., 2021; Elbaz et al., 2021; Foley et al., 2020; Guendelman et al., 2017; Hansen et al., 2019; Walker et al., 2020). The increased social isolation and mobility restrictions brought on by the pandemic add another barrier as older people cannot easily call on their networks of friends and family, or walk to a public library or community centre to overcome technology issues.

With regards to the digital divide and the inequities that arose with accessing virtual care, participants showed a **strong awareness** of these issues and were proactive in addressing them where possible and at every level, from the frontline delivery of services (the SLHD was “happy to provide iPads to people in […] who needed them and with data etcetera” FG carer) to the very infrastructure of information and communications technology (ICT) systems. Another senior staff person shared: “we are conscious of the equity, the differential impacts that our platforms have. And the differential capacity that different people in the community have to actually make use of them” (i8).

Besides access, **quality** is another dimension of health equity at play in the transition to virtual care. Some health areas reported higher negative impacts on quality when services moved to phone and video conferencing. “Things get missed”, as one clinician put it, when complex assessments, post-diagnostic support and monitoring are moved online. This is particularly the case in areas that service already vulnerable populations with complex health-related needs, such as people with eating disorders, pregnancy and vulnerability assessments, aged care assessments, women experiencing violence, or people with diet and metabolism issues. Staff members working with vulnerable and complex-need patients noted:

> *I mean a lot of my clients have trauma backgrounds, and so with that, a lot of the work in those initial phases involves creating safety and helping them maintain – contain themselves, and that’s just really hard to do via Zoom, so not being able to see people face-to-face was a big impact […] by telephone and virtually it’s much harder to really read how people are going (i16)*
>
> *Care coordination and assessment on telephones is very challenging. You don’t get the same picture as when you’re in the home. So the assessments, if you ring somebody up and say, are you taking your medication?They say, yes, we’re taking the medication. And you go to their house and have a look, they may be taking medications, but it’s usually often wrong. They’ve got the doses wrong. They might be taking their husband’s falls medications because they’ve had a fall. It’s quite chaotic. So what you get on the phone is not the same as home visiting (i18)*

For services based on peer model or groups, the loss of personal connection with online services was also seen as detrimental to quality services in some cases. Patients who use phone only are particularly disadvantaged because of the absence of visual cues: “how can I best build rapport in a phone consult when I’ve lost facial expressions, body language, I’ve lost all of those things, misunderstandings are much more frequent” (i6). Again people from CALD background and low SES groups are more likely to use phone rather than video consultation, according to recent studies (Foley et al., 2020; Spooner et al., 2017; Walker et al., 2020). As a result, staff expressed a strong preference for maintaining face-to-face appointments for certain groups and for initial visits.

Key informants also shared concerns that virtual care is not always appropriate. Safety and privacy could be problematic in some cases, such as mental health services (for young people in particular) and situations of abuse, neglect or violence: “when I see a person face-to-face, often there’s a disclosure, whereas I haven’t had one on the phone” (i4). More broadly, the disembodied nature of virtual care can hinder rapport and trust-building, although there were mixed opinions about this in our consultation, with some participants reporting that online appointments for mental health care were “less anxiety-inducing […] allowed some distance to be more open” when patients “didn’t feel so boxed in the process” (i3; see also FG mental health). For people with complex trauma and PTSD, “when they’re talking about that intimate, psychological thing, sometimes it’s actually easier not to be in the same room as someone” (FG refugee).

Overall, evidence shows that virtual care presents definite benefits, but they are uneven, and so “if it’s to move forward, it needs to bring people with it and support them to be able to access” (FG carer). Because it has been established so rapidly, ongoing review, monitoring and support is needed, as this senior staff person summarised:

> *We need to go back and wrap support around because people – it happened really rapidly. It’s one of those things we’ve been trying to do for a million years, and all of a sudden we did it in five days […] But definitely there is an appetite for it in the community I think (i3)*

Consistency, reliability, quality and equitable access are essential to fully harnessing the benefits of virtual care.

Visitation and other infection control restrictions

Face-to-face care was also affected by the pandemic, with infection control restrictions established to curb the transmission of COVID-19 and protect patients and staff. COVID-safe protocols included a range of measures, like testing prior to appointments, re-structuring of hospital wards for risk minimisation, triaging in ED and restrictions on visitations and access to hospital for support people/people not directly receiving care. These measures had a positive effect in mitigating risks, but they also created unintended negative impacts with implications for equity.

Having to navigate restrictions and requirements when accessing services, can be linked to disproportionate unmet health care needs for economically vulnerable people who could feel discouraged, according to a recent analysis in Europe (Arnault et al., 2021). Our consultation brought up similar examples with vulnerable and disadvantaged patients struggling with new barriers to access outpatient clinics because of pre-testing requirements, and sometimes missing out on care:

> *Trying to get your treatment at RPA, it’s almost impossible; I had to go through emergency to get to the department and they would only see me if I had negative swabs and so I had two or three appointments and each time you had to go to get a negative swab before you could get into the department. So it was almost [like] the hospital was closed down to everybody so you couldn’t get in (FG social housing)*
>
> *I understand that swabs were necessary and that – but I just – you take somebody that’s using ice, is itinerant in housing, is a victim of crime, that is domestic violence, trauma back – they’re too chaotic to organise themselves to get a swab, so then, because they weren’t swabbed, they were sometimes denied […] care (i16)*

For in-home services, personal protective equipment (PPE) and infection control measures were needed to keep workers safe, but staff mentioned unforeseen adverse impacts with PPE acting as a visual signifier of “the stigma that’s associated with COVID”: “[the carer] was explaining to me that if a car rocks up and people jump out of the car with all this PPE, it’s going to freak out the street and no-one is going to want to engage with them” (FG carer). Infection control acts as a deterrent of seeking services in this case.

A number of participants raised objections to some of the infection control measures in hospitals, as they believed it made for an unwelcoming environment for service users, particularly in paediatric services (i16; i13). The ED was another contentious area for a participant because vulnerable people are triaged and made to wait in publicly visible areas, outdoors, in tents, in ways that could be seen as “degrading” (i16). Reorganisation of hospital wards for COVID-19 positive patients also meant that “patients are being moved around a lot” and “they’re not under one team. They’re under a different team every time they hit a different ward”, raising questions for quality and continuity of care (FG aged care).

Other restrictions on visitors for outpatient hospital clinics were particularly contentious and detrimental for some participants who felt that they were disconnected from an established best model of care. For instance, in perinatal care, pregnant people or recent parents could be "at their most vulnerable times ever" (i16) but deprived of a support person, and this had "a huge impact" (i15) on families:

> *A huge focus is around family-centred care, and the women's significant people, whether that be close family, friends, other support networks […] [when we] either have restrictions on these people or we can't have anyone at all in antenatal appointments or in ultrasounds has a huge impact both emotionally on the women and their families, but also on staff, because it's really not something that we necessarily agree with (i15)*

The quality of care received throughout the perinatal period is widely acknowledged to influence both short and long-term health outcomes of women, children and their families (WHO, 2016, 2018). Both formal and informal support, such as family members, doulas and cultural support staff, have been demonstrated to improve the satisfaction and emotional wellbeing of women and their families (Altman, Eagen-Torkko, et al., 2021; Burroughs et al., n.d.; Ogunwole et al., 2020). Visitor and support person restrictions is therefore likely to negatively affect this group, with international evidence showing pregnant women from racialized groups experienced increased stressors and unmet needs (Altman, Gavin, et al., 2021b; Kemmerer et al., 2021).

For CALD groups in general, and older CALD patients in particular, these limitations on support people could also have adverse consequences. Indeed, family members and support persons help communicate with health care staff, understand information provided to CALD patients and reduce stress and anxiety experienced during appointments in contexts that are not always culturally-sensitive (Houghton, 2020). As such, restrictions have the potential to exacerbate disparities in access to quality and appropriate care for already marginalised groups.

Strict restrictions on visitors for hospital wards and ICU established during the pandemic, were also said to have negative impacts for patients in prolonged hospital stays, creating social isolation and deep distress in some cases:

> *A lot of [patients] do get depressed because they're very isolated, and even though we have iPads and stuff, you can't be on iPad 24 hours a day or without human contact or something like that. So that's definitely going to have an impact on them […] it's an added stress of being isolated for so long (i11)*

One staff member suggested that these adverse mental health impacts could lead to longer and more difficult recovery for people trying to "reintegrating their normal lives, going back to their communities" after their discharge (i11). For hospitalised patients from CALD background, the absence of visitors hindered communication with staff when English language level was low, causing stress for both staff and patient, with potential effect on recovery. At the same time, staff deployed great effort to work around these obstacles and to deliver patient-centred, sensitive and appropriate care: "people have been bending over backwards to try and compensate and do the best that we can for our patients" (i17). Participants shared examples of staff sometimes going to great lengths to ensure specific needs were met in special health accommodation and in wards, or so that people could maintain some contact with friends and families. In light of these challenges, restrictions are constantly evolving, taking into account the local epidemiological situation, risk to staff and patients, and the need for "kind and compassionate care" (NSW Health, 2022a).

4.3.5 Impacts on staff

Changes to health services have had direct impacts on staff. As already mentioned, staff were redeployed and changed roles during the pandemic, with positive impacts reported: some were given the opportunity to acquire new skills, demonstrate capacities in different roles, build relationships and networks across teams, share knowledge and collaborate on complex issues. On the other hand, when remaining staff felt insufficiently supported, their "morale" was impacted; with one participant sharing that it impacted "the ability to provide a good service". Many also experienced increased workloads from adapting to rapid policy changes, staff shortages (when workers are sick or furloughed), inability to take leave and trying to work in area of redeployment and their primary role, and this was linked to stress, fatigue and even burnout. The longer-term implications of juggling a COVID-19 response role with regular work duties is another emerging issue that raises important questions of sustainability and workload for staff in the long run (email communication key informant validation, March 2022).

The shift to virtual care also impacted staff in various ways. For most, the transition created some issues that were 'manageable and reasonable' (with some nuances and additional stress for people shifting care models and WFH for the first time, see (Knoblanche, 2021)). This was testament to the existing "agility and responsiveness" of the digital infrastructure in SLHD that predated the pandemic and the strategies implemented by SLHD around this transition (i8). Some staff said they would have benefited from additional training on the delivery of virtual care. Not seeing patients face-to-face was also recognised as a positive step to protect staff, especially those with underlying health conditions, and this was appreciated by participants. In the best cases, changes to health services with virtual care were described as positive experiences because it "keeps people safe", clients "remained engaged" and health system workers "feel supported and valued and hopefully respected in their role" (i4).

On the other hand, disruptions to health services could mean intensification of work in various ways. For instance, bans on visitors and support people in hospitals and clinic appointments meant some patients were more stressed, anxious, isolated or unable to communicate fully. "Providing that additional and emotional support" (i15) can create more care work (informal psycho-social support) and more stress for staff: "stressed carers that were really struggling to come to terms with the fact that they couldn't be visiting, very, very difficult so the staff had lots of layers of extra things to have to deal with" (i17, see also i11; i16). Completing shifts in full PPE and with constant hypervigilance was described as "double the work we normally do" by one staff (i11; see also i17), highlighting the additional labour in providing care under pandemic conditions. Delays and interrupted care also generate their own challenges when services resume (whether virtual or in person) because "people are in worse shape", "they need more support", participants expressed. The backlog following service disruptions with long waitlists and catching up created additional stress for staff (email communication key informant validation, July 2022). Community workers and CALD specific providers in particular reported intensification of work during our consultation (FG refugee ; i5; i12), and evidence in Victoria also indicated that demands for "material, emotional and culturally appropriate family supports" have been rising, including to assist with the transition of clients to online services (Arashiro, 2020, p.16).

With service delivery scaled back during high COVID-19 infection periods, **the scope of work** and responsibilities also expanded for some staff who started performing tasks outside their immediate purview, and/or organise/coordinate additional care for patients. But responsibilities were stretched in more unexpected ways as staff began facing **new challenges** under the 'new COVID normal'. For example, support workers had to keep up with changes to service delivery, find ways to access services that were still open, advocate for their clients, all the while and at every step, weighing up the risk (of infection) and benefit (of the service). A support worker described one such example in a focus group:

> *So I've been really struggling with how to work out what is important, what is essential, what we should be advocating to continue. And then deciding it's important, you sort of think, well, okay, the podiatry appointment is important, but how do we get there because I'm not allowed to jump in a car with this person, they're, perhaps, poorly advised to jump on a bus, should they be getting in a taxi, which they maybe normally did, and it just – it gets incredibly complicated and that has been weighing heavily on my mind (FG mental health)*

The experience was further depicted as "very confusing" and anxiety inducing. Other participants shared they felt personally ill-prepared in dealing with the mental load and ethical implications of this ongoing risk management exercise and uncertainty.

In other cases, participants also emphasised that the pandemic foregrounded distinct aspects of their role further, particularly around health navigation and advocacy:

> *[clients] don't push for themselves, so health advocacy and health navigation across the board – most people find it hard, so to have vulnerable families, to find it so much harder (i14)*
>
> *I think quite a few consumers don't have that advocacy to advocate to push for a face-to-face appointment when needed. So a lot of that is going overlooked or missed unless there's someone advocating and pushing that back (FG mental health)*

This strengthened advocacy yielded positive outcomes when staff managed to assist and guide clients to access services and find relief: "[it's] great I've been able to help them with that through this time, so that's one less thing that they've had to struggle with"(i14). Empowering staff and building upon these specific capacities and skills is likely to strengthen the health system's resilience should further shocks and disruptions arise.

4.3.6 Population focus

The pandemic has illuminated existing geographies of social and economic disadvantage, with exposure, vulnerability and changes to the ways we live, work and access health care adversely affecting some groups much more than others. Changes in health services also affect different determinants of individual and community health and wellbeing. As developed earlier, people with low SES, women, CALD and migrant groups are much more likely to be disproportionately impacted by various disruptions in health care. Other, and intersecting, dimensions of individual and social identity are particularly salient when it comes to the impacts of changes in health care. Evidence from the literature and consultation with key informants shows age is an important variable: children and young people and older people are located at particular junctures where vulnerability is heightened, and impacts can have long lasting and significant, life-altering consequences (including protracted, non-respiratory deaths for older people). Relative ability is another factor that shapes outcomes. By corollary, people in formal and informal caring roles have also been negatively affected by pandemic disruptions, especially considering the everyday challenges and toll on health and wellbeing already associated with being a carer. In the following section we highlight population groups that were identified in the identification stage as experiencing disproportionate specific health equity impacts.

Children and young people

Impacts on children and young people can follow multiple, parallel and overlapping pathways. First, direct impacts through disrupted education, development and attendant consequences for physical and mental health. Second, impacts resulting from family situations including parents' stress and anxiety, income/employment changes, housing and abuse/neglect. Third, impacts deriving from community-level changes, such as access to health care, school or greenspace. The interplay of these direct and indirect impacts at multiple scales have generated negative, sometimes compounded consequences that tend to be underestimated according to informants in our consultation.

Besides disruption of primary and specialised health services, and health promotion and prevention activities, COVID-19 related school closures have also impacted health outcomes and health equity. While there is evidence that school closure was associated with a decline in hospital admissions and paediatric ED visits,it also meant children and young people lost access to school-based prevention programs and health services, including specialised services for children with disability and nutrition programs (Chaabane et al., 2021; OECD, 2021; WHO, 2021; P. W. Wong et al., 2021). This was also echoed by practitioners in SLHD where Healthy Children initiatives and school-based programs were temporarily suspended. The lack of contact with health and school staff makes (formal or informal) risk assessment for a range of health, safety, wellbeing and developmental issues impossible, potentially creating a 'population of invisible children':

> *Vulnerable children aren't necessarily going to school or these services aren't actually being given access to the school premise where they would normally provide support to children outside of their home environment; that's causing a real problem and it's kind of creating this sort of population of invisible children (i5)*

Early childhood education disruption is also likely to be associated with adverse health and wellbeing impacts as it is a crucial to children's social and cognitive development and competencies (UN Children's Fund & WHO, 2018).

While all children and young people have been impacted, for vulnerable groups who already experience poor health and wellbeing, the impacts of system disruptions are amplified (Jones et al., 2021). There is strong evidence in the literature that children with disabilities, from lower SES and CALD communities experienced more difficulties with online learning and lower access to resources/support (Chaabane et al., 2021; Jesus et al., 2021b; OECD, 2020). Interviews with refugee and migrant service providers painted a similar picture:

> *I think refugee families are particularly disadvantaged when it comes to learning from home because, again, there's the supposition that you'll have parents at home who are tech savvy and can help you with your homework and be that link and blah, blah, blah. So when you've got parents with very limited English and children with very limited English, they're awfully behind (FG refugee health)*

As one social worker also shared, "many vulnerable families say, 'I'm not a teacher, too hard, not doing it'" (i14), potentially widening inequalities and key social determinants of health. For this cohort who faced prolonged schooling disruption and/or who had their transition to school delayed, the impact on child development, learning gaps and general engagement with education could be long lasting, one specialist suggested (i13, see also (OECD, 2021).

In addition to impacts on SDH like education, COVID-19 induced uncertainties, service disruption, and a generalised climate of heightened anxiety are linked with a pervasive sense of social isolation, feelings of loss of control and autonomy, with adverse impacts on youth mental health and wellbeing (AIHW, 2021e; Headspace, 2021). As one practitioner expressed:

> *We have a really large volume of teenagers presenting overdosing, so huge, huge numbers of – which is a new thing that hasn't happened before, so teenagers presenting, from the age of 12, with self-harming or overdosing […] teenagers, that 12-16, I think they've really borne the brunt of the mental stress from lockdown, and that's certainly what schools are reporting too (i16)*

Even very young children could be impacted from parents' hypervigilance and stress (i13), potentially affecting children's psychological and neurological development, as observed in the literature on "nurturing care" and early childhood (UN Children's Fund & WHO, 2018).

When it comes to the effects of the virus itself, there are a lot of unknowns. There were early signs that the virus did not cause severe illness in children, despite widespread and rapid transmission among children and young people in 2021 (NCIRS, 2021). Yet, some informants advocated a precautionary approach until more is known about the long-term effects of infection on children's health. Vaccinations for people under 18 was also regarded as an important part of the strategy to protect children and young people.

Older people

Participants in focus groups and interviews suggested that stay-at-home orders had some positive impacts on older people, with a reduction in the incidence of flu and infection and the number of falls (FG aged care). However, the overwhelming sentiment was that COVID-19 changes to health services had negative impacts on this group. While older adults tend to be more resilient and have better emotional regulation and well-being than younger adults (Lee et al., 2019), they are at greater risk of adverse events from the pandemic and pandemic-induced changes to health services. Many in-person health services targeted at older people closed for extended periods of time to curb infection risk or because of staff shortages. This included Aged Care Community Packages, support services, home visits and assessments, respite services, health promotion, prevention and other day centre activities:

> *The sort of engagement that people need just to keep them healthy, psychologically and physically and so on is just not available to them. So the person with dementia is finding it obviously much more difficult because they're not getting that sort of engagement (FG carer)*

The boundaries of what is categorised as an 'essential' service came into play as well, with services usually being limited to personal care and food, while domestic care, respite, other activities and carer support were suspended (email communication key informant validation, July 2022). As a staff member put it, services are "restricting what they do to only essential things. So the extra things like taking someone out on an outing, things like that, that's not going to happen", one participant shared (i17). Service provision can also hinge on levels of dependence and frailty, while highly dependent older people often continued getting minimum in-community and in-home care, for others who need care but are less dependent, "it wouldn't be considered essential that carers go in" (i17). Hence, this 'missing middle' group stands to be more adversely impacted from service disruptions in aged care.

Older people also sometimes avoided contact with health services for fear of infection, some were unable to access services online and isolated from families because of public health orders and physical distance. This created a perfect storm, with health staff describing profound and cascading effects on physical and psychological needs as well as broader determinants of health. For instance, with **physical health**, when older people do connect with services or present to hospitals, providers often found "a really debilitated population" (FG aged care) and "recovery times were long" (email communication key informant validation, July 2022):

> *[people] we should have been involved with months ago or a year ago and we haven't seen them since (P2_FG aged care)*
>
> *We're probably getting people at our door who are much sicker and in worse state than they would usually be, because they've just hung on at home as long as' (P3_FG aged care)*

> *[in hospital] patients have been quite deconditioned, and you know they've been requiring more support and they've not had the support they need in community so [they] deteriorated […] it's very hard to turn back from that. So it's really life changing the impact on older people and they've got limited days and all that kind of thing… (i17)*

Deconditioning in hospital and isolation was therefore highlighted as a significant issue. Hospital to home transition services, home support services and restorative services that usually mitigated some of these impacts, faced increased demand and were not always able to respond in a timely manner (email communication key informant validation, July 2022).

These negative changes are connected to observed decline in **physical activity (PA) and poorer diet and nutrition**, where elderly people relied on PA and food in day centres, or the assistance of support workers that is no longer available or kept to a minimum during COVID-19 surges. As one expert described: "usually they're going out with community transport or going to their day centres, but that those things weren't happening. So we had a lot of people who were just sitting at home not doing their normal exercise" with adverse consequences on physical health and increased isolation (i17).

Disruption to services created "challenges" for staff trying to deploy alternative methods of care:

> *from a service provision viewpoint, we would do a lot of our work face-to-face. However obviously at the moment, we can't and many of the clients that we work with don't have access to technology. So we're doing a lot of that over the phone, and things get missed. We get told that everything's fine, but they could be living in squalor for all we know (FG aged care)*

There were also added difficulties when mitigating the effects of service disruption and providing culturally appropriate responses:

> *we've been delivering those [frozen meals] to peoples' homes just to make sure there's some food security, but equally I've had lots of calls from people saying, family members would normally bring them a particular meal that is something that their family eats, and that's the only thing they will eat, and there was a request for some particularly Asian type food that obviously we don't get in our frozen meals, and the concern of the provider was that person was not going to eat because the family member couldn't come (FG aged care)*

Social isolation, lower quality of life and negative impacts on mental health and wellbeing constitute other important areas of impact from rolling lockdowns: "We're finding increasing social isolation, particularly for people who have very strong informal support networks, where family aren't able to visit them anymore" (FG aged care; see also i17). This is compounded for older people living alone, research showing that loneliness and anxiety are more prevalent among that group and could contribute to anxiety and poorer health (AIHW, 2021i).

Not only does the suspension or delay of community based (support and respite) services have direct consequences for older people, their carers and families (for more on carers see 105), it also led to a deterioration in health and precipitated a move to residential aged care. This is a transition that comes with its own challenges (cost, waiting time, safety and appropriateness of facilities, risk of infection in care) and associated toll on mental health:

> *[they are] quite dependent patients […] often there might have been a rapid decline, they might not have any approvals for nursing home or anything like that because that hasn't been done […] but then they don't want to go to nursing homes (i17)*
>
> *even having to make that transition from the home to the nursing home, [carers] are feeling that the stresses have increased so much […] [older people] can't quite work out what's going on (FG aged care)*

Restrictions on visitation in hospitals and RACFs, while instrumental in minimising risks of infection and outbreaks, were also a central and prevalent concern during our consultations (rules and their applications could also be inconsistent, and this added to the confusion, (see Leading Age Services Australia, 2022). Visitors and families play a key role for both staff and elderly patients, they are an integral part of the ecosystem of care and without their input, feedback, and support, the quality of care can get eroded:

> *Families not coming in too, because they're actually involved with the care of the patients, right. They feed the patients, they keep their morale up, they alert us to things, they help in the management of delirium, or get really agitated. Families not coming in is a huge thing. It's the right thing to do, but it's a big impact (P1_FG aged care)*

> *I think it affects [patients'] ability to participate in therapies as well […] we're finding that people are coming into our community teams perhaps not having had the same length of rehab they might otherwise have, because they just are finding it difficult to participate without that family support (P3_FG aged care)*

In some cases, discharge from hospital and longer-term care planning became more difficult in the absence of family feedback (FG aged care), although staff again proactively tried to provide quality and patient-centred care despite restrictions. This was done through using virtual care (video technology) and arranging family visits:

> *at the moment we've got quite a few patients that have had a long length of stay because the discharge plan has been so difficult […] so advocating for those carers and arranging visitor exemptions so that they can actually come in and see what's happening, so that then they can engage with you in conversations about discharge plans that are quite appropriate (i17)*

Adverse impacts from social isolation and restrictions could be particularly acute for elderly CALD people, and staff noted "cultural issues in terms of other services that we can refer to, or lack of other appropriate services" (FG aged care) for patients with particular needs for specific food and translation, as mentioned earlier.

Older people with dementia or reduced cognitive abilities also suffered adverse impacts:

> *It's hard enough if you know why the person isn't visiting, but if you can't comprehend why the person is not visiting, the impact that can have on relationships is huge (P3_FG carer).*
>
> *One carer who's just emailed me to say, "Oh do you think that the nursing home might consider me an essential visitor?Because I haven't been able to see my wife for a month and I think she may just forget who I am."Now that he said we've tried Zoom meetings and things before and she just doesn't respond to that […] so the sort of grief that they're experiencing in a way (P1_FG carer)*

A special report from the Royal Commission into Aged Care Quality and Safety (2020) noted similar adverse impacts on health and quality of life for residents of RACFs from lack of visitors, and restricted mental and allied health services.

Looking ahead, it may be difficult to go back to 'business as usual' in the aged care sector, because the fear of infection and underlying age-related vulnerability will persist (with some mitigation from vaccination). In addition, the pandemic accelerated an existing trend in the sector with a shift towards community and home services (rather than hospital), some of which are privatised and already have long lag times and wait lists. Yet, and as emphasised by participants, "maintaining the support for people in the community" (i17) to avoid hospital and deterioration is essential, along with patient/carer health education (i17; i18). Quality standards and additional resources are needed to make community-based care a successful and sustainable transition that would see positive health outcomes for service users.

People living with disability

There are significant parallels between aged care and disability care services' disruption and associated impacts, raising the possibility of "additional health challenges" from not "having accessed needs and support", as this staff explained:

> *The major impact that [COVID-19's] had on persons with disability, who we know, particularly with certain disabilities like intellectual disability, have poorer health outcomes,what we've seen is "non-essential services" in inverted commas, closed down through not being able to do face-to-face support […] We have seen providers not provide essential care through their own concerns or the staff not wanting to go in. Or not being prepared enough (i9)*

Considering that mainstream health services "aren't always supportive or enabling environments" for people living with disabilities, as another staff put it (i4), service disruption is a major issue. Other participants also questioned the definition of essential services, considering how instrumental many of these services are to maintain meaning and quality of life for service users and their carers/families (FG carers). Because they provide personal social engagement and personal physical and emotional care, these services are also shown to enable people to stay home longer (Centre for Change Governance & NATSEM, 2021; Commonwealth of Australia, 2022; Giebel et al., 2021; Orellana et al., 2020).Restrictions on visitations to limit transmission in group homes were also raised as having adverse consequences for people living with disability:

> *with the intellectual disability clients, it's really hard to explain to them about the change that's happening and why they need to be in lockdown (FG carer)*
>
> *Certainly the lack of ability to visit. Particularly again people with disability living in Group Homes has been a major challenge and quite detrimental to people's emotional wellbeing (i9)*

There is strong evidence from the literature that service disruptions have far-ranging impacts for people with a disability on: physical health and activity (leading to functional decline); social isolation, loneliness and wellbeing (loss of support services, community networks or visitation rights in group homes); psychological consequences from disrupted routines and activities; and increasing family and caregiver burden (Jesus et al., 2021b). The following example illustrates a number of these challenges:

> *One of the other families that I've been talking to, they are actually having to sedate the person because he's used to a lot of high-energy activity in order to maintain his behaviour. And being in lockdown has meant that services are not available. He can't – Dad said can you get us special permission so he can go to the park, and he runs and runs and runs and then he's burnt off the energy and he'll come home and they can sort of manage him. And they do that a few times a day. So that family's been really stretched about how they're going to manage this person without that support (FG carer)*

The Disability Royal Commission (2022) has similarly expressed "concerns that people with disability are still not being appropriately prioritised during this phase of the pandemic in relation to health care, disability support and the vaccine/booster rollout" and it has identified key issues of concern. These include data gaps but also lack of equipment, service coordination, disruption to disability services and access to essential health, and need further investigation and mitigation ahead of the next phase of the pandemic.

Carers

The flow-on consequences of disruptions associated with the pandemic for formal and informal carers (of elderly and/or dependent people and people living with disability, chronic conditions and mental illness) are substantial, and sometimes overlooked, according to participants. Around one in ten SLHD residents (Barr et al., 2020) provide formal or informal support to a family member or friend. Carers are responsible for taking care of the welfare of large numbers of vulnerable Australians, providing often challenging and complex caring duties. Numerous studies have reported on the lower wellbeing of carers compared with average Australians (Barr et al., 2020; Carers NSW, 2020a; Centre for Change Governance & NATSEM, 2021; Hill & Broady, 2019; Hofstaetter et al., 2022; Masterson-Algar et al., 2022; Schirmer, 2017). The majority of carers forgo their own social life and level of control over their life, negatively impacting their own health, relationships and employment (Centre for Change Governance & NATSEM, 2021; Masterson-Algar et al., 2022). Participants in our consultation shared similar issues of "social isolation" and "the sense of urgency or need for their care, health care, that can often be put off for carers" (FG carer).

An additional and well-known challenge comes from "invisibility", "whether or not they identify as a carer and whether or not they can see what entitlements they have as a carer" (FG carer) affecting the extent of support carers know of and/or can access, and their wellbeing(See Centre for Change Governance & NATSEM, 2021; email communication key informant validation, March 2022). This invisibility manifests at the policy level too, where carers' particular needs, diverse situations and essential roles are not (sufficiently) recognised. For instance, Carers NSW reported a lack of specific information on how to care safely at home as well as difficulties accessing masks, priority vaccination, priority shopping hours, RATs and other essential supplies at different stages of the pandemic (Carers NSW, 2020b, 2022).

Access and availability of quality support services has been an enduring issue (see e.g., in the UK study (Giebel et al., 2021), apparent even before the pandemic, as elaborated by participants: "by and large it's a lack of accessible respite [that] is probably the main thing that would come up" (FG carer) as well as accessing a support group for carers "being able to be a part of a wider group where they can information share, have a supportive network that understands the day-to-day challenges that they're facing" (FG carer). Evidence from the Productivity Commission (2022) shows that carers' satisfaction with the range and quality of support services for both aged and disability care in NSW, significantly declined between 2012 and 2018. Additionally, chronic staff shortages, overwork and low pay were problems before the pandemic (Commonwealth of Australia, 2021). More people delayed putting family members in residential care during the pandemic due to concerns about quality of care, facilities restricting visitors and risks of infection, prompting an accelerated shift to home care:

> *I think the care at home movement was starting before COVID anyway. There has been that bigger push to try and organise more and more care at home, and reduce use of residential aged care facilities. I think COVID will push that even stronger, ultimately (FG aged care)*

Industry providers confirm an "unprecedented demand for home care services", including palliative services which are unable to meet the demand (Davey, 2022). CALD people and Aboriginal and/or Torres Strait Islander People are overrepresented in the use of home-care packages (Productivity Commission, 2022) and would therefore also be particularly affected by interruptions of support services, with flow-on effects for their families and carers.

The heightened risk of COVID-19 transmission to vulnerable populations has led to a reduction in support from health and social services and to a move towards technology-based support when possible. There were reports of stay-at-home orders depriving carers of respite, downtime and independence, while also losing access to formal and informal network of peer support (with some moved online). At times of outbreaks, services were also interrupted, with providers wary of infection risk or struggling with workforce shortage (FG disability and aged care). Recent studies show that reduction or no services, negatively impacted the care and quality of life of both the carer and those needing care, and this impact was influenced by the severity of care needs (Centre for Change Governance & NATSEM, 2021; Masterson-Algar et al., 2022). Again, these findings were echoed in experiences participants shared:

> *Day centres are closed. A lot of the support services are more limited which means that the carers are then much more stressed as well […] if it it's a carer, a spouse carer, who suddenly finds that they're having to deal with the person 24/7 when perhaps they previously did have access to some respite. I think it's been disastrous for so many carers (P1_FG carer)*
>
> *So it's already a stressful role for carers and now they're having their services reduced with a lack of access to assistance to extended family members who can't visit. And also, if they're caring for somebody who is housebound, previously they would have a respite service to be able to access the community. If that's been suspended, […] they're restricted. They're no longer able to access the community for exercise or for their own health needs and may be unfamiliar or unsure of Telehealth […] there's a bit of shame. So they're expected to be able to just cope and manage and they feel that it's their responsibility so they may not be as transparent as we would like them to be to be able to offer the support that they need during this time (P2_FG Carer)*
>
> *Now they're feeling that they have to fill all the gaps of the other services and people that aren't there. So I think that in terms of health and wellbeing for carers at the moment during COVID is huge as well (P3_FG carer)*

As a result, many carers are more stressed, isolated and worse off financially (Centre for Change Governance & NATSEM, 2021; Hofstaetter et al., 2022; Masterson-Algar et al., 2022). A 2021 Australian survey showed that more than 44% of those caring for a person with high assistance needs were frequently lonely, compared to 11% of Australians (Centre for Change Governance & NATSEM, 2021). Negative impacts are compounded for carers experiencing other forms of disadvantage, as with this example of a lone parent on low-income:

> *One of the other families is a single mother and she said that they don't own a washing machine so she makes regular trips to the laundromat because the person soils bedding and stuff […] and she can't afford to go online and order deliveries. Yeah so those were some of the challenges and we haven't even mentioned siblings and schooling (FG carer)*

But changes in services and other pandemic-related disruptions have had snowballing effects for broader circles of carers, including what participants called "hidden carers", often "young people who are siblings of someone with a disability or a child of a parent with a mental illness" (FG carer). While participants explained that the pandemic made them more visible to an extent, new vulnerabilities and difficulties have emerged, with lack of personal space/respite during lockdown and deteriorating mental health for young hidden carers:

> *So one of the families that we are involved with have two children; one in [year] 11 and one in [year] 12. They're living in a very small home so the son who's in year 12 is actually sharing a room with the person with intellectual disability who's currently experiencing increased anxiety, which is impacting their sleep […] the challenges of the sibling was causing a lot of mental health issues for the brother in terms of his confidence and his – I think he was almost feeling – like wanting to self-harm because of having a brother with such high needs. Yeah so there was[a] sort of effort that had to be put into […] supporting the sibling (P4_FG carer)*

In another case of a youth with a parent with mental illness, “the high pressure environment” and inability to have respite, is taking its toll:

> *the mental health of the young carer has declined quite rapidly […] being unable to feel that they can reach out to friends and participate in activities that they used to do to take breaks from caring (P5_FG carer).*

Furthermore and because of reduction in formal support services, health navigation has been more of a challenge and carers have faced additional barriers to access remaining support and medical services. Our consultation revealed that obtaining care hinges on the advocacy, proactiveness, and/or tech-savviness of the carer in some cases (FG carer), with similar findings in a recent UK study (Giebel et al., 2021) which raises critical questions of equity. People without family or “informal social supports” to advocate for them, can be more negatively impacted compared to those with more proactive carers, as with this example:

> *the providers did touch base and say, “Look, can we cancel her lunchtime visit?” And I went, “Well, you can’t really because she can’t get her own lunch and also needs to be changed or something. ”But if someone didn’t speak for her then they wouldn’t have been coming in…(i17)*

Pandemic-induced disruptions may therefore have deepened social/health inequalities for people who are isolated or rely on informal care. When carers also experience socioeconomic disadvantage, isolation and other vulnerabilities in physical and mental health, resilience can be tested. Uncertainty and unpredictability regarding service disruption makes planning for the next phase of the pandemic and living with COVID-19, a challenging exercise.

5 Equity-focused response

5.1 COVID-19 responses

It is clear from our assessment that the challenges posed by COVID-19 have been experienced very unevenly, from the risk of exposure and transmission at home and at work, to the consequences of control measures on health services and programs. Known social determinants associated with health outcomes and inequities, such as housing, employment, immigration and/or Indigenous status, have long been recognised by SLHD as priority areas where opportunities for good health and access to appropriate services need to be enhanced (Sydney Local Health District, 2018); in other words, equity is embedded in the health system and in the work culture in SLHD. From the start of the pandemic, SLHD has utilised this equity lens in providing an inclusive and safe response to mitigate the impacts of COVID-19 amidst constant change and uncertainty. From direct responses to the threat of COVID-19, to striving for maintaining equitable care and service delivery, SLHD leveraged existing partnerships and formed new collaborations to try and meet the diverse health needs of people in the district.

While focusing on SLHD’s response for the purpose of this EFHIA, it is also important to acknowledge the community-led and civil society-based responses to the COVID-19 pandemic in the district. They contributed to strengthening broader determinants of health at the local level, including social capital and community assets, building resilience over time. Community-based responses will continue to be instrumental through the recovery phase of the pandemic to sustain efforts in planning, advocating and responding to what communities need.

The equity-focused response from SLHD centred around intentional engagement with, and prioritisation of, socially vulnerable populations and people in high-risk settings for COVID-19 transmission. Considering the many and overlapping barriers to accessing and/or following public health guidance/orders, and the challenges in managing risks effectively for people who are marginalised in different ways, SLHD took a lead role in supporting preparedness, mitigation and responses to outbreaks. SLHD identified four priority areas and vulnerable populations: (1) the disability sector and disability group homes; (2) residential aged care facilities (RACF); (3) vulnerable people and housing (social housing residents, boarding houses, people experiencing homelessness); and (4) Aboriginal and Torres Strait Islander response. Because equity principles already inform District processes, structures and staff roles, SLHD was able to quickly use this expertise for both their emergency management response (testing and outbreak management) and for longer-term mitigation and adaptation to pandemic disruptions.

5.1.1 Preparedness, collaboration and information dissemination

Work on building up COVID-19 preparedness and infection control measures at micro levels, started very early in the pandemic (Feb–July 2020). In late February 2020, specialised ‘Tiger Teams’ were formed to support frontline staff in Infection Prevention and Control (IPAC) training and implementation (SLHD, 2020); as a manager from the disability sector described, “they [infection control nurses] go out daily from a COVID-19 point of view to support providing PPE training and infection control advice” (i9). IPAC therefore included planning, training, supplying PPE to facilities and Aboriginal community organisations, compliance checklists and protocol benchmarks, and sending infection control nurses for support in health and residential facilities. Developing processes to manage potential outbreaks in high-risk settings was another key element of the early response.

While SLHD took a lead role, this initial phase was conducted in close and ongoing collaboration with government agencies and other stakeholders, notably disability group home providers, DCJ (social housing), Rough Sleeping Taskforce, Aboriginal Medical Services, boarding house management and RACFs in the district.

Over time, SLHD continued to develop IPAC preparedness and outbreak management plans across these sectors. Each of the SLHD's 58 RACFs were provided with an IPAC review, training and recommendations, and many of the 80 disability group homes in the District received a comprehensive review (SLHD, 2021 p.78). District specialists also contributed a to social housing high rise management plan (EquityFest, 2021). Sustained and enhanced collaboration was embedded through the creation of Community of Practice groups for RACFs, local disability providers and NGOs/community sectors, that met very regularly for information sharing and to feedback to the SLHD concerns from their clients/participants. This laid the foundation for a responsive and adaptive response, and received enthusiastic support from stakeholders involved (SLHD Disability Inclusion & Strategy Manager, EquityFest, 2021). One participant from the NGO sector, described Community of Practice group meetings as fostering an "open, transparent, collegiate" relationship, and as a "mutually beneficial exercise" that needed building upon (i5).

Developing guidance and information that was accessible to a wide range of people, was also identified as a priority in responding to equity concerns around health information and literacy, and to barriers in following advice. SLHD provided a range of targeted resources in response:

- The disability team produced "easy English documentation" for people with disabilities, and signage for group homes (SLHD, 2021)
- The Aboriginal cultural response team produced communication strategies and documents for Aboriginal communities (SLHD, 2021)
- The Diversity Hub produced over 1,000 "multilingual assets" across 30 languages and multiple platforms (EquityFest, 2021), on transmission and appropriate response to risk.

A service provider in multicultural health commented:

> *It's been beautiful to see how fast it can be to translate health messages. That has been one of the most amazing developments. There is so much information that is translated […] in multiple languages. Not just the top seven languages, but a real focus on getting those minority languages (FG refugee heath)*

Spotlight 24 Preparedness in the disability sector

Spotlight on preparedness in the disability sector

Preparedness was key in the disability sector and the district was well-placed to take a leadership role since services supporting people with physical and/or intellectual disabilities and their carers, were well embedded in the health system. The initial response focused on collaboration and "the development of processes":

> *So we developed in partnership with a whole range of stakeholders, how we would respond […] We developed really clear pathways around how to have providers respond to that. We developed pathways for testing so that those that were vulnerable who couldn't necessarily access a testing centre per se or a clinic, we would go to them after hours, contacts, that kind of thing. We developed fortnightly Community of Practice with our local disability providers so that we were speaking regularly and engaging. It took a lot of work (i9)*

At the start of the pandemic, there were also challenges in responding to exposure and/or transmission: "We see challenges in [disability providers] response when they've had either [COVID] positive workers, or a positive resident, or a close contact situation, where they haven't had the tools available to them to respond in a timely way"(i9). Tiger Teams and infection control nurses provided critical assistance with bolstering mitigation measures and outbreak management planning.

To provide effective response and care to as many vulnerable people as possible, a review and mapping of disability group homes in SLHD was needed: "this is one of the downsides of the transition to NDIS [National Disability Insurance Scheme]. We didn't have pre-COVID good oversight as to what group homes were out there in the community" (i9). Hence, the pandemic revealed a "vulnerability" with respect to being "linked in" to SLHD and services, and the possibility that some private providers may not be in contact with health services. Looking ahead, experts stressed the opportunity for ongoing collaboration between providers, government agencies (like NSW Health, DCJ, the Quality and Safety Commission) and the people living with disability themselves, to continue improving care and health outcomes (i9; FG carer).

5.1.2 In-community testing and screening

Another essential aspect of the SLHD proactive and equity-focused response to COVID-19, has been the prioritisation and provision of in-community testing and screening to ensure more vulnerable groups also had the opportunity to get tested. In our consultations, other participants and external stakeholders recognised this as a forward and positive approach. SLHD established a 'Flying Squad' team to deliver testing that was appropriate and accessible for people in home isolation, in RACFs, in social housing and boarding houses, and in disability homes (provided they were connected to SLHD):

> *People with physical disability are vulnerable from the perspective of not likely to go and get a test if they have COVID symptoms – [they] would need testing in home, which is certainly do-able, but you've got to be linked in to be able to access that (i9)*

Pop-up testing clinics were also set up based on a "forensic analysis" (SLHD Director Diversity Programs and Strategy Hub, EquityFest, 2021) of weekly testing numbers to make sure communities in more disadvantaged areas (e.g., low SES, high proportion of migrants or Aboriginal and/or Torres Strait Islander peoples) were being screened, and that testing remained high. SLHD teams ensured that testing clinics were located in places that were convenient, "familiar" and "comfortable" and that they were "staffed by people who could speak their language, understand their concerns, be with them to navigate the system" (SLHD Director Diversity Programs and Strategy Hub, EquityFest, 2021), emphasising again, community buy-in through cultural support and language. Indeed, staffing support with bicultural/bilingual staff was encouraged by the Diversity Hub early on in the pandemic. The testing clinic set up at the Redfern Community Health Centre was another good example of this, with a deliberate effort to locate testing within a regular outreach/drop-in service space for the community. A manager reflected on these initiatives and why they were successful despite the difficulties of engaging vulnerable/marginalised communities where "there is a level of distrust with bureaucracy and with the system":

> *turning up consecutive days kind of also helped so that they weren't just there for five minutes and then disappeared, they were there for two or three days. So they got a bit more of a sense of the community, the community got a bit of more of a sense of them, and they also branched out and did – used it as an opportunity to do other health checks with people and […] talk to them about the services […] I think there are some real opportunities still there for us to continue to do that with those areas (i3)*

In some cases, testing was paired with other support in the same place, recognising the broader impacts of the pandemic on employment, finances and access to necessities: "that was kind of good in terms of people accessing some support, like people would come in and get tested but actually then get groceries and a little bit of extra support", a service provider commented (i10).

5.1.3 Management of outbreaks

Building on the extensive preparedness, planning and collaboration in SLHD, Outbreak Management Teams (OMT) were formalised for each priority area in 2021, when NSW was hit hard with a new wave of infection. OMT were comprised of clinical and non-clinical experts and sprang into action when new cases were notified. Teleconferencing enabled collaborative outbreak management and communication, reflecting "the willingness of different stakeholders to come together […] create shared decision making and priority responses", a director explained (SLHD Disability Inclusion & Strategy Manager, EquityFest, 2021). In the area of social housing and vulnerable populations, experts shared that a "combined and collaborative response" drawing on interagency knowledge and partnership, guided the response (SLHD Director of Integration Strategy and Partnerships, EquityFest, 2021), perhaps a reflection of the lessons learned from outbreak managements in public housing (and beyond) during Melbourne's second wave in 2020 (*Parliament of Victoria, Public Accounts and Estimates Committee Report 2021*).

Working with relevant providers/agencies, OMT have rolled out a full response to outbreaks, including: in-reach testing with the Flying Squad, IPAC site assessment and control measures, clinical support, regular follow-up on cases, isolation support for COVID-19 positive cases and close contacts, welfare support and liaising for the purpose of contact tracing. In some cases, part of the response also involved a full site lockdown. The outcome has been quite positive in terms of minimising transmission and adverse health outcomes and fatalities in the district (SLHD, 2021, p.76).

Critical to ensuring equity was the scaffolding of the response in ways that were inclusive, localised and tailored to a particular place and people/community. Frontline workers/specialist service providers (from

SLHD and beyond) participated in the management of the outbreak and in responding to actual needs in socially and culturally appropriate ways. Because frontline and community health workers already knew the community they serviced, they could quickly respond and engage key community networks ("reaching in"), communicating "often door-to-door" with people to make sure they understood guidance/ways to "reach out", and had the means to safely and effectively isolate (SLHD Director of Integration Strategy and Partnerships, EquityFest, 2021).

Managers involved in OMT described this process as "hyper-local", unfolding at the level of neighbourhoods or even individual social housing buildings and blocks (EquityFest, 2021; SLHD, 2021). People and communities affected had opportunities to share their lived experiences and concerns and get tailored support, whether that was individual requests for specific food (i13) (SLHD Director Aboriginal Health, EquityFest, 2021), or active support to mitigate disruptions to routine and activities in group homes (maintaining quality of life in some ways) (SLHD Disability Inclusion & Strategy Manager, EquityFest, 2021). As such, OMT's work puts into practice SLHD core principles of patient-and family-centred care, as described by another practitioner: "we've actually individualised care and tried to meet the diverse needs of families to the best we can in a really challenging time and I'm pretty proud of the way it worked out" (i13).

5.1.4 Welfare support and enabling safe and effective isolation

What was also apparent in SLHD's response was that support in preparing for and managing outbreaks had taken into consideration particular social location and lived experiences, such as health conditions, living arrangements, economic disadvantage and other social determinants. These types of interventions involved intersectoral collaboration. Careful consideration was given to questions of accessibility and appropriateness of support services, with material solutions provided for immediate needs. This was partly the result of community advocacy and practitioners listening to community concerns:

> *Many [social housing residents] had issues with food security, and that has increased through the roof. How many times I've had to get much more practical help for people, and that's comes up through the community in those consultations. Needing practical help and needing welfare agencies a lot more (i14)*

Another community development worker commented, "everyone is out of food, or there's food insecurity and that's rampant" in social housing towers (i12). Efforts were made to provide a more coordinated response to these issues through food relief, but not without some logistical issues at times: "no-one was able to actually deliver the food to the person's door or everyone was too adverse" at the start of the pandemic response (i12).

The Aboriginal Cultural Response team also worked to provide care packages, medical supplies (medication, home testing kits) and food hampers for people in need and/or needing to isolate throughout the pandemic. They used these points of contact with community as opportunities to check on other non-COVID-19 related health needs, and referred patients to other services like mental health, drug and alcohol, antenatal care and family violence (SLHD Director Aboriginal Health, EquityFest, 2021), again, creating a holistic response to a range of needs. During outbreaks, co-locating SLHD, DCJ and other NGO services made it easier to bring welfare and support services to social housing and boarding house residents as well, rather than having to navigate a complex system and find services (SLHD Director of Integration Strategy and Partnerships, EquityFest, 2021).

Supporting safe and effective isolation was another important plank of SLHD's response, considering the known barriers around this for disadvantaged groups. SLHD therefore offered places in SHA (quarantine hotels/apartments) to patients in the community who were unable to isolate at home, as well as returning travellers, new migrants and refugees arriving in Australia. As part of the Aboriginal cultural response for instance, Aboriginal health workers advocated for SHA access when required and supported patients in SHA (SLHD, 2021). The Diversity Programs and Strategy Hub Unit oriented people from CALD communities into SHA and relayed their concerns to staff and RPA Virtual Hospital, as well as conducting welfare checks and supporting CALD community members isolating at home (SLHD Director Diversity Programs and Strategy Hub, EquityFest, 2021). Rough sleepers and people at risk of/living in homelessness were also provided with SHA to complete their isolation period and support their health and wellbeing needs (*SLHD Sydney Connect 2022*): "[patients] were so appreciative of the input when you spoke to them [...] by doing that proactive work, there's been benefits to the patients"(i18). Managing the isolation of some people with complex care needs, drug and alcohol treatments, mental health and/or disability support needs within SHA and group homes continued to be challenging (i9; i18).

Spotlight 25 The Aboriginal Cultural Response in SLHD

Spotlight on the Aboriginal Cultural Response in SLHD

SLHD is located on the lands of the Gadigal, Wangal and Bediagal people, and is home to one of the largest urban Aboriginal populations in NSW, particularly in the suburbs of Glebe, Surry Hills, Redfern and Waterloo. Many members of the community have underlying health conditions and the district recognised early on in the pandemic that the community needed a prioritised, tailored response. Comprehensive preparedness and outbreak management plans in Aboriginal communities were developed in 2020. SLHD then set up a dedicated team to provide additional support through the Aboriginal Cultural Response Team and OMT in 2021. The team was tasked with providing cultural support to COVID-19 positive Aboriginal patients and was part of the multi-pronged response to the COVID-19 crisis among Aboriginal communities, including targeted testing and vaccination.

Building on a long history and trusted partnership with the community, the response has engaged communities and stakeholders at every step. In particular, the Aboriginal Medical Service (AMS) Redfern and Aboriginal Health Workers in the SLHD have been key in designing and driving appropriate responses, from contact tracing and management to wrap-around support. An Aboriginal team with local knowledge and connection to the community has been essential to timely interventions and containing outbreaks – on the ground, this meant a team who knew what questions to ask and how, and what support people might need to keep safe, connected and well. It also meant that advocacy and patient-centred health navigation, to empower Aboriginal people to connect with health and support services, were built into the system from the onset and through dedicated channels – these were an important and recognised means of promoting equity and positive health outcomes (see e.g. Rankin et al., 2022).

The Aboriginal Cultural Response Team 's activities therefore aligned with an overarching model of care centred around strengths and holistic cultural and clinical support. The aim was ultimatelyto contribute to improved engagement and involvement of Aboriginal and Torres Strait Islander peoples in making decisions about their care (see RPA Virtual Hospital Strategic Priorities 2022-2023).

Another important role for the team was to provide coordination and leadership for the response, acting as a hub and first point of contact for internal and external partners. Further partnerships with AMS Redfern, Metropolitan Local Aboriginal Land Council DCJ, City of Sydney and a range of local community organisations and groups, enabled the provision of essential material support and relief in-community, including universal delivery of care packages and food hampers, provision of home testing kits, phone credit and phones, and plain language information regarding isolation.

The Aboriginal Cultural Response Team has also worked in collaboration with RPA Virtual to support Aboriginal community members infected with COVID-19 and close contacts isolating at home, or in the SHA (when unable to safely isolate at home). Aboriginal Care Navigators were rostered to offer complex cultural support and worked closely with other multidisciplinary health staff to provide care planning and escalate concerns in an appropriate way. Concerns often extended beyond immediate COVID-19 care and could be safely relayed to clinicians. Beyond immediate relief then, the Aboriginal Cultural Response Team also played an important role in linking patients with relevant services/support in SLHD and externally, including social workers, community health services, counsellors and other specialist services.

The team continues to work through some barriers around contacting members of the community who may not have a phone number or fixed address, including keeping up hygiene and isolation, and allaying fears of vaccination and contact with government departments (SLHD Director Aboriginal Health, EquityFest, 2021). Community feedback has been very positive overall, and practitioners have also see this work as a way of showcasing best practice in the space, such as the value of early intervention and bringing Aboriginal Health Workers together to drive responses. There were benefits to other clinicians too, by demonstrating the practice and value of "holistic, family, household and community care" (Aboriginal Cultural Response Team Coordinator, 2022).

Sources: (EquityFest, 2021; SLHD, 2021)

Unaccompanied minors (12–16 years old) were another large cohort of particularly vulnerable patients that were accommodated in SHA when sick parents were unable to care for them or they were in family situations where "mental health issues", refugee status or "under the care of the department" status was at play (i13). To meet their needs, SLHD paediatrics specialists "developed processes around how to do that well, with excellent buy-in from mental health, social work, from allied health, the appropriate space" and ensuring to give children agency in the process (i13). SLHD staff therefore tailored their care of SHA patients as much as possible, but also used it as an avenue for performing general welfare and health checks, referring to other specialised services, and running health promotion and education programs (FG refugee health).

5.1.5 rpavirtual

Virtual care models implemented through SLHD's virtual hospital, known as 'RPA Virtual', contributed to a timely and effective response in the District. RPA Virtual was tasked with the clinical care of COVID-19 positive patients isolating in their homes and people isolating in SHA. It was an important way to reduce patients physically presenting in-hospital and to streamline resource allocation and prioritisation: RPA Virtual "has changed the way we think about who needs to come to hospital and who can receive care safely in the community", one manager shared (i13).While RPA Virtual had to pivot quickly to meet a growing demand for care during successive waves of infection (including patients with more complex health issues), the model of care was revisited to recognise differential vulnerabilities among patient cohorts and to address specific needs (Shaw et al., 2022). Indeed, the model not only safely brought health care to where people were, it also enabled coordinated and tailored care for COVID-19 positive patients and SHA patients, across a range of areas "from antenatal care, paediatrics, mental health, drug and alcohol, and aged care" (Shaw et al., 2022, p. 4). Across 2021 20.2% (n=10,419) of patients receiving Virtual Care lived in the Canterbury LGA. As another participant explained regarding the benefits of the model for children:: "Now, before the rise of RPA Virtual, we would've been having to figure out how to meet the needs of those families under paediatrics, but there's that collaboration with that new innovative virtual hospital" (i13).

Spotlight 26 On rpavirtual

rpavirtual overview of care in the Canterbury-Bankstown Local Government Area during the period of the Delta Variant outbreak

There was no interruption to RPA Virtual Hospital (rpavirtual) patient care during the periods of high COVID-19 community transmission and suburb lockdown in the Canterbury-Bankstown Local Government Area. This included the provision of in-home nursing care and palliative care, and COVID-19 care and monitoring. A total of 5,528 patients residing in the Canterbury-Bankstown LGA received clinical care from rpavirtual during the period of the Delta Variant outbreak, 15 June to 25 November 2021. There were 51,673 Occasions of Service.

Virtual Care Centre
Overall total of **4,914 patients** received virtual care with **37,068 occasions of service** – main cohorts:

3,572	COVID-19 positive patients isolating at home
878	COVID-19 positive patients in quarantine
85	COVID-19 negative patients in quarantine receiving clinical care, included 20 pregnant women receiving antenatal care
13	Patients received Virtual Fracture Clinic care

Sydney District Nursing
Overall total of **614 patients** received in-home nursing care with **14,605 occasions of service** – main cohorts:

268	General Community Nursing (wound care, catheter care, etc) patients
191	Palliative Care patients
109	Hospital in The Home patients

81 patients who received any rpavirtual care in this period completed a Patient Reported Experience survey.

20% (n=16) of respondents spoke a LOTE at home.

99% (n=80) of respondents rated the care they received as 'excellent or good' and one patient rated the care they received as 'fair or poor'.

In refining models of care in RPA Virtual, SLHD adopted an equity lens to deliberately address disparities in health status and needs, and to apply a 'whole of health' approach to support patients. First, risk assessment criteria were extended to consider other determinants of health besides immediate COVID-19 related comorbidities, meaning that patients living with (physical and/or intellectual) disability, significant mental illness and drug and alcohol issues, together with Aboriginal and Torres Strait Islander people and elderly people without social support, were added to the 'high risk' category and received additional care, support and monitoring. Second, wellbeing and social support questionnaires were introduced to check levels of core protective factors for health and wellbeing and to provide support and services as needed. A multi-disciplinary team was put together to answer a variety of care needs. In addition to referrals and linking to social work and psychology services, direct welfare support was also facilitated (food, income support, medication, safety, etc). Third, barriers to information and access were also addressed along the way. A digital patient navigator was recruited to facilitate patients' transition to virtual care and more accessible information material was produced in plain English and other community languages (along with Aboriginal specific information resources). Aboriginal care navigators provided cultural and other support as well. Lastly, RPA Virtual also contributed to ensuring continuity of care for non-COVID-19 patients through referrals (SLHD, 2021).

5.1.6 Vaccination

SLHD implemented a targeted and tailored approach to vaccination, with multiple entry points and pathways recognising the different capabilities and barriers various groups of people faced. This translated into a multi-pronged response. First, large vaccination hubs were set up, but with appropriate support and bulk booking for people needing it, such as people with disability or mental health conditions for whom "going to a big hub can be incredibly daunting" (i9). One practitioner explained:

> *In terms of our vaccination approach, I suppose, so we have a four-tiered model. So the large hubs as individuals supporting that and we've certainly been very supportive in terms of people with disability and their unique requirements and reasonable adjustments, for lack of a better word, in terms of, yes, they can get there but they need x, so let's support that and make sure that happens, so that they can get through it appropriately. Bulk bookings at the hubs, so that if you've got a group of people that can get there, let's just do them quickly, drop them at the back door, that kind of stuff (i9).*

Community-based multicultural and specialist services also had to step in to facilitate vaccination bookings as navigating the online eligibility checker and booking portal was challenging, and many people in CALD and refugee communities needed individual assistance. Providers were responsive and proactive in dealing with this issue: "[it's] not [a] very intuitive program [...] it's been really hard, we've had to employ staff to ring people and do it with them because they can't do it themselves" (FG refugee health).

Second and besides the large vaccination centres, a SLHD working group also identified priority populations for vaccination to organise specific outreach and response. These groups were: (1) people living with disability; (2) people living in RACFs; (3) social housing residents and other vulnerable people in precarious housing; and (4) CALD communities (particularly in high-transmission locations [what became known as LGAs of concern]). Again, the response was driven by the idea of making the service as accessible as possible, and for it to be patient centred, community focused and embedded in places that are familiar and comfortable for people. It translated in organising mobile vaccination clinics (MVCs) in specific settings and prioritising particular groups. For example, SLHD worked with Primary Health Networks to deliver vaccinations in RACFs and disability homes. MVCs were also set up for social housing residents and people at risk of homelessness in frontline charity offices and community centres. The Aboriginal Response Team established a KOORI vaccination clinic in a local space well known to the community (Redfern NCIE office) and other temporary pop-up clinics in Marrickville and Redfern. MVCs, or 'mini hubs' as one practitioner called them, were organised for people in group homes and in RACFs, with additional in-facility outreach as well:

> *We've had mini hubs all over the place where we've done them in group homes, or day programs, and try to get as many people there and do a bulk group of people with vulnerabilities, but with lots of care workers and in a familiar environment and all that kind of thing, which has been very successful. And we've also done a lot of in-reach in-house […] So I think that's been invaluable really and then the district have done that, not only for people with disability, but all sorts of vulnerable cohorts in terms of homelessness and housing (i9)*

Ongoing outreach for social housing residents with door-to-door and home-based vaccinations, kept the momentum going to ensure people had multiple opportunities and accessible avenues for vaccination (SLHD, 2021). For people with complex and chronic care needs, in-home vaccination was also organised successfully:

> *All the patients that we have had, have had a least two vaccinations. We actually rang them and organised home visits if they wouldn't or couldn't get out to the clinic. So we've been proactive with all of that, and able to talk through the issues, and things (i18).*

When it comes to people in LGAs of concern, and particularly CALD communities, SLHD leveraged existing relationships as part of its cultural and language support, but also engaged in additional community consultation and partnerships to develop appropriate responses. For example, following community forums with community leaders and NGOs, MVCs were set up in areas with high CALD population numbers, including Lakemba and Riverwood, to enhance local access to vaccination. Through conversations with CALD community members, SLHD also decided to establish clinics in Campsie, Burwood, Canterbury, Ultimo, Marrickville and Ashfield. Community advocacy and the willingness of SLHD to listen and work collaboratively with communities, was an important factor of success, as described by one expert:

> *We had endless work with the population, you know, places and people. Tiny populations of people. So I worked hand in glove with them to try to make sure that the pop-up clinics at Riverwood went smoothly, that people knew about it and we could troubleshoot, because it's all about collaborator, a partnership (i14)*

While being located in people's communities and neighbourhoods facilitated access, in-language engagement through multiple channels (phone calls, printed resources, social media, broadcast and print media) and having a mix of staff and skills on site, was crucial to building trust and responding to community needs. Here, cultural support workers and bilingual staff worked in tandem with interpreters to facilitate the navigation of the vaccination clinics for CALD community members.

With people speaking their language in a "non-threatening environment", health workers could "provide accurate and up to date information" and answer questions "from when people arrive until they leave" (SLHD manager, EquityFest, 2021). Through this sustained exchange and trust-building, communities could "feel understood, respected and valued" (ibid). Making the process as accessible as possible in every way (community space, language, welcoming environment) was essential to vaccination efforts for people in SLHD who spoke little English, had little contact with health services, and/or were Medicare ineligible.

There is strong evidence of **positive health equity outcomes** in some of SLHD priority areas. Among vulnerable populations in social housing, residents in SLHD have the highest two-dose vaccination rate in NSW (year in review SLHD 2020-21, p.76) and efforts are ongoing in reaching a rate on par with overall SLHD vaccination rates. In our consultation with residents, many had a positive appreciation of health services and vaccination, despite initial responses being seen as delayed:

> *I think the entire health sector has been great; very much assisting people, trying their best to make it as seamless and comfortable […] Very forthwith coming to listen to people and […] actually meet people and having testing on site and doing vaccines for everyone; I think they've come out and met the people (FG social housing)*

Against a backdrop of intense scrutiny and experiences of stigma and discrimination for people in western and southwestern Sydney, appreciation among members of CALD communities was at times more mixed. It also revealed divergent understandings of community engagement. Some expressed that health efforts needed to move beyond consultation and information provision, and towards "community-owned" initiatives, where "community feels a sense of belonging and ownership with that response, not a top-down approach" (Muslim Women Australia Manager, EquityFest, 2021). This speaks to the idea of trust, mentioned earlier, but also of empowerment and community-led interventions with opportunities to "give everyone an active voice" (ibid).

SLHD has continued to promote and facilitate the roll out of a third dose of the vaccine and the immunisation of younger age groups using a targeted, collaborative and localised approach, taking services where people are, and focusing on more marginalised and at-risk groups.

5.1.7 Challenges

SLHD response unfolded in a climate of generalised uncertainty and worry which generated many challenges for staff when responsiveness was needed seven days per week and the volume of sites with outbreaks kept increasing (see also fatigue and burnout risk outlined earlier, p.33 and p.97).
In the face of such a health crisis and given the need for rapid response, there was a risk of a 'command and control' style management and process leading to a top-down response, instead of shared decision making and community co-ownership (Loewenson et al., 2021). This tendency for 'command and control' in times of crises has long been identified in the literature on disaster planning and management. While such top-down approaches provide certainty with pre-determined action plans and clear unified directions, they can miss important aspects of disasters, notably their social dimensions and impacts (Oliver-Smith et al., 2017; Wolbers et al., 2016). Top-down responses also risk overlooking social change processes that shape response and recovery, including strategies for effective community empowerment, resilience and equity (Imperiale & Vanclay, 2016, 2019) . Some participants (both service users and providers) raised such issues of community engagement:

> *[service providers] would need to be more open to hear what people say. It's all very well to talk about consulting with people, but if you're aware that a large number of people are opposed to something, it's not simply enough to listen to them, you have to take action (FG social housing)*

> *We need to take people on our journey so it's not a top down approach, [instead] there's that groundswell about what we could do differently. Genuine partnership is not easy to obtain (i14)*

The need for "consumer feedback about what's actually happening on the ground", "having more feedback from actual family experience" (i10) and to "facilitate voices" from communities (i14) were recognised by staff as a way of strengthening quality care and responses to crises like COVID-19.

In addition, making use of existing partnerships and pathways for integrated care was a factor of success, but some aspects of culture and language support needed to be scaled up and strengthened quickly to respond to community demands, highlighting the need for substantial investment in ongoing, robust and embedded tailored support programs among CALD communities. Reflecting on the learning from the pandemic, a multicultural health provider made that point:

> *To really, for our service in particular, to embed itself in the community, and that's been quite a hard thing as far as not having that, being quite reliant on translators and having some connection with a whole bunch of communities, but trying to improve the quality of those connections would be a focus […] Just valuing those connections more because that, this pandemic has demonstrated that you need to have those lines of communication open all the time […] it has implications on who we hire and our outreach, as far as projects go (FG refugee)*

In the area of health promotion and information as well, there were challenges given the speed and scale of the pandemic response and the complexity of communicating changing public health protection orders. There was uncertainty and confusion among communities who did not access mainstream communication channels. Yet, trust in government was crucial to the public's compliance with social policies that relied on their behavioural responses (Lau et al., 2020; OECD., 2017).

Gaining public support for response measures is a two-way process that involves clear messages, delivered via appropriate platforms, tailored for diverse audiences, and shared by trusted people (Hyland-Wood et al., 2021, p.). Hence translation is not enough, and appropriate dissemination came up as an issue, as described by this expert from the community sector:

> *Having a police presence in a community of people who historically probably don't have good relationships at all with the police, is not necessarily going to foster that kind of sense that we're all in this together and we all need to do our bit to kind of keep transmission down […] If you're partnering with local services and local community leaders who are the ones who are actually kind of helping you with that messaging and everything, you're going to have a much different outcome (i5)*

"You need community leader endorsement" a manager in multicultural health commented. For example, a focus group described existing programs like volunteer "community educators" to disseminate COVID-19 advice and gather information about community concerns (FG Refugee health). A similar effort was deployed in the Aboriginal response team with information videos on testing/isolation featuring local Aboriginal community members (SLHD, Director Aboriginal Health EquityFest, 2021) .

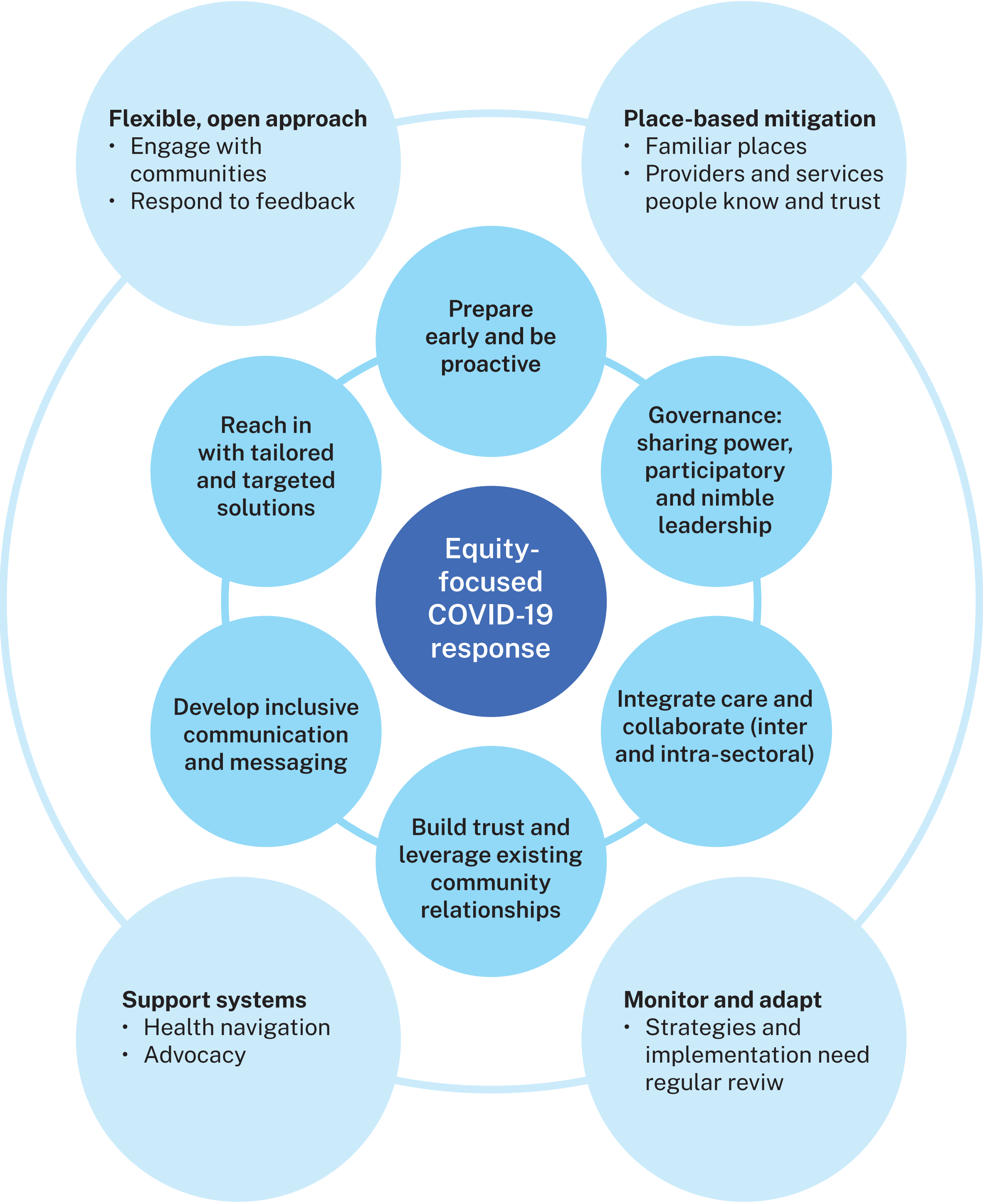
Another key challenge from an equity perspective arose when people who were effectively disadvantaged and/or marginalised were not able to access the targeted network of support and services provided by SLHD because they lived in a setting with no official regulation or provider. This was the case for people in congregate living arrangements not registered with an official agency, like some boarding houses and disability group homes following the reform of the sector, as this specialist explained: "Disability accommodation has changed quite significantly with the rollout of the NDIS. So it's moved from a state-based run setting to essentially a private market involving lots of new places coming up all the time. No centralised list of anything" (i9) (see also Figure 24 preparedness in the disability sector). People in these "grey areas" equally needed additional support but may not have been eligible/aware/able to access them.

Relatedly, SLHD's response was structured around known areas of vulnerability and disadvantage, that is, people with existing health needs, already on the radar and/or within facilities managed by government partners and/or established stakeholders. However, this potentially left out many people who had also faced barriers accessing mainstream services during the pandemic, particularly: migrants and people with poor English and/or health literacy and not able yet to navigate the health system; people who relied on informal support networks disrupted by the pandemic; people in precarious employment and with less of a buffer to economic shocks; and generally people less able to advocate for themselves and their health needs because of a range of issues. SLHD senior staff were cognisant of these challenges, and one of them described: "sometimes identifying those more vulnerable groups can be tricky. And I think that there's been times when maybe we haven't quite picked it up early enough, or we could have picked it up sooner" (i15). Identifying communities and places that need targeted health strategies, but currently are 'invisible' or falling through the cracks, is an urgent step to address these inequities.

Lastly, the response to COVID-19 is bound to change as Australia moves into a new phase of the pandemic. What 'living with COVID-19' will mean for more vulnerable groups and settings, and the role of SLHD within this response, is an evolving challenge.

We used the analysis and evidence from this EFHIA and literature (notably (Liu et al., 2022) to establish emerging factors of success for an equity-focused response to COVID-19

Figure 27 Emerging success factors



5.2 Addressing other equity impacts in SLHD

Consultation with key informants revealed other elements of SLHD's equity-focused response to broader service disruption. We provide a brief snapshot of this response below.

Providing flexible additional support to service users as needs arise and are identified

Some services ran surveys to understand what patients needed, how "people stayed connected… We were hearing what people found useful during COVID lockdown" (FG refugee health). Another service surveyed patients to develop better health strategies by understanding the change in habits and behaviours under lockdown (i6). When barriers to access were identified, services offered practical solutions like mobile phone or data: "part of our strategy has been actually supplying credit to people's mobile phones, just so they could actually dial in [to telehealth]" (FG refugee health).

Minimising disruptions, maintaining a focus on patient-centred care and finding innovative solutions

Services were severely disrupted at times, but staff tried to maintain "individualised care" (a recurring phrase in interviews) especially for more vulnerable groups, and they adapted care around needs. A service provider explained:

> *We made a really big effort for those more vulnerable groups to try and keep as much face-to-face as possible. And what we tend to do is, because they often are within certain clinics, then it's more just about staggering times and things […] I think we've really tried not to minimise the appointments for those vulnerable groups […] Some clinics did a lot less virtual appointments […] because they felt it was too great a risk for those women (i15)*

Similarly, exemptions to visitation and appointment restrictions were granted based on individual histories of "mental health or past trauma" (i15) so that patients could have support.

Elsewhere, services were adapted to mitigate COVID-19 risk whilst continuing to provide care, sometimes using creative or alternative solutions and proactive outreach:

> *I've said that we are not closing our service. [With a] needy family, our more vulnerable families and we'll do home visits. We reduce the amount of time we're in the home, but we have to spend time on the telephone with them, we'll bring people into the clinic (FG carers)*
>
> *We've been delivering frozen meals to people because our dementia centres are closed (P2_FG aged care)*
>
> *We go out, we're doing more home visits in full PPE to see them, and they're very grateful for that because it means that they don't have to go and sit in an ED or be put into a bed (P5_FG aged care)*
>
> *Everyone has had to become really creative, quite honestly, to really maintain the service. Moving to zoom for parent education for instance (i16)*
>
> *Our early childhood social workers have tried to be creative and seen as I can meet a client, not on a day like today at a park, or something like that as well, so the parent can get out and walk with their child (i4)*

Keeping up inter-sectoral partnerships and facilitating care coordination to foster best outcome

SLHD staff used existing partnerships with housing and education stakeholders to respond to broader determinants of health through different channels. As this service provider explained, NGOs and community services can offer a different approach, pathway or experience that complement health services:

> *Making use of our connections with other health and social care agencies, and ensuring that we have strong partnerships with education and DCJ and with other service supports as well, so that we can try and come up with what's really important for any family, that we have that care coordination (i4)*

Social workers and case managers played a key role in this coordination of care, acting as mediator and relay between clients and a range of agencies, services and schools in real-time: "we kept in touch with families who I have that are from these schools, so I was able to feed back to them issues of concern" (i14).

Checking in with patients regularly and using a community health approach

Regular and proactive communication with patients, even when face-to-face services were shut, was highlighted as an important tool to maintain quality of care (also in the literature):

> *I think there's no doubt we've seen an increase in women with vulnerabilities, whether it be mental health, we know domestic violence has increased during this period. So I think that it's really just been a matter of all clinicians checking in regularly with the women as well (i15)*

Adapting mainstream responses to individual needs was also seen as a way to support an equity-based response, for example with home schooling and providing additional support to parents: "some schools went above and beyond, communicating with parents, messaging on Facebook, dropping off work to the families, to their house" or having pick up points so they could touch base with parents (i14). Social workers also insisted on "maintaining the kid's wellbeing" as the top priority for families facing multiple stressors (i14).

Maintaining a "community health philosophy" approach and continuing active communication and outreach based on the "core aspect" of "trusted relationships" beyond the immediate COVID-19 response of testing and vaccination, was highlighted as an important learning:

> *People say that health service assumes a reasonable level of health literacy, a reasonable level of Internet access, a reasonable level of wanting to find out information, and that's not the case for everybody. We need to be much more proactive […] It's all about flexibility, going out to where families are, reaching out to them, but not waiting for them to come passively to you […] We don't generally practice in a preventive, outreach way like we did with mobile clinics. Is that something that we'll take on as a lesson about what else we can do that way? (i14)*

Advocacy for vulnerable groups

Relatedly, advocacy was seen as an important part of an equitable response, especially as resources shifted with the COVID-19 response. SLHD invested in a number of specialised services and was able to mobilise this expertise within the context of the pandemic (see e.g., Figure 23 The Aboriginal Cultural Response Team p.114). For instance, in line with the expansion of specialised disability services in NSW, the district set up an interdisciplinary team to enhance health care services in that space, and they contributed to advocacy during the pandemic:

> *We have our specialist team, the intellectual disability [team] that's used in community paediatrics, and they provide a whole of life course support for people with intellectual disability. We know that there already is a low level of awareness and understanding of how to support people with intellectual disability. And so, their work over COVID has been really trying to increase awareness of people with intellectual disability and their needs (i4)*

Staff in the aged care sector and supporting carers also advocated to keep service users on the agenda (FG aged care, carer). But capacities and opportunities for advocacy are not available everywhere or distributed evenly, especially for people socially and economically disadvantaged:

> *In terms of equity, the obvious thing is socioeconomic, but I think it's connected to, 'have you got someone who can advocate for you?' They often go hand in hand. People with money tend to have advocates. People without are more likely not to have advocates. Advocates in English, right? So I think that's an important issue, because the system's really hard to navigate (FG aged care)*

Encouraging a culture of trust and work flexibility for staff

Staff also benefited from flexible and individual arrangements tailored to different needs and vulnerabilities. This was the case with WFH arrangements (see 4.2 Changes to work, p.54) as well as redeployment and rostering that considered people's different circumstances. Staff who feel listened to and empowered are best able to deliver quality care.

6 Impact characterisation

Overall, the ways in which the COVID-19 pandemic has affected the SLHD community, both directly and indirectly, reflect the broader mechanisms by which health inequities are created and sustained. We have seen that vulnerability to the indirect impacts of the pandemic is not the result of inherent characteristics of groups, but rather a result of decisions society makes about how resources are distributed.

Many of the heath equity impacts of the pandemic have been negative and, in the absence of mitigation measures, are likely to have long-term repercussions. Health equity impacts are often the unintended consequences of actions that are intended to protect health and wellbeing. Throughout this EFHIA, we have seen how historically marginalised communities are more likely to be negatively affected by COVID-19, more likely to face barriers to accessing services and support, and less likely to benefit from opportunities such as flexible work. This means that pandemic responses which may improve health outcomes overall, may also create, perpetuate and, in some cases, amplify health inequities. Those who could benefit most from health care, face the greatest barriers to access. Conversely, those with the least need, tend to have better access to services and utilise them more (the inverse care law).

This EFHIA has also clearly demonstrated that vulnerability to negative health impacts is intersectional (Bowleg, 2012, 2020). Varied interrelated identities (race, ethnicity, migrant/refugee status, gender, sexuality, class, disability, socioeconomic status and age) and associated systems of power and oppression (racism, sexism, classism and ableism) intersect, particularly in historically marginalised groups. The interplay between different identity dimensions, contributes to clusters of negative health impacts and inequities. For example, women's social location within established patriarchal norms, means they are likely to be disadvantaged at home, at work and in health care settings, and the evidence gathered in this EFHIA attests to this. But women are not a homogenous group and some experience the compounding effects of race, class or locational disadvantage, creating unique patterns of inequities and additional tolls on mental and physical health during the pandemic (Hankivsky & Kapilashrami, 2020; Laster Pirtle & Wright, 2021). As such and, while we have separated impacts by areas and groups for ease of communication, we understand that risk factors and vulnerabilities operate in conjunction with each other to shape differential outcomes and experiences. Understanding the multi-faceted and dynamic nature of intersectional disadvantage is an essential step to map, and respond to, the impacts of COVID-19. These impacts, in turn, need to be situated within systems of unequal social power and structures that shape who loses the most and who struggles to recover. An implication of this is that addressing and acting on health inequities needs to occur at multiple levels. On the other hand, we have also seen positive health equity impacts from actions taken to directly address determinants of health inequities, such as financial support, housing for people experiencing homelessness and accommodation for people unable to isolate at home.

Responses to the pandemic have also created new opportunities for actions that could indirectly positively impact health equity, such as remote and flexible work, delivering health care virtually, and having dedicated resources for identifying vulnerable groups and developing proactive targeted actions. For the positive health equity impacts to be realised, specific attention needs to be given to ensuring that services, resources and opportunities are available, accessible, appropriate and of high quality for those who need them most.

In this section, key health equity impacts are characterised and disproportionately affected population groups are identified.

Health impacts

The health determinants affected and the consequent effect on health outcomes:

- Physical and biological factors
- Lifestyle and behaviours
- Mental wellbeing determinants
- Physical environment and local opportunities
- Social, cultural and interpersonal factors
- Education and learning
- Income, employment and work
- Access to and quality of services
- Macro-socioeconomic, political and environmental contexts.

Direction of change

- Positive – impacts that improve or maintain health or wellbeing
- Negative – impacts that diminish health or wellbeing
- Missed opportunity – impacts that have the potential to benefit wellbeing but are not realised.

Likelihood of impact

Likelihood of impact combines two dimensions: (1) whether the potential impact is likely to eventuate (probability), and (2) strength of evidence (plausibility):

- Possible – may or may not happen. Plausible but with limited evidence to support.
- Probable – more likely to happen than not. Direct evidence but from limited sources.
- Definite – very likely to happen or impact already occurring. Direct strong evidence from a range of data sources.

Significance of impact

Significance of impact is a value judgement based on: the magnitude, duration and severity of impact; the impact on health equity; the relevant health priorities in the study area; and level of stakeholder (including community) concern:

- Minor – some impact but limited in severity and/or number affected
- Moderate – some impact on health, likely to be more than short-term, local priority or concern
- Major – significant in terms of health outcome such as death, severe injury, significant long-term health impact, number of people affected or vulnerable groups affected, and priority area or high level of concern.

Latency/timeframes

When the impact will occur:

- short 0–1 year (during peak pandemic)
- medium 1–3 years (pandemic recovery)
- long-term 3 + years (long-term, living with COVID-19).

Level

This describes whether the impact will predominantly affect individuals or the community.

6.1 Risks and consequences of COVID-19 infection

COVID-19 infection exacerbates existing inequalities within and between groups and geographic areas, causing definite, major, short to medium-term negative and probable major, long-term negative, impacts on health equity.

Determinants and outcomes

In addition to physical health impacts, including mortality, COVID-19 infection causes definite, moderate to major mental, social and personal harm through loss of income and/or employment, educational impacts, loneliness and social connection, stigmatisation, fear and anxiety, depression and grief. Long COVID will definitely disproportionately affect population groups that have higher exposure and vulnerability, and lower adaptive capacity.

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
COVID-19 infection affects physical health and, in some cases, causes death.	Physical and biological factors: • Exposure risk (See 4.1 Risks and consequences of COVID-19 infection, p.43) • Vaccination status.	–	Definite	Major	Mostly short-term. For some, consequences are medium to long-term (i.e., long COVID).
Infection with COVID-19 can result in negative health and wellbeing consequences due to needing to take time off work/study to recover or isolate, including: • loss of employment or income; • missing learning opportunities, disengagement from education; • social isolation and loneliness • stigmatisation through being identified as at risk (of contracting or transmitting COVID-19).	Social, cultural and interpersonal • Income, employment and work • Access and quality of services.	–	Definite	Major	Short, medium and possible long-term impacts. These impacts are likely to be more severe and long lasting in cases of long COVID.
• fear and anxiety about own or others' health • grief over loss of life (and wellbeing) • psychological distress over scale and impact of pandemic • loneliness and isolation • people belonging to at-risk/ vulnerable population groups feeling stigmatised and undervalued in society.	Mental wellbeing (17.7% of adults living in SLHD reported experiencing high or very high psychological distress).	–	Definite	Major	Short and medium-term, possible long-term.

Equity – Individual and household level

Those more likely to experience worse outcomes are those with higher risk of exposure, higher vulnerability and less adaptive capacity. Overall, already marginalised groups experience disproportionate moderate to serious short, medium and possibly longer-term negative impacts. Older and frailer people also experience disproportionate major impacts with likely long-term consequences.

Equity – Community and system level

Marginalised and minoritised communities within SLHD, such as socioeconomically disadvantaged areas and areas with higher levels of CALD and Indigenous residents, experience higher risk of COVID-19 exposure/infection. They are more likely to have a higher proportion of their population experience serious health consequences, resulting in relatively higher levels of short, medium and long-term negative health equity impacts. This reflects a legacy of decisions and policies that have produced, or maintained, unequal access to key social determinants of health, including housing, employment and appropriate quality health care. In SLHD, people living in the more socioeconomically disadvantaged areas of the District were more likely to be infected, to be hospitalised and to die from COVID-19. Aboriginal and Torres Strait Islander people infected with COVID-19 were more likely to end up in hospital. However, Aboriginal and Torres Strait Islander residents, once hospitalised, were no more likely to die than non-Aboriginal and Torres Strait Islander cases. This also holds true for people from more socioeconomically disadvantaged areas within SLHD.

Populations already experiencing inequities (marginalised, minoritised) experience disproportionate negative health impacts from exposure to and infection with COVID-19 in the short to medium-term. These impacts are likely to continue into the medium and long-term unless measures are taken to address the determinants of pre-existing health inequities, to protect marginalised and vulnerable populations from exposure to COVID-19 infection, and to provide accessible, appropriate care when infected.

We identified the following population groups as being differentially affected by risks and consequences of COVID-19 infection:

- Those with higher risk of exposure due to living in locationally disadvantaged areas, crowded housing, group homes, RACFs or prisons, or working in frontline/essential occupations
- Those with higher risk of serious illness, including older adults, people with pre-existing conditions (including diabetes, obesity, cancer, respiratory disease and disability), unvaccinated people and Aboriginal and Torres Strait Islander people
- Those with limited capacity to take protective actions through lack of knowledge, means or choice (e.g., low-income households, people with low health literacy, people with poor digital literacy/ access, CALD people, essential workers, precarious workers and people living in group homes/RACFs/ prisons/overcrowded housing)
- Those with poorer access to available, acceptable, appropriate and high-quality care (including people living in lower socioeconomic areas, low-income households, people with low health literacy, CALD people and Aboriginal and Torres Strait Islander people)
- Those living in socioeconomically disadvantaged areas, who have poorer access to health and other services, are more likely to experience stigma, and have higher risk of morbidity/ mortality)
- Unvaccinated people, who are more likely experience stigma, job loss (especially in industries/sectors where vaccination is mandated), serious COVID-19 symptoms and outcomes, social isolation, disengagement and lower trust in institutions and governments.

6.2 Changes to work

We identified three main changes to work that have significant impacts on health equity and are likely to continue to affect health equity into the future:

1 WFH and flexible work

2 Types of work identified as frontline and essential work, including health care

3 Changes to employment and economic status.

We found strong evidence of overlapping and compounded disadvantages in the context of COVID-19, with a deepening of health inequities and intensifying vulnerabilities for some groups of people and workers. It is not surprising that particular groups concentrate negative impacts associated with changes to work. Indeed, occupation, income and working conditions/protections are patterned by gender, race, age, migration and legal status, because of historical and structural factors. At the same time, widespread inequities in power and resources caused by structural factors and systems like racism, sexism and class inequalities, have also shaped social, political and economic determinants of poor health (at both individual and community levels) pre-pandemic. Together, these drivers and systemic issues have created conditions for inequities. Recognising the interactions of these systems and factors highlights the need for equity-focused, cross-sectoral responses that do not assume homogeneity in group experiences or single-axis analyses.

6.2.1 Working from home and flexible work

Without actions to address differential access to and experience of home and flexible work, WFH and flexible work is likely to have both minor to major positive and negative impacts on health equity over the short, medium and longer term. There is a probable increase in health inequities through differential access to the positive health and wellbeing impacts, with home and flexible working most likely to be accessible to people who are already in stable employment with higher levels of income and education, and least accessible to groups already experiencing marginalization. This inequity is also likely to be experienced at area level, with areas of socioeconomic disadvantage (that have less infrastructure, transport options and access to open space) less likely to benefit from the positive health impacts and more likely to experience some of the potential negative health impacts. There is also a possible decrease in health inequities in relation to home and flexible working through a potential increase in access to employment for some marginalised groups (e.g., people with disability, people with caring responsibilities and locationally disadvantaged communities).

Determinants and outcomes

WFH and increased flexibility and control over work will probably have moderate, positive short, medium and long-term impacts on wellbeing for workers and their families in relation to following determinants of health.

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
Reduced risk of exposure to COVID-19 for those who can WFH.	Physical and biological	+	Probable	Major	Short to medium-term
Feelings of security and safety wellbeing in relation to being able to take protective actions to avoid infection for those who can WFH.	Mental wellbeing	+	Probable	Minor to moderate	Short-term
Enhanced sense of control and autonomy for those who can WFH.	Mental wellbeing	+	Probable	Moderate	Short (medium to long-term if continued)
Improved work/life balance: • Opportunities for physical activity • Interaction and connection with family/friends • Reduced stress • Reduced time spent commuting.	• Social, cultural and interpersonal • Mental wellbeing	+	Probable	Minor to moderate positive impact for those who experience improved work/life balance, but for some (particularly women) WFH may negatively affect work life balance (see negative impacts below)	Medium to long-term (if continued)
Reduced commuting: • Reduced transport costs • Reduced air/noise pollution (production and exposure) • Reduced transport impact on climate change • Reduced road trauma.	Physical environment and local opportunities	+ –	Probable	Moderate positive. However potential negative impact on public transport availability if underutilised.	Short-, medium-and long-term impact (if WFH arrangements sustained).
Improved access to employment opportunities through more flexible work options for those who can WFH: • Employment • Income.	Income, employment and work	+	Possible	Moderate	Short, medium and long-term (if sustained) impact particularly for populations who normally face location related barriers to access

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
Psychological distress, including stress, frustration, anxiety, feeling of lack of control and/or inclusion caused by: • Differences in access to WFH and flexible work • Perceived or actual lack of clarity around rules and guidelines • Lack of consistency or perceived unfairness in relation to who can access work from home arrangements • Stress and anxiety for people transitioning to online environment (short-term, minor).	• Social, cultural and interpersonal • Income, employment and work • Mental wellbeing	–	Definite Possible	Moderate Minor to moderate	Short term Medium- and long-term impacts
Education: • When WFH is combined with school lockdowns, digitally disadvantaged, crowded living and children in families do not have the capacity to support home learning.	Access to servicesEducation and learning	–	Definite	Major	Short, medium and possible long-term negative impact
Social isolation and loneliness: • especially if WFH is part of 'lockdown' public health orders.	• Social, cultural and interpersonal • Mental health	–	Possible	Moderate	Short-, medium-and long-term
Burn out and/or fatigue: • Elimination of the boundaries between home and work.	Social, cultural and interpersonal	–	Possible Minor to moderate	Short to medium term negative impact Possible longer term if ongoing arrangement without adequate supports	
Interpersonal violence, neglect and relationship strain: • Increased risk from being at home with violent/abusive household member • Increased risk from limited opportunities to access support • Increased risk through changes to work-related stressors in home environment.	Social, cultural and interpersonal	–	Definite	Major	Short-, medium-and long-term negative impact particularly for women and children

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
Gender inequality: • Burden of caring and unpaid work • Prioritisation of one person's work over another • Access to WFH and flexible work • Discrimination.	• Income, employment and work • Social, cultural and interpersonal	–	Definite	Major	Short-, medium-and long-term negative impact (if sustained)
Unhealthy behaviours: • Sedentary lifestyle, • Reduced incidental exercise/ active transport • Alcohol and other drugs.	• Social, cultural and interpersonal • The physical environment and local opportunities (See 3.2.2 Access to public open space, p.38)	–	Possible	Minor to moderate	Short, medium a nd long-term (if sustained)
Reduced access to public transport infrastructure (viability, frequency, cost).	The physical environment and local opportunities	–	Possible	Minor to moderate	Long-term impact
Shift of cost in relation to home office.	Income, employment and work	–	Definite	Minor to moderate	Short, medium, long-term (if sustained)

Equity – Individual and household level

People most likely to access WFH and flexible working arrangements are those with higher levels of education and income, in stable employment and working in employment that is not essential or frontline. Less likely to benefit from access to WFH or flexible work arrangements are those who cannot WFH, such as caregiving and person contact roles, physical production, warehousing, transport and in times of public health orders restricting movement, those identified as essential or frontline workers. Similar to the inverse care law, where disadvantaged populations need more health care than advantaged populations but receive less, in the case of home and flexible work, those populations who are already relatively better off (higher income, education, stable employment) are more likely to have access to flexible work than those who are already experiencing marginalisation and relatively worse health (insecure and precarious employment and lower income). Increased availability of WFH and flexible work options could, however, particularly help lone parents, people with caring responsibilities, people living with disability and locational disadvantaged communities, if they are able to access WFH employment opportunities.

Equity – Community and system level

Areas less likely to benefit from WFH and flexible work and potentially experience widening inequities, are lower socioeconomic areas with less social infrastructure, transport and open space and with relatively high amounts of residents working in essential/frontline roles, living in small, poor quality or crowded housing and more likely to experience digital disadvantage. In SLHD, these areas include Riverwood, Punchbowl, Wiley Park, Lakemba, Redfern, Waterloo and Glebe. Again, here the impacts of the pandemic compound pre-existing social and structural inequalities shaped by planning and infrastructure policies, work legislation, social protection and education opportunities.

If WFH and flexible work arrangements are maintained, then there is likely to be short, medium and long-term positive impacts on air pollution levels and noise. However, there is some evidence that this positive impact may be partially offset by less people using public transport due to fear of exposure. If there is a long-term shift towards reduced commuting and increased active transport (cycling and walking) then this could have a positive impact on wellbeing. However, there is potential risk to availability of public transport if usage drops. Changes to transport possibly impact on climate change.

Employers (and systems) who adapt and adopt WFH and flexible work with appropriate resourcing and support, may improve inclusiveness, participation and job satisfaction for some marginalised populations.

We identified the following population groups as being differentially affected by WFH and flexible work.

- People with low income:
  - Benefit most from reduced transport costs
  - Harmed most by shift in costs related to home office
  - More likely to work in roles that do not allow for WFH.
- Women – Women are less likely than men to have access to WFH and flexible work opportunities and more likely to experience negative impacts associated with WFH:
  - Women overall are more likely to be negatively affected by trying to balance caring and working roles. This is particularly likely when WFH forms part of mandated lockdowns including school closures
  - WFH has a probably negative impact on amount and proportion of unpaid work undertaken by women
  - WFH possibly increases risk of family violence occurring and also decreases likelihood of detection and support being provided
  - For some women, WFH and flexible work may positively affect caring roles through enabling access to employment opportunities and/or balancing caring and work roles.
- Digitally disadvantaged - People either with limited digital access, literacy or ablity to afford data and equipment (ability, affordability, access) are less likely to be able to access WFH and more likely to experience additional stress and anxiety during transition to online work:
  - People with low levels of income, education and employment, new migrants and refugees, people with mobile only access (e.g., people experiencing homelessness, including boarding house and other shared housing residents), social housing residents, those living in some regional areas, people aged over 65, Indigenous people and people with a disability, are at particular risk of digital exclusion
  - High income households, younger people and tertiary educated people are less likely to be digitally disadvantaged
  - When WFH is combined with school closures, digitally disadvantaged families are more likely to experience barriers to education.
- People who live in cramped or overcrowded living conditions:
  - Increased stress at individual and family level
  - Difficulty working or studying
  - Unable to WFH
  - Risk of injury or OHD/musculoskeletal if no appropriate work set up is available.
- People who live alone and people with already limited social and other connections:
  - More likely to experience isolation and loneliness.
- Organisations lacking in digital infrastructure or capacity:
  - Reduced access to or capacity to implement WFH
  - Increased stress during transition (short-term).
- Older people:
  - More likely to experience negative psychological effects from isolation
  - More likely to be digitally disadvantaged.
- Carers, particularly, women:
  - Potential positive impact through potential improved access to employment opportunities
  - Potential negative impact through disruption and crossover between caring and working roles.
- People with pre-existing mental health conditions:
  - More likely to experience negative psychological effects from isolation:
- Single parent families:
  - Greater flexibility, potential improved work life balance and increasing future employment options as remote/WFH becomes more established
  - Risk of isolation and potential greater imbalance in caring and working roles.

6.2.2 Economic changes: unemployment and precarious work

Actions taken to reduce the spread of COVID and to support the economy have reduced the impact of COVID-19 on mortality and mortality overall, including for high-risk vulnerable groups, such as older people and people with pre-existing health conditions, in the short-term. There are however, unintended health equity impacts in relation to loss of employment, economic instability and precarious work. These include potential long-term economic impacts at individual and family levels through loss of earning. Economic policy interventions, such as 'JobKeeper' and increases to income support, probably impacted positively on health equity in the short-term. However, the temporary nature of economic policy interventions presents a missed opportunity to address underlying determinants of health equity in the long-term.

Determinants and outcomes

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
Precarious workers are often also essential workers and experience higher risk of COVID-19 infection.	Physical and biological	–	Definite	Moderate to major negative impact on health for those infected	Short-to medium-term
			Possible	Moderate to major negative impact on health for those infected	Long-term impacts particularly for those who experience long COVID
Precarious workers are less likely to have access to paid sick leave and other supports: • less enabled to take protective actions • more likely to experience financial strain/ loss of income and/or employment if sick or needing to isolate.	Income, employment and work Physical and biological	–	Definite	Moderate to major	Short-to medium-term and possible long-term
Increase in financial strain, unemployment and insecure work negatively affects: • Mental health (worsening depressive symptoms, anxiety, loneliness and poorer life satisfaction) • Family conflict and stress, potential increase in intimate partner violence • Food and housing insecurity • Material (poverty) and social deprivation • Social isolation.	• Income, employment and work • Mental wellbeing • Social cultural and interpersonal	–	Definite	Moderate to major	Short-to medium-term
			Possible	Moderate to major	Long-term

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
Actions to mitigate the impacts of unemployment, income loss and support community services can have both positive and negative impacts on trust and community cohesion. Income support measures ease financial stress and may positively affect health inequities in the short term. However: • Positive impacts from enhanced safety net for eligible Australians, and increased funding support to community services • If only available during the short-term, then there is unlikely to be a positive impact on health inequities beyond the short-term • Negative impacts from exclusion of international students, migrants, refugees and other visa holders from safety nets. People are told to 'go home' instead • Mixed impacts/probable negative impacts from reduced safety net measures in 2021 ('disaster payments') and uneven restrictions in LGAs of concern.	• Income, employment and work • Social cultural and interpersonal-community cohesion	+	Definite	Moderate to major positive impact for those who can access supports.	Short-term
		–	Definite	Major negative impact on those who cannot access.	Short-term
			Possible	Negative impacts on social cohesion and trust if support inconsistently available and/or short-term	Medium-to long-term
Increasing precarious work force is likely to negatively affect health and wellbeing: • chronic stress (uncertainty about the future) • income instabilit, • worse psychosocial working conditions (low control, low support) • adverse physical conditions (low OHS prevention, COVID-19 risk) • greater workload • unequal workplace power relations • material and social deprivation.	• Income, employment and work • Mental wellbeing	–	Definite	Moderate to major	Short-, medium-to long-term
Potential increasing stigma through: • Differential treatment of different types of workers (e.g., who can and cannot access supports) • Increased split between those with secure employment and those without • Unvaccinated workers excluded from jobs • Perception that certain 'types' of workers are more likely to spread COVID-19 and/or also to not follow public health rules (e.g., not isolating due to financial pressures).	• Mental wellbeing determinants • Social, cultural and interpersonal	–	Probable	Moderate/ major negative impact on those experiencing stigma	Short-, medium-and possible long-term

Equity – Individual and household level

Precarious workers and unemployed people are particularly vulnerable to negative impacts resulting from the pandemic and associated response. Certain population groups already experiencing marginalisation are overrepresented in the precarious and unemployed workforce; e.g., women, young people, migrants and CALD minorities.

Equity – Community and system level

Particular areas of employment are more vulnerable to experiencing job losses. In Australia, accommodation and food services, and arts and recreation services have suffered the most losses. There are also industries with higher levels of precarious workforce, including: accommodation and food; agriculture, forestry and fishing; arts and recreation services; retail trade; and construction. The lack of job security and stability in work hours in many sectors of the economy is not new. The rise and dominance of casual work is the product of legislations that have incentivised and made it easier for employers to use these work arrangements. Labour market policies are shaped by structural drivers of power and politics, and they can create and cement inequities in living conditions, such as income and working conditions. There is also an intersection of precarious and essential work. Areas already facing disadvantage are more heavily affected by job and related economic impacts and are slower to recover than higher income areas.

We identified the following population groups as being differentially affected by economic changes:

Unemployed or under employed people who cannot access income supports (recent examples include casual employees, university workers, gig/zero-hour contract workers, temporary migrants, international students and refugees and asylum seekers):

- More likely to experience financial stress, housing and food insecurity
- Feel stigmatised and have reduced trust in government.

Newly precarious or unemployed people:

- Less likely to have knowledge and skills to navigate systems such as Centrelink
- Less experience and familiarity with ways of coping with financial stress and poverty.

Low paid and casual workers:

- More likely to become unemployed or have hours reduced and more likely to be or become casual workers
- Some marginalised groups, such as people living with disability, some CALD communities, young and old workers, women and low education, are over-represented in low paid jobs.

Casual employment:

- Older and younger people and people with a lower education attainment
- Particularly high in accommodation and food services, and agriculture forestry and fishing.

Women:

- Higher levels of precarious work than men
- More likely to have less financial resources
- Older women are particularly vulnerable to housing insecurity
- More likely to experience violence in relation to financial insecurity, in particular women with long-term health conditions and Aboriginal and Torres Strait Islander women.

Population groups most affected by job losses:

- Young and older people
- Women
- Migrants and CALD minorities
- LGBTIQ+ and gender diverse people.

Unvaccinated people in professions where there is a vaccination mandate:

- Job loss
- Feelings of stigma/stigma as a public health policy
- Exclusion from work and some social life
- Erosion of trust/polarisation.

6.2.3 Essential and frontline workers

Essential and frontline workers are particularly vulnerable to negative impacts of COVID-19 through increased risk of infection, related stress and anxiety, stigma and discrimination, and work intensification and risk. Essential and frontline workers may also experience positive health and wellbeing impacts through keeping or gaining employment, feelings of participation and inclusion, and in some cases, perception of having a valued role. The role of essential and frontline workers in the pandemic response and recovery, possibly negatively impacts on health equity due to the already marginalised status of many of these workers, negative health and wellbeing impacts disproportionately affecting these groups, and power imbalances between workers and employers (and the state).

Determinants and outcomes

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
Increased risk of exposure to COVID-19.	Physical and biological	–	Definite	Major	Mostly short-term but for some medium to long-term consequences (long COVID)
Stress and anxiety through risk or perceived risk in relation to being unable to take protective actions to avoid infection (as an individual, family and community member).	• Mental wellbeing • Social, cultural and interpersonal	–	Definite	Moderate	Short-term
			Possible	Minor to moderate	Medium-and long-term impacts
Stress and anxiety through managing caring responsibilities, especially during times of high COVID-19 infection rates within communities and/or Public Health measures limiting movement.	• Mental wellbeing • Social, cultural and interpersonal	–	Definite	Moderate	Short-term impact
			Possible	Minor to moderate	Medium-and long-term impacts
Experience of stigma and discrimination: • Place based when living in an area with a high proportion of essential workers or in an area subject to specific regulations (such as LGAs of concern) • Profession based – when perceived to be at higher risk of being infected or infecting others with COVID-19	• Social, cultural and interpersonal • Income, employment and work	–	Definite	Moderate	Short-term
			Possible	Minor to moderate	Medium-and long-term impacts
Unsafe work conditions in the case of: • Inadequate provisions for limiting exposure • Lack of enforcement by employers of protective measures • Inadequate or unsafe staffing levels due to COVID-19 related absences or shortage of workers • Work intensification through additional pandemic-related tasks or lack of staff	Income, employment and work	–	Definite	Major	Short-term
			Probable	Moderate to major	Medium
			Possible	Moderate to major	Long-term
Less likely to be able to access home and or flexible work: • Unable to access benefits of home working (see previous section) • Feeling unequally treated.	Income, employment and work	–	Possible	Minor to moderate	Short-to medium-term
Ongoing employment and income for those workers.	Income, employment and work	+	Probable	Moderate	Short-term impact

Equity – Individual and household level

Given the already marginalised status of essential and frontline workers and their more limited capacity to take protective actions, it is likely that the potential negative health impacts resulting from essential and frontline work increase health inequities. However, there are potential positive impacts in relation to maintenance of employment and income during the pandemic for many of these workers.

Equity – Community and system level

Essential workers are more likely to live in areas of locational disadvantage (less social infrastructure, open space and transport choice) and with higher numbers of people living in households. They are also more likely to be part of a casualised, low paid workforce. At the system level, the impacts of the pandemic reveal and worsen existing social and spatial inequities created by multisectoral public policy in housing, planning and infrastructure.

We identified the following population groups as being differentially affected by frontline and essential work.

Essential workers tend to be younger, women, migrants (people on temporary visas, refugees and undocumented people) and from CALD communities. Major areas of essential and frontline workers include service industry, frontline health care workers, emergency services, teachers, indoor production and warehousing, transportation of goods, construction sites and farm workers.

- These are already marginalised populations that tend to have less compacity to take and access to protective measures
- Are overrepresented in the casual and low paid workforce
- More likely to be employed in areas with poor or unsafe work conditions, and to have limited protections or power
- As essential workers are more likely to live in areas with high COVID-19 transmission, they are more likely to experience additional Public Health Restrictions as well as over policing
- Essential workers often experience an intersection of vulnerabilities/marginalisation (e.g., migrant, precarious worker, female).

People with caring responsibilities and their families:

- More likely to lose employment if unable to find care (particularly in the case of school closures and restrictions on care provided in the home)
- More likely to experience negative impacts on psychological wellbeing and relationship stress.

Locationally disadvantaged low socioeconomic neighbourhoods:

- These areas may have experienced higher levels of COVID-19 infection through work related transmission combined with living conditions and urban environments that limit protective measures
- In the medium to long-term these areas may have relatively high populations experiencing long COVID
- More likely to be affected by grief and trauma from COVID-19 deaths
- These areas are more likely to have experienced additional restrictive Public Health measures (LGAs of concern), potentially resulting in economic impacts from fines, stigma and discrimination, and trauma and stress
- Refugee migrants, Aboriginal and Torres Strait Islander people and some CALD communities with a history of trauma, overpolicing, racism and stigma, may be particularly vulnerable to negative impacts related to the enforcement of Public Health measures restricting movement.

6.2.4 Health system workers

In addition to the impacts described in the previous section, health care workers have been disproportionately affected by the risks to health from COVID-19 infection and significant changes to the nature and content of their work. Chronic uncertainty, worry, stress and fatigue at work is likely to have adverse consequences on core protective factors for mental health and wellbeing. The impacts of the pandemic and associated response have both negative and positive impacts on health care workers' health and wellbeing. There are definite major negative impacts on some health system staff caused by infection with COVID, psychological stress, anxiety, fatigue and burnout, that are likely to have medium to long-term impacts on their health and wellbeing. There have also been some minor and moderate positive impacts on some staff through opportunities to engage in decision making processes, opportunities for growth and development, feelings of comradery and engaging in meaningful work.

Determinants and outcomes

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
Increased risk of exposure to COVID-19.	Physical and biological	–	Definite	Moderate to major	Mostly short-term but for some medium to long-term consequences (long covid, potential loss of work etc)
Stress and anxiety through risk or perceived risk in relation to being unable to take protective actions to avoid infection (as an individual, family and community member).	• Social, cultural and interpersonal • Mental wellbeing	–	Probable	Moderate	Short term during pandemic, possible long-term mental health impacts for some
Stress and anxiety through managing caring responsibilities, especially during times of high COVID-19 infection rates within communities and/or Public Health measures limiting movement.	• Mental wellbeing	–	Probable,	Minor to moderate	Short-term during pandemic, possible long-term mental health impacts for some
Stress and anxiety and feelings of lack of control and influence when guidelines around areas such as flexible work/WFH are inconsistent or perceived to be inconsistently or unfairly applied. Conversely consistent, transparent, engaged communication and decision making probable positive impact.	• Mental wellbeing • Income, employment and work	– +	Probable	Minor to moderate	Short-to medium-term during pandemic. Possible longer term impact on job satisfaction and retention
Changing practices including PPE (especially if perceived or actual differences in application), new service models and changes to how services are delivered can have both positive and negative impacts: • Positive impacts from feelings of control, participation, empowerment and inclusion, provided staff felt able to actively contribute to developing and implementing news ways of working and developing solutions • Stress and fatigue from rapid and ongoing changes.	• Mental wellbeing • Income, employment and work	+	Probable	Moderate	Mostly short-to medium-term with some long-term
Fatigue and demotivation, including physical and mental fatigue/depletion, stress, anxiety and burnout, compassion fatigue and vicarious trauma, and mental distress: • Increased workload • Especially in roles with limited control and autonomy • Higher exposure than normal to traumatic situations.	• Mental wellbeing • Income, employment and work	–	Definite	Moderate to major	Short-term impacts
			Probable	Moderate	Medium term impacts
			Possible	Moderate	Long-term impacts
Redeployment during surge times has both negative and positive impacts on health and wellbeing: • Redeployment can provide an opportunity to learn new skills, develop networks and feel they are contributing directly to the pandemic response, positively impacting on mental wellbeing protective factors such as job satisfaction, feelings of participation and inclusion and pride • Redeployment, particularly when people feel they have little control, can negatively affect protective mental determinants of mental wellbeing, including stress and anxiety and feelings of disempowerment.	• Mental wellbeing • Income, employment and work	+ –	Probable	Minor to moderate	Positive and negative impacts in short and medium term
		+	Possible	Minor to moderate	Long-term positive impacts if continued opportunities for job satisfaction and growth continue
Feeling disempowered and unsupported when communication is unclear or where people feel like they are missing out on being informed or engaged in planning processes: • Opposite impact (positive) if communication clear and if engaged in planning processes.	• Mental wellbeing • Income, employment and work	– +	Probable	Minor to moderate	Short-term negative or positive impacts
			Possible	Minor to moderate	Medium to long-term impacts
Fatigue, burnout, demotivation and resilience • Fatigue and burnout due to nature of some roles and staffing levels not allowing for respite • Double burden of uncertainty, unpredictability and reduced agency/control in work as well as personal spheres • The impact of being frontline versus non-frontline is mixed, with stress and anxiety related to increased risk but also evidence of higher satisfaction, and evidence of stress and anxiety also being high in non-frontline roles • Staff and system often need to draw on surge capacity during times of increasing case loads • Demotivation from ongoing need to remain vigilant and take protective action • Long-term and ongoing nature of pandemic potentially depleting capacities for resilience.	• Mental wellbeing • Income, employment and work	+	Definite	Moderate to severe	Short-term impacts
			Probable	Moderate	Long-term impacts
			Possible	Moderate	Long-term impacts
System level collaboration between some sectors and within health system: • Enabling, often equity-focused (see following section), action to respond to the pandemic • Feelings of comradery, cohesion and connectedness.	• Mental wellbeing • Income, employment and work	+	Possible	Minor to moderate	Short-, medium-term
			Possible	Minor to moderate	Long-term impact if changes are maintained

Equity – Individual and household level

Stress, fatigue, chronic uncertainty and anxiety associated with working within Health Services during a pandemic are likely to have a differential impact on staff in relation to their role, working context and individual characteristics. Changes to working roles, such as redeployment, intensification of work and changes to work content, can have varying impacts depending on people's personal circumstances.

Equity – Community and system level

Pandemic related impacts on health service staff will also have systems level impacts, with potential increased absences, turnover of staff and potential difficulties in recruitment. This in turn may affect organisational culture and further exacerbate potential negative staff impacts. Service delivery may also be affected. There are potentially positive system level impacts through increased culture of providing opportunities to influence and control work environment, developing skills and experience, and participation in decision making. The impacts of long COVID are currently unclear, it is possible that long COVID will also affect health service staff and staffing.

We identified the following population groups as being differentially affected:

Staff with less control and autonomy:

- Experience higher levels of stress (when exposed to similar experiences) at work during the pandemic, compared to staff who have more control and autonomy (e.g., such as nurses and support staff versus doctors and paramedics)
- Are less likely to be engaged in decision making and planning processes and more likely to feel a lack of control and participation/influence in the workplace
- Experience relatively higher levels of fatigue and burn out
- More likely to experience negative impacts of redeployment if redeployment continues to provide low levels of control, autonomy or opportunities to learn develop new skills and experiences. However, if redeployment provides opportunities for growth, autonomy, new experiences etc., then this may have a positive impact on staff
- More likely to experience the double burden of uncertainty, unpredictability and reduced agency/control in work as well as personal spheres.

Women are more likely to experience the double burden of stress and burden in relation to managing family and caring responsibilities as well as work pressures.

Lower paid workers such as cleaning staff, junior admin roles, aged care workers, lower-level roles:

- Lower levels of autonomy and less likely to be engaged in decision making and planning processes
- More likely to come from at higher risk groups for COVID-19 infection
- Less likely to have access to flexible or WFH options. If able to WFH, are also less likely to have digital access and literacy, a quiet space to work, etc.
- More likely to have limited capacity to isolate at home, lower income workers being more likely to live in overcrowded or share housing and less likely to be able to afford alternative accommodation.

Staff from already marginalised population groups are more likely to experience intersecting vulnerabilities and more limited capacity to take protective action including:

- Support with childcare and caring obligations
- Living in overcrowded housing
- Living in locationally disadvantaged neighbourhoods (LGAs of concern, long commuting distances, impacted on by travel restrictions, etc.)
- Stigma and discrimination outside of work.

Community based workers and peer health workers:

- Likely to have higher levels of exposure to COVID-19
- More likely to experience dual burden in relation to personal and working life (high risk environments, affected by movement restrictions)
- Directly working with vulnerable communities with high need, and are often also part of these communities themselves
- Sometimes experience mixed unclear guidance due to non-hospital role.

Staff in high contact roles such as nurses and aged care staff

- Higher exposure risk.

Workers with limited capacity to isolate at home:

- Those with families/caring responsibilities
- Workers in share houses
- Lower income workers more likely to live in overcrowded or share housing.

6.3 Health services

We identified five main areas of health equity impacts resulting from COVID-19 related changes to health services: prioritisation of COVID-19 response; temporarily stopping services; changes in patient behaviours; changes to service delivery; and impacts on staff. Pre-existing inequities and disparities in health outcomes have been reinforced in some cases. New vulnerabilities and inequities for certain groups have also emerged because of COVID-19 restrictions and changes in care. There have also been positive impacts through increased access and improved coordination due to the wider use of virtual care. In addition, there are positive health equity impacts resulting from the equity focussed service response covered in the following section.

Overall, the prioritisation of responding to the COVID-19 pandemic reduced the harm caused by COVID-19 infection. As described in the previous sections, COVID-19 infection disproportionately impacts on population groups already experiencing inequities. Therefore, actions taken to reduce the risk of infection and to provide adequate health care to those infected, definitely impacts positively on health and possibly impacts positively on health equity, given the heightened risk for already marginalised groups. However, evidence showing continued disproportionate deaths in lower socioeconomic and other groups, suggests that measures to reduce transmission and to provide health care is not enough in itself to stop disproportionate morbidity and mortality resulting from COVID-19 infection.

Prioritisation of the COVID-19 response, in particular stopping services to either reduce the risk of exposure to COVID-19 or because of the redeployment of staff to the COVID-19 response, has probable short-term, unintended negative impacts on health equity. Primary and community-based services, the child, youth and family health sectors, specialised care in community health, chronic and complex care, mental health, non-communicable diseases services and elective surgery, were all identified as experiencing significant disruption during the peak times of pandemic. Changes to the delivery of services that particularly respond to the needs of populations already experiencing health inequities (such as child and family health services, mental health services and psychosocial support, substance use disorders, HIV and sexual health, management of chronic conditions and dental care) probably increases health inequities in the short, medium and possibly long-term. Short-term positive impacts of the COVID-19 response may possibly lead to longer term negative health equity impacts.

Changes to the way services are delivered, in particular, increased use of virtual care, has a possible positive impact on health equity through increasing availability and access to health services for some groups. Virtual care can also negatively impact on health equity if those same groups face barriers to access (accessible, available or appropriate).

Visitation and other infection control measures have a positive effect in mitigating risks from COVID-19, but also haveprobable unintended negative impacts with implications for equity, through adding barriers for already vulnerable and disadvantaged patients who possibly face difficulties in accessing services and in their experiences within services (support, health literacy).

SLHD directly responded to the COVID-19 pandemic with a range of equity-focused targeted responses to address the emerging health equity impacts of the pandemic. Overall, these responses had a definite positive impact on health equity, as evidenced by the relatively high vaccination rates in vulnerable and marginalised communities with social housing residents in SLHD having the highest two-dose vaccination rate in NSW.

Determinants and outcomes

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
Prioritisation of COVID-19 response probably reduces infection (screening clinics/community outreach), severity of morbidity and reduces mortality resulting from COVID-19.	• Physical and biological	+	Definite	Major	Short-and medium-term impact
Delaying care, detection and intervention has potential long-term negative impacts for patients (physical and mental health, unmet needs) and services (additional workload, waiting lists): • This will disproportionately impact on services that had waiting list challenges before COVID-19 (e.g., oral health, occupational therapy, speech pathology, counselling and mental health). These services are responding to the needs of already vulnerable and marginalised population groups • Higher impact on people who had high use of health care services before the pandemic (older people, people with chronic health issues) • People who had higher unmet needs/access issues before COVID (socially and economically vulnerable people, people living in low SES communities with more limited access to services, people who experience stigma and discrimination, migrants, Aboriginal and Torres Strait Islander people, people without private health insurance) • People with increasing economic vulnerability (low SES, Aboriginal and Torres Strait Islander people and CALD groups) (disproportionately impacting women, lone parents' young people and people with disabilities).	• Access and quality of services • Physical and biological • Mental wellbeing	–	Definite	Major	Short
			Probable		Medium-and long-term unintended impact in health equity (availability, accessibility, quality)
Temporarily stopping services because of redeployment to COVID-19 response or to reduce risk of transmission (prioritisation of COVID-19 response). In particular where services are: • Responding to needs of already vulnerable and marginalised groups (e.g., child and family health services, mental health services and psychosocial support, substance use disorders, LGBT services, HIV testing, management of chronic conditions and dental care), • Influencing determinants of health equity (e.g., child and family health services provide diagnosis and support for developmental issues that impact on children's ability to learn) • Addressing outcomes of health inequities (e.g., dental, alcohol and other drug problems) • Target population groups already experiencing a variety of barriers to access ranging from cost to distance and availability of health providers • Shifting focus from early intervention to crisis response (e.g., eating disorders, child health and development, or for complex socio-medical needs like high-risk pregnancies in contexts of violence, poverty and/or substance abuse) • Some potential positive impact resulting from lower levels of unnecessary care.	• Access and quality of services • Physical and biological • Mental wellbeing	–	Definite	Major	Short
		+	Probable	Major	Medium
			Possible	Major	Long-term unintended negative impact on health equity (availability)
Changes in patient behaviours may lead to: • Disengagement from health services • Worsening health outcomes due to late diagnosis and presentation • Impact on the health system from delayed presentation and worsening severity at presentation • There are possible positive impacts resulting from increases in adaption, empowerment and resilience in some patient groups as they responded to changes in services	• Access and quality of services • Physical and biological • Mental wellbeing	–	Possible-probable	Moderate	Short, medium and long-term negative unintended impacts on health equity
		+	Possible	Minor	Short-term positive impact on patient behaviour
The intersection of pandemic related stressors (financial/job loss, housing stress, COVID-19 related anxiety and fear, movement restrictions, etc.) with a reduction in accessibility of services, especially those responding to the needs of vulnerable/marginalised communities, has: • Probably increased demand • Corresponding unmet needs.	• Access and quality of services • Physical and biological • Mental wellbeing	–	Probable	Moderate to major	Short-term and medium-term
			Possible	Moderate to major	Long-term impact on health inequity

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
Virtual care has positive and negative impacts on health equity: • Moving face to face services online allows service to continue that may have otherwise been stopped • Virtual care options reduced risk of COVID-19 transmission (for patients and staff) • Can provide opportunities for increased engagement in health services, including health promotion activities, especially for patients with limited mobility and access to services • Virtual care can remove some barriers to access (cost, travel, distance, availability of specialist services, time) • For some, online or virtual environment provides a preferred mode of communication/ engagement (e.g., some mental health patients) • Possible supported continuity of care and reduced disengagement from services • Possible increased coordination and collaboration between services improving patient care and experience • Possible negative impacts on equity due to disparities in access (lack of access, cost of data, digital literacy, phone only access, health literacy, trust) • In some circumstances, virtual health in isolation is an inadequate replacement for face-to-face (e.g., services for already vulnerable populations with complex health-related needs, such as people with eating disorders, pregnancy and vulnerability assessments, aged care assessments, women experiencing violence, or people with diet and metabolism issues).	• Access and quality of services • Physical and biological • Mental wellbeing	+	Definite	Moderate to major	Availability of virtual care has positive impacts on availability of care
		+	Probable	Moderate to major	Positive impacts on accessibility and possible positive impacts on appropriateness for some populations
		–	Possible	Moderate to major	Negative impacts on accessibility, appropriateness and quality for some populations and some services

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
Disruptions to child, youth and family sector services. In particular: • Disengagement from health services due to disruption • Children who missed out on early detection and intervention (e.g., developmental issues, violence and neglect) • Shift from early intervention to crisis response increase likelihood • For children from CALD and low SES communities who already experienced health inequalities before the pandemic • Increased risk for women and children experiencing interpersonal violence (possible increase in violence, probably decrease in detection, probably decrease in access to services).	• Access and quality of services • Physical and biological • Mental wellbeing	–	Definite	Moderate to major	Short-term impacts on health equity Long-term negative
			Probable	Moderate to major	Medium
			Possible	Moderate to major	Long-term impacts from delayed intervention
			Possible	Moderate to major	Short-, medium-and long-term impact from disengagement
			Possible-probable	Moderate to major	health equity impacts from shift from early intervention to crisis
Disruptions to specialised care in community health, including place-based health services for Aboriginal and Torres Strait Islander people, reproductive and sexual health, and multicultural and refugee health services, may lead to: • Delaying or foregoing seeking care due to lack of access or reluctance to access 'mainstream' services and fear of stigma, discrimination or poor treatment • Disengagement from services.	• Access and quality of services • Physical and biological • Mental wellbeing	–	Possible/ probable	Moderate/ major	Short, medium
			Possible	Moderate/ major	Long-term health equity impact (accessibility, availability, appropriateness, quality)
Chronic and complex care particularly affected by cancelled appointments and changes to services: • Particularly affecting already vulnerable populations.	• Access and quality of services • Physical and biological • Mental wellbeing	–	Probable	Moderate	Short
			Possible	Moderate	Medium to long-term (availability, quality)
Mental health services: • Experienced increased levels of demand through the pandemic • Limitations on services due to deployment and changes to service delivery.	• Access and quality of services • Physical and biological • Mental wellbeing	–	Definite,	Major	Short term
			Probable	Moderate/ major	Medium
			Possible	Moderate/ major	Long-term
					Impact on already vulnerable group (availability, quality)

Impact	Determinant	Direction	Likelihood	Significance	Latency/ timeframe
Infection control restrictions (e.g., testing prior to appointments, re-structuring of hospital wards for risk minimisation, triaging in ED and restrictions on visitations) definitely positively impacts on risk of COVID-19 transmission: • Vulnerable and marginalised patients are more likely to forego or miss out on care due to restrictions • Potential perceived increased stigma if use of obvious PPE (e.g., on home visits or in public areas of health services) acts as a visual signifier of risk may act as a deterrent to seeking services • Restrictions on support persons/carers disproportionately impacts on some areas of care and patients (e.g., perinatal care, aged care, CALD communities).	• Access and quality of services • Physical and biological • Mental wellbeing	+	Probable	Moderate	Short-term
		–	Possible	Moderate	Medium-to long-term negative impacts on health equity (quality, appropriateness, accessibility)

Equity – Individual and household level

Changes to health services will have the greatest impact on populations already experiencing health inequities (marginalised, minoritised) and those with higher health care needs. These impacts are likely to continue into the medium and long-term, unless measures are taken to address the determinants of pre-existing health inequities and targeted to provide accessible, appropriate care for those with the most need.

Equity – Community and system level

Marginalised and minoritised communities within SLHD, such as socioeconomically disadvantaged areas and areas with higher levels of CALD communities and Indigenous communities, tend to already experience barriers to accessing health services and will probably experience relatively higher levels of short, medium and longer-term negative impacts resulting from changes to health services.

We identified the following populations groups as being differentially impacted by changes to health services.

People living with disability:

- More likely to experience barriers to accessing services
- For some, less able to understand and take protective action
- Disability services experienced major disruption and changes, especially in group home environments
- Service disruption can lead to changes in physical health and activity (leading to functional decline), social isolation, loneliness, wellbeing (loss of support services, community networks or visitation rights in group homes), psychological consequences from disrupted routines and activities, and an increase family and caregiver burden.

People who already have trouble accessing health services:

- Receive lower quality care
- Have higher unmet needs.

People for whom mainstream health services are not always supportive, enabling environments, and who are experience stigmatisation, including:

- LGBTIQ+ people
- People living with disabilities
- People with bloodborne diseases
- Aboriginal and Torres Strait Islander People
- CALD community members
- People without access to Medicare.

People who are high users of health services (already unwell):

- People with chronic disease.

Users of community-based services

Children and young people:

- Experiencing high burden of the pandemic in terms of disrupted education, social isolation/connection due to lock downs, household stress (parental stress, income/employment changes, housing, abuse/neglect), and changes to accessing community services and resources
- Temporary loss of access to school-based health services and early detection within school and other environments
- Missed developmental checks
- Major impacts on child and family health services
- Already vulnerable groups who were already experiencing poorer health and poorer health care access are disproportionately affected (children with disabilities, lower SES, CALD communities, refugees and asylum seekers and digitally disadvantaged people)
- Increased burden on young carers.

Older people:

- At greater risk of adverse events from COVID-19 infection
- Many services used by older persons in community and residential care were disrupted (e.g., home visits and assessments, respite care, health promotion activities)
- Service disruption can lead to changes in: physical health and activity (leading to functional decline); social isolation, loneliness, wellbeing (loss of support services, community networks or visitation rights in group homes); psychological consequences from disrupted routines and activities; increase family and caregiver burden – potentially leading to long-term impacts/decline
- Some evidence of avoidance of health services
- More likely to be digitally disadvantaged
- Decline in physical activity sometimes resulting in overall decline
- Greater risk of social isolation and loneliness
- Disproportionately affected by visitor restrictions
- Older people with cognitive decline (e.g., Alzheimer, dementia) less able to understand changes to services and restrictions.

CALD community members:

- Already experiencing barriers to health care access and utilisation
- Higher levels of low health literacy
- More likely to have difficulties understanding information and changes to services (if not provided in appropriate format and language).

Digitally disadvantaged:

- Less likely to be able to access and utilise virtual health services
- More likely to use telephone rather than online (e.g., zoom) services
- Already experiencing barriers to health care
- Financial burden through cost of data and need for equipment.

Carers:

- Already experience health inequities
- Stress and anxiety from not being able to visit and provide care when visitor restrictions in place
- Significantly impacted by stopping of respite services
- Increased caring burden through service being stopped
- Lock down and changes to health services often meant losing access to formal and informal peer support, although there were some examples of successful online transition.
- Economic and employment impacts from increased caring burden.

Women:

- More likely to have caring role and be affected by changes to health services
- For some, shift to virtual care may affect access, appropriateness and quality of health services (e.g., in situations of interpersonal violence or for high-risk pregnancies).

People on the edges, not known to or accessing supports.

Those with poorer access to available, acceptable, appropriate and high-quality care (including people from lower socioeconomic areas, people with low income, people with low health literacy, CALD people and Aboriginal and Torres Strait Islander people).

Again, we do not suggest that these groups are separate, on the contrary, some of the identity dimensions/demographic characteristics and social roles listed here overlap, creating distinct patterns of vulnerabilities and challenges that call for tailored and integrated responses.

7 Recommendations and next steps

The COVID-19 pandemic has highlighted the importance of social determinants of health within and beyond the immediate vulnerability to infection and disease consequences. It has also shone a spotlight on existing underlying inequities and what creates good health (income, housing, education, community assets, access to services and health care, relationships, connectedness, social protections, power and politics – the social determinants of health).

Safety nets and equity-targeted measures across health care, housing and income were deployed showing what is possible when there is a shared agenda/priorities and political will. There is an opportunity to build on this response to tackle inequities in the long-term. Health services adapted and coordinated care in novel ways in the face of the COVID-19 threat. Responding to the pandemic in SLHD has highlighted equity-focused ways of working and mindsets, such as partnering with and listening to communities and organisations that work with communities, recognising the importance of developing and maintaining relationships and trust, utilizing disaggregated data and reporting, drawing on different types of knowledge, locating services where they are needed, providing opportunities for growth and development, sharing power, challenging barriers to effective action and willingness to adapt.

The health inequities that we have identified will continue to endanger health after the pandemic. For long-term positive health equity impacts to occur, equity-focused actions and ways of working need to be sustained and embedded into business as usual.

Based on the findings in this impact assessment, the following section develops a set of equity-focused recommendations. These recommendations identify actions that we can do now and over the medium and long-term, to build back more equitably and to prepare for future pandemics and other major challenges such as climate change. These include actions to address existing determinants of inequities that lead to stratification of vulnerability within and between populations and places, and actions to address the unequal consequences of COVID-19 and the pandemic response.

These actions focus on the role of SLHD as commissioners of this report. However, the complex health equity problems that we have identified in the EFHIA, cannot be resolved by health sectors and systems working alone. The public health response cannot be separated from public policy. Health equity impacts are often caused by decisions made by organisations and people from beyond the health sector. SLHD is also often limited in the scope of actions it can take by State and Federal level policy. Some of the following recommendations the SLHD can directly act on, many will require collaboration and partnership with other actors and communities, and some recommendations may appear outside of the direct influence of the District. SLHD can act as a health equity champion and advocate for changes in other areas beyond direct control.

The recommendations are separated into six sections:

1–4	Maintain what worked well
5–9	What we need to do more of
10–12	What we could do differently
13–15	Risks and consequences of COVID-19 infection (in addition to above)
16	Changes to work (in addition to above)
17–22	Recommendations: Health services (in addition to above)

1

Recommendation

Maintain high-quality hospital-based services supported by out-of-hospital services for those infected with COVID-19

Implication

The system, when vulnerable people reached it, saved their lives.

Clinical care for patients with COVID-19 isolating at home or in SHA saved lives in some cases.

This care also prevented the onward transmission to the community and/or in health facilities, as well as allowing acute hospitals to manage demand.

How (examples)

a The COVID-19 care provided to Aboriginal and Torres Strait Islander cases in hospital, and to cases from disadvantaged areas, was at least as good (in terms of preventing death) as that provided to non-Aboriginal and Torres Strait Islander cases and those from less disadvantaged areas.

b rpavirtual clinical assessment and care for patients with COVID-19 isolating at home or in the SHA.

c rpavirtual in-home community nursing services maintained for all patients as an important hospital avoidance and care maintenance strategy.

NSW Future Health Strategy	2.4 strengthen equitable outcomes and access (additional: 2.5, 6.3)
SLHD Strategic Plan	Focus area 1: Equitable care for our community
CE Priorities	16. Vulnerable communities
SLHD Equity Framework	1. Individual health care. 5. Fairer system

2

Recommendation

Maintain and enhance existing SLHD Equity infrastructure

Implication

Equity was integral to SLHD response from the start.

SLHD was able to draw on data and on pre-existing initiatives, experiences and relationships to respond quickly to what we knew would be the likelihood of the inequitable impact of the virus on our population, and to what we knew would be necessary in the responses.

Platforms for equity-focused and place-based action could be directly mobilised.

Long term building of relationships and trust with partners in good times and bad.

Platforms that support responses across the diversity of population/client cohorts residing in SLHD, and those cohorts that access SLHD on an intermittent basis.

Expertise within District that could be drawn on (e.g. involvement of trauma Informed Clinicians within Outbreak Management Teams)

How (examples)

a Equity is embedded in the SLHD system Leadership and governance, Values; Drivers (e.g. SLHD Equity Framework, SLHD Strategic Plan); History of action on health equity; Existing expertise and knowledge (e.g. within leadership and expertise of CSI&PH executive).

b Equity platforms including-Substantial Aboriginal workforce and leadership; Cultural support workers; Expertise and intelligence (HERDU, Public Health Unit/The Observatory, Diversity Hub); Place based interventions (e.g., Can get Health in Canterbury, Healthy Homes and Neighbourhoods, Waterloo Link Worker); Place based services (e.g., Community Health Centres).

c Existing relationships (and sometimes trust) to build on: within/into communities, with partners.

d Educate e.g., SLHD employees about these equity-focused resources.

NSW Future Health Strategy	2.4 strengthen equitable outcomes and access (additional: 2.5, 6.3)
SLHD Strategic Plan	Focus area 1: Equitable care for our community
CE Priorities	16. Vulnerable communities. 6. Clinical Engagement. 4. Quality and Safety Performance.
SLHD Equity Framework	1.Individual health care

3

Recommendation

Maintain vulnerable community focus areas within emergency and crisis responses

Implication

Explicit targeted response and resourcing for identified vulnerable communities (populations and places).

How (examples)

a Systematically identify both place (e.g., Wiley Park, Campsie, Lakemba, Waterloo, Riverwood) and population based vulnerable communities. This includes approaches to identify new, emerging, 'hard to hear' communities.

b Collaborative planning and action with partners, including: the disability sector and disability group homes; residential aged care facilities (RACF); vulnerable people and housing (social housing residents, boarding houses, people experiencing homelessness); Aboriginal and Torres Strait Islander response.

c Align initiatives with sharing leadership within and across services as part of pandemic responses, bringing diverse perspectives and valuing the input of. e.g., SLHD staff, who have varying levels of experience and roles within the District. Cultural Support Workers.

NSW Future Health Strategy	Vision: investment in 'wellness' 3.'people are healthy and well' (additional: 3.4, 3.2, 5.1, 5.2)
SLHD Strategic Plan	Focus area 1: focus on prevention (additional: priority 8)
CE Priorities	16. Vulnerable communities. 15. Collaborative Care Program.
SLHD Equity Framework	3. Prevention and health promotion

4

Recommendation

Maintain a supportive environment for innovation and flexibility

Implication

Being ready for risk and open to change created opportunities for good ideas to arise and flexible targeted approaches to be identified and implemented (People who don't make mistakes are those that don't do anything).

Signals that expertise in developing clinical/ community responses that meet the needs of the community, are best achieved with consultation.

Innovation is ongoing, not just reserved for a crisis.

How (examples)

a Maintain a system and personnel who are encouraged to be proactive, design, work and plan cooperatively.

b Strengthening engagement with front-line workers from across professions and with varying levels of experience.

c Identifying champions or key staff at any level in the District who have expertise, experience and relationships/networks, so that they can be easily called upon

d Support for innovative infrastructure such as rpavirtual, Special Health Accommodation, vaccination hubs and mobile vaccination clinics.

e Communities of practice set up to share knowledge and problem solve.

NSW Future Health Strategy	Vision: investment in 'wellness' 3.'people are healthy and well' (additional: 3.4, 3.2, 5.1, 5.2)
SLHD Strategic Plan	Focus area 1: focus on prevention (additional: priority 8)
CE Priorities	11. ICT and Virtual Health. 13. Research. 18. Experience the human experience.
SLHD Equity Framework	3. prevention and health promotion

5 Recommendation

Continue to build and invest in sustainable equity infrastructure

Implication

Sustainable embedded equity infrastructure that addresses the determinants of health equity and can be drawn on/ramped-up as needed.

Translating existing infrastructure to reach a wider SLHD population, building capacity, capability and resilience.

Establish and maintain a flexible mindset that questions, exposes and innovates.

How (examples)

a Introduce KPIs/reporting around equity, and identify opportunities for how principles of equity are built into all service plans.

b Strengthen and embed pre-existing platforms (see Rec 2-our platforms have been tested and some issues have been identified).

c Proactively identify new platforms (where the equity gaps are, such as newly vulnerable, those not accessing services, etc.).

d Consult with users as to where, what and how.

e. Maintain sustainable dedicated equity capacity and expertise. Engage staff whose opinions/experiences/ideas could be leveraged off to extend equity programs that are already proven.

f Continue to support and build consistent approaches to place based work.

g Create sustainable long-term funding for equity infrastructure. Invest time, trust and tenacity in systems, tools, resourcing and capacity building.

NSW Future Health Strategy	2.4 strengthen equitable outcomes and access (additional: 3.1, 5.2)
SLHD Strategic Plan	Focus area 1: Equitable care for our community
CE Priorities	16. Vulnerable communities
SLHD Equity Framework	5. fairer, more inclusive system

6 Recommendation

Continue and strengthen attention on addressing existing and ongoing ‘wicked problems’ amplified by COVID-19 (not just in communities but also within SLHD)

Implication

Addressing the existing inequalities that increase vulnerability to and are exacerbated by pandemics and other major challenges.

Leaders within health services are supported to make what might be difficult decisions around resource allocation in response to what emerging/unknow needs that are still to surface.

A broad approach influencing the system and building pathways for consumers and services to better meet the needs of vulnerable communities.

How (examples)

a Targeted work service provision, such as waiting times for services targeting the most vulnerable and marginalised (e.g., oral health and child and family health services).

b Develop processes to identify and respond to unknown/unmet/unengaged/emerging needs.

c Addressing challenges, we don’t easily measure or see (racism/stigma/feeling valued).

d Proactive planning for emerging challenges, such as long-COVID and climate change.

e Strong partnership with human service agencies and other stakeholders.

f Resourcing portfolios that work across silos

NSW Future Health Strategy	5. research and innovation informs service delivery (additional: 2.4, 2.5, 3.1, 5.1, 5.2, 6)
SLHD Strategic Plan	Focus area 6: Research, evidence and consumer experience drive service improvement.
CE Priorities	5. COVID response, recovery and reform. 13. Research.
SLHD Equity Framework	1. Individual health care. 2.how we operate

7 Recommendation

Expand leadership and governance ('with' rather than 'of')

Implication

Increased capacity to address determinants of health inequities.

Broadening leadership and governance.

Increased recognition of the value of diversity and understanding of the ability of the workforce and community to contribute ideas and work towards solutions.

How (examples)

a Build governance and leadership within - including Aboriginal leadership, consumer and community engagement, (Diverse) workforce governance and leadership with - including governmental partners (intersectoral), community-based organizations and advocacy groups; place and population based organisations.

b Continue to support collaborative governance mechanisms (e.g., Healthy Strong Communities, Healthy Families Healthy Children, Healthy Homes and Neighbourhoods, Primary Care Partnership Committee, Aboriginal Health Group with AMS/SVHN/SESLHD, Aboriginal Social Determinants of Health Committee).

c Seek genuine and shared partnerships within communities. Investing in building capacity, trust and relationships with those experiencing inequities (e.g., through Peer Educator Program).

NSW Future Health Strategy	Core Values. (additional: 4.2, 3.7)
SLHD Strategic Plan	Priority Area 2. Focus Area 1 and 3 and 5.
CE Priorities	5. COVID response, recovery and reform.
SLHD Equity Framework	2. How we operate as an organisation. 5. Fairer system

8 Recommendation

Advocate for health equity and the determinants of health equity

Implication

Acting on the determinants of health equity outside of health care provision.

Improved understanding of the intersection of determinants of health and wellbeing that exist in our communities, the drivers of those differences and the role of Health Services.

How (examples)

a Health Impact Assessments (HIAs)/equity checks/research on significant equity issues that go beyond provision of health services but affect health of SLHD.

b Building on existing equity resources, strengthening existing, and seeking new, partners from social care and other areas.

c Advocating for SLHD communities and accessing funding to support these communities.

d Strengthening data accessibility and linkage.

NSW Future Health Strategy	CORE values. (additional: 4.2, 3.7, 4)
SLHD Strategic Plan	Priority Area 2. Focus Area 1 and 3 and 5.
CE Priorities	6. Vulnerable Communities. 5. COVID response, recovery and reform.
SLHD Equity Framework	2. How we operate. 5. fairer system

What we need to do more of

9

Recommendation

Walk the talk of equity by looking inwards

Implication

Bounce back better.

Addressing health inequalities resulting from differences in material living conditions shaped by public policy.

How (examples)

a Acting as a Health Equity Leader (e.g., employment practices, carbon neutrality, procurement processes).

b Workforce culture, practice systems and ways of working.

c Identify ways of maintaining positive aspects of workplace change during COVID-19 (shared decision making, opportunities for growth, innovative and faster ways of working).

NSW Future Health Strategy	Core Values. (additional: 4.2, 3.7)
SLHD Strategic Plan	Priority Area 2. Focus Area 1 and 3 and 5.
CE Priorities	5. COVID response, recovery and reform.
SLHD Equity Framework	2. How we operate as an organisation. 5. Fairer system

What we could do differently

10

Recommendation

Strengthen consideration of equity impacts and trade-offs when responding to an emergency

Implication

Capacity to consider medium-to long-term health (equity) impacts.

Capacity to consider unintended impacts.

Improved utilisation of resources.

How (examples)

a Tools, processes and directives to systematically consider equity impacts, long-term impacts and trade-offs when responding to emergency situations.

b A clear(er) process for deployment plans and tools to support decision making that includes guidance from e,g., Communities of Practice.

c Stratify potential redeployments in the event of an emergency so that those who provide care to the most vulnerable/disadvantaged populations are redeployed behind those who provide more mainstream care

NSW Future Health Strategy	Values: respect. 3.5 (additional: 1.2, 2.1, 2.2, 2.3, 3.5, 4.2, 4.4, 4.5)
SLHD Strategic Plan	Focus Area 1 and 3 and 5.
CE Priorities	5. COVID response, recovery and reform.
SLHD Equity Framework	2. How we operate as an organisation. 3.work with communities

11

Recommendation

Increased prioritisation of maintaining and enhancing services that are addressing health equity determinants and outcomes

Implication

Equity-focussed approach ensuring existing inequities are not worsened, nor are new inequities created, while attempting to reduce risk of exposure.

Our health system is there for every one of us (not just the most visible or apparently urgent).

How (examples)

a Flexible approaches that allow for maintaining services to vulnerable populations where possible.

b Tools, processes and directives to systematically consider equity impacts, long-term impacts and trade-offs when responding to emergency situations. While taking into account scarcity of resourcing and external (e.g., State level) guidance.

NSW Future Health Strategy	Values: respect. 3.5 (additional: 1.2, 2.1, 2.2, 2.3, 3.5, 4.2, 4.4, 4.5)
SLHD Strategic Plan	Priority 3: inclusive healthcare responsive to Aboriginal communities. Focus Area 3 and 5.
CE Priorities	18. Experience the human experience. 5. COVID response, recovery and reform.
SLHD Equity Framework	1. Individual health care. 4. Take action on SDH. 2.How we operate

12

Recommendation

Address inequities in workforce culture and systems

Implication

Address the double (work and personal) pandemic burden on health workforce.

Address health equity within SLHD workforce.

How (examples)

a. Maximise opportunities for positive impacts of WFH and flexible work (including flexibility of work location) for all staff, and particularly those staff impacted by movement and other restrictions.

b. Providing opportunities for staff (of different levels and roles) to contribute to decisions and be empowered to take actions.

c. Investigate approaches to address the double (work and personal) pandemic burden on the health workforce. For example:

- Build resilience by engaging a multisystem approach; that is, consider the intersections between individual, workplace and societal levels, and recognise the capacities and support the needs of a diverse and structured workforce.
- Recognise that longer-term demotivational fatigue may have a bigger impact on staff wellbeing than short-term fatigue, and design strategies to address longer-term demotivational fatigue.
- Long-term motivational strategies should recognise the impact of upheaval and the unpredictable nature of the pandemic, and should seek to engage people in developing strategies to respond to these challenges by drawing on a strength-based practice to enhance existing workplace and SLHD assets.
- Workplace allocation and/or deployment should be based on principles of equity and diversity, as individuals' circumstances are influenced by broader societal challenges as well as their own capacities and relationships.
- Supporting ownership and agency within units to set up services in response to the ongoing nature of the pandemic moving beyond reacting to circumstances as they arise; involve staff in planning for permanent service delivery structures that are agile and proactive in respect to the pandemic, and foster a shift away from 'disaster response' and towards long term stability.
- Communication strategies should be targeted and tested and include both individual and broader contextual factors in order to be more effective and to adhere to the principles of transparency, fairness, consistency, coordination and predictability.

NSW Future Health Strategy	Values: respect. 3.5 Close the gap (additional: 1.2, 2.1, 2.2, 2.3, 3.5, 4.2, 4.4, 4.5)
SLHD Strategic Plan	Priority 3: inclusive healthcare responsive to Aboriginal communities. Focus Area 3 and 5.
CE Priorities	18. Experience the human experience
SLHD Equity Framework	1. Individual health care. 4. Take action on SDH. 2.How we operate

Risks and consequences of COVID-19 infection (in addition to previous)

13

Recommendation

Build on existing and/or establish new partnerships with organisations that work with frontline, essential and precarious workers

Implication

Relationships and trust already established that can be drawn on.

Increased capacity to act on the determinants of health equity outside of health care provision.

Lessons learned are shared.

How (examples)

a Build capacity and strategies to reach workers with effective culturally and linguistically tailored programs and practices for reducing exposure, testing, contact tracing, isolating and care strategies.

b Advocate for measures to enhance capacity and remove barriers to preventive action, such as paid sick leave, increases in minimum wage, income support and welfare measures.

NSW Future Health Strategy	2 (additional: 1.1, 4.2, 4.3, 3.7, 5.2)
SLHD Strategic Plan	Focus area 1: Equitable care and a healthy built environment
CE Priorities	5. COVID response, recovery and reform. 13. Research. 16. Vulnerable communities
SLHD Equity Framework	1. Individual health care. 2. How we operate. 4. Action on SDH. 5. Fairer system

Risks and consequences of COVID-19 infection (in addition to previous)

14

Recommendation

Invest in and advocate for healthy urban environments

Implication

Increased capacity to act on the determinants of health equity outside of health care provision.

Taking action on health inequalities resulting from differences in material living conditions shaped by public policy.

How (examples)

a Support active and public transport infrastructure and reduce existing inequalities in access.

b Advocate for high quality/access to facilities/ greenspace in locationally disadvantaged neighbourhoods.

c Adopt strategies that put health equity and sustainability at the centre of planning.

d Support urban planning and infrastructure development to make neighbourhood places where we work.

e Advocate and collaborate to strengthen housing standards, affordable and social housing.

f Collaborate and partner with communities and community-based organisations to support and build capacity to take action and advocate for equitable provision of greenspace, facilities and affordable and higher standards of housing.

NSW Future Health Strategy	2 (additional: 1.1, 4.2, 4.3, 3.7, 5.2)
SLHD Strategic Plan	Focus area 1: Equitable care and a healthy built environment
CE Priorities	5. COVID response, recovery and reform. 13. Research. 16. Vulnerable communities
SLHD Equity Framework	1. Individual health care. 2. How we operate. 4. Action on SDH. 5. Fairer system

Risks and consequences of COVID-19 infection (in addition to previous)

15 Recommendation

Continue to address data gaps

Implication

Increased knowledge of populations groups likely to experience inequitable impacts.

How (examples)

a. Include:
   - number, characteristics and spatial distribution of people in precarious employment.
   - people living in congregate housing e.g. boarding houses, temples, backpacker hostels, pub accommodation
b. More inclusive recording of the gender in NCIMS: Currently only four options: Male, Female, Transgender, Not stated/inadequately described.
c. Review eligibility, demand and access, especially in pockets of socioeconomic disadvantage and 'new' areas of intersectional disadvantage that came to the fore during the pandemic.
d. Develop a set of equity indicators for SLHD

NSW Future Health Strategy	2 (additional: 1.1, 4.2, 4.3, 3.7, 5.2)
SLHD Strategic Plan	Focus area 1: Equitable care and a healthy built environment
CE Priorities	5. COVID response, recovery and reform. 13. Research. 16. Vulnerable communities
SLHD Equity Framework	1. Individual health care. 2. How we operate. 4. Action on SDH. 5. Fairer system

Changes to work (in addition to previous)

16 Recommendation

Advocate for and implement actions to address the equity impacts of Work from Home (WFH) and digital access

Implication

Taking action on health inequalities resulting from differences in material living conditions that are shaped by economic and political structures.

Acting on the determinants of health equity outside of health care provision.

Platforms for equity-focused action that can be directly mobilised.

How (examples)

a Actions that challenge gender norms and address the unequal caring and unpaid work burden experienced by women.

b Intimate Partner Violence policies and procedures that incorporate WFH guidance and responses.

c Actions to address the digital divide (ability, affordability and access).

d Advocate for reducing transport costs for people who cannot WFH.

e Within SLHD, support staff transitioning into online work, identify individual and role/area of work specific digital barriers to online working.

f Encourage and support partner organisations to adopt supportive flexible work practices.

g Draw attention to the health implications of inequities.

NSW Future Health Strategy	4. (additional, 2, 3, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.4).
SLHD Strategic Plan	Priority 2: strengthening and valuing diverse workforce. (additional: Focus area 5)
CE Priorities	6. Clinical engagement (additional: 5, 7)
SLHD Equity Framework	2. How we operate. 5. fairer system

17

Recommendation

Continue to develop and strengthen models of care that are patient-centred and involve proactive outreach and care coordination

Implication

Platforms for equity-focused and place-based action can be directly mobilised.

How (examples)

a Continue investing in integrated care, care coordination and collaborative practices between services.

b Continue supporting and identifying new opportunities for outreach services.

c Continue to develop hybrid approaches to virtual care and in-person care, considering access, acceptability, quality and appropriateness of services.

d Continue to build staff capacity in business-as-usual times in areas that support equity-focused responses, such as virtual care, mental health and queer, Trans and gender-diverse people's health and needs.

NSW Future Health Strategy	3. (additional: 3.7, 2.4,2.5)
SLHD Strategic Plan	Focus area 3 (services) (additional: Focus area 4: ICT to support care)
CE Priorities	5. COVID response, recovery and reform. 7. Mental health services. 11. ICT and virtual health
SLHD Equity Framework	1. Individual health care. 4. Action on SDH. 5. Fairer system 2.

18

Recommendation

Develop a strategy to address longer term equity impacts from the pandemic and the response

Implication

Platforms for equity-focused and place-based action could be mobilised/ramped-up when needed.

Explicit targeted response and resourcing for identified vulnerable communities (populations and places).

Health services that are available, acceptable, appropriate and of high quality for populations already experiencing health inequities and also populations more likely to be vulnerable to future impacts.

How (examples)

a Develop plans and resourcing for longer term health equity impacts such as:
   i Unmet need and delayed seeking of care
   ii Delayed diagnosis and treatment, particularly for vulnerable children and young people
   iii People lost to/disengaged from the system.

b Using an adaptive, flexible approach that allows for context specific service provision.

NSW Future Health Strategy	3. (additional: 3.7, 2.4,2.5)
SLHD Strategic Plan	Focus area 3 (services) (additional: Focus area 4: ICT to support care)
CE Priorities	5. COVID response, recovery and reform. 7. Mental health services. 11. ICT and virtual health
SLHD Equity Framework	1. Individual health care. 4. Action on SDH. 5. Fairer system

19 Recommendation

Continue to build equity sensitive health services

Implication

Health services that are available, acceptable, appropriate and of high quality for populations already experiencing health inequities and also populations more likely to be vulnerable to future impacts.

How (examples)

a Cultural competency (of staff and/or what and how services are delivered).

b Physically locating and/or delivering services in communities.

c Identifying and mitigating barriers to accessing services.

d Engaging communities and patients in the planning of services.

e Strengthened preventative hospital avoidance and health creation services and activities as well as treatment.

NSW Future Health Strategy	3. (additional: 3.7, 2.4,2.5)
SLHD Strategic Plan	Focus area 3 (services) (additional: Focus area 4: ICT to support care)
CE Priorities	5. COVID response, recovery and reform. 7. Mental health services. 11. ICT and virtual health
SLHD Equity Framework	1. Individual health care. 4. Action on SDH. 5. Fairer system

20 Recommendation

Adapt COVID-19 response guidance and policies to different settings

Implication

Bounce back better.

Strengthened capacity across system to respond.

Building on lessons learnt during the pandemic – how quickly and creatively staff responded with innovation and courage, and how some of the traditional barriers to change and collaboration were ignored.

How (examples)

a Adapt guidance for COVID management at each alert level (red, amber, green) to different settings of care (e.g., Hospital settings, community settings, home visits).

b When developing risk management policy in community-based services:

  i Ensure clear and transparent decision making and communication to enhance staff and patients understanding of decision-making processes and outcomes.

  ii Identify opportunities for staff to engage in decision making and planning processes, in particular, in identifying context specific issues and solutions.

c Continue and strengthen where possible, integrating flexibility and innovation into harm and risk reduction strategies to allow for adaption of services to maintain (and resume) access, particularly for vulnerable population groups and places.

NSW Future Health Strategy	3. (additional: 3.7, 2.4,2.5)
SLHD Strategic Plan	Focus area 3 (services) (additional: Focus area 4: ICT to support care)
CE Priorities	5. COVID response, recovery and reform. 7. Mental health services. 11. ICT and virtual health
SLHD Equity Framework	1. Individual health care. 4. Action on SDH. 5. Fairer system

21

Recommendation

Further strengthen expertise and capacity in relation to groups identified as experiencing negative health equity impacts during the pandemic

Implication

Increased capacity to address determinants of health inequities.

Acting on the determinants of health equity outside of health care provision.

Health services that are available, acceptable, appropriate and of high quality for populations already experiencing health inequities and also populations more likely to be vulnerable to future impacts.

How (examples)

a Continue to support population and place specific roles within SLHD and population specific capacity and expertise.

b Continue to support roles that incorporate lived experience, such as cultural support workers, community health workers, bilingual community educators and peer workers.

c Support peer-led, co-designed and collaborative approaches.

d Identify ways to strengthen engagement of population groups identified as experiencing negative health equity impacts (the who and how).

e Continue to encourage and facilitate community participation in promoting health, wellbeing and resilience.

NSW Future Health Strategy	3. (additional: 3.7, 2.4,2.5)
SLHD Strategic Plan	Focus area 3 (services) (additional: Focus area 4: ICT to support care)
CE Priorities	5. COVID response, recovery and reform. 7. Mental health services. 11. ICT and virtual health
SLHD Equity Framework	1. Individual health care. 4. Action on SDH. 5. Fairer system

22

Recommendation

Identify and implement approaches so that staff and service design can be informed by the social and structural context that impacts on clients of these services

Implication

Increased capacity to address determinants of health inequities.

Acting on the determinants of health equity outside of health care provision.

How (examples)

a Integrate clinical decision support systems that screen and document social determinants which influence an individual's health and use of health care, prompting practitioners to take action, such as facilitation of referrals to institutional and community support services.

b Identify options to integrate social determinant screening instruments into electronic health records.

c Build knowledge and capacity within the health system and patients, about rights and expectations in relation to health service provision.

NSW Future Health Strategy	3. (additional: 3.7, 2.4,2.5)
SLHD Strategic Plan	Focus area 3 (services) (additional: Focus area 4: ICT to support care)
CE Priorities	5. COVID response, recovery and reform. 7. Mental health services. 11. ICT and virtual health
SLHD Equity Framework	1. Individual health care. 4. Action on SDH. 5. Fairer system

8 Conclusion

This EFHIA was carried out to identify potential health equity impacts of the COVID-19 pandemic and the associated response, and to provide recommendations to inform future planning processes of SLHD.
Three areas of focus were determined by the EFHIA Steering Committee: risk and consequences of COVID-19 infection, changes to work and changes to health services. Based on multiple literature reviews, stakeholder and key informant interviews and analysis of primary data, the HIA identified significant health equity impacts in all three areas. Some of these impacts have already occurred and many are likely to continue to affect health equity into the future.
To address the impacts identified in this report, we have developed a set of evidence-based equity-focussed recommendations for SLHD.

What we learned

The EFHIA took as its starting point the point at which the first evidence emerged that the COVID-19 virus had reached Australia, and focused on the health and health equity impacts of the virus and of the NSW government and SLHD responses (in particular) over the following two years. These responses were focused, primarily, on preventing deaths and on containing the spread of the virus.

Although there were state-specific variations in the implementation of responses in Australia, there was universal government acceptance of the need for nation-wide actions by all sectors – and, in particular, by the health sector.

The EFHIA identified multiple health and health equity impacts arising from the pandemic and the SLHD responses. Some of the impacts were positive (as in there was no inequity in the COVID death rates of different socioeconomic and different social groups). Some of the impacts were neutral (as in there was no increase in inequities in health that had been measurable before the onset and response to the pandemic). Some of the impacts were, however, negative (inequities in health were exacerbated by the pandemic and by the SLHD responses to it).

In preparing recommendations for the SLHD to guide actions to reduce or eliminate health inequities associated with the COVID-19 pandemic, it has been necessary to consider the policy, organisational, and political contexts within which recommended actions are to be implemented.

This is necessary because many of the factors that affected and influenced the health and health equity impacts of the virus (and the SLHD responses) were highly dependent upon the priority, urgency and scale of the actions taken to prevent deaths and infection. The recommendations will be enacted in very different social, political, policy and organisational environments.

For example, the SLHD (and all health services) were directed to give urgent priority to managing and preventing the pandemic, and to pause, delay or ration the delivery of health care necessary for people with a range of other health problems. Health employees were reassigned to roles directly associated with managing the pandemic, facilities were repurposed, new organisational arrangements were implemented to ensure timely, appropriate, acceptable communication with marginalised communities, and attention was given to ensuring that vital services were universally accessible. And much more besides.

This report has limitations. The qualitative evidence is based on a small sample of participants who offered rich and diverse insights both as professionals/practitioners and as individuals. Conducting the EFHIA concurrently with the pandemic, has meant that our data collection was limited, particularly data from affected communities. A larger-scale sample from an even larger range of health and community services and community members would potentially strengthen the analysis. The evidence base around COVID-19 and health equity is continually evolving and there may be new and emerging evidence that could supplement our findings. We focused on three areas of impact, future work could explore different areas of impact or provide a more in-depth analysis of specific areas and populations. It was also beyond the scope of the EFHIA to provide an exhaustive overview of all the changes that have been occurring during the pandemic. We have focused on areas that were identified by participants as significant in terms of impact on equity and have a moderate to strong level of evidence.

A strength of the research team is the mix of disciplinary backgrounds and positionalities that alerts us to a whole range of issues and differential impacts. Members of the research team are positioned very differently across multiple determinants of health, e.g., some are property owners, other short-term renters, some have migrant experience (dispersed social support network, English as additional language) and past experience of Medicare ineligibility, some have lived experience of precarious employment during the pandemic, some are parents and some rely on specialised services. And we are positioned differently in terms of age, CALD group, income, gender and sexuality, family status, etc. (albeit we are all settlers/non-Indigenous). The research team were also embedded in the SLHD COVID-19 response; for example, staffing of mobile vaccination clinics, rostering and data analysis. This inevitably shapes our understanding of the research and interpretation of the data/evidence, with the potential for 'blind spots' and bias, but this risk was addressed through triangulation of information and peer-review.

The EFHIA concluded at the point at which governments decided to reduce the special measures that had been put in place to manage and control the pandemic. The health sector (and all other sectors) has been expected to return to 'business as usual' (i.e., to pre-COVID agendas and activities) in addition to continuing to manage the detection and prevention of the spread of COVID, and caring for people infected with new strains of the virus. The changed political, policy and organisational environments are, however, needing to cope with the ongoing consequences of the pandemic, including, for example, the shortage of staffing for aged care, disability care and home care. Health staff, who have been physically and mentally exhausted by the efforts required to manage the pandemic, now need to manage the continuing threats posed by the rapidly evolving strains of COVID. The mental health consequences of the pandemic and the society-wide and particular responses are likely to require greater investment in health care, while the accessibility of emerging treatments for long-COVID, as well as the accessibility of all health care (including that provided by GPs), all have implications for health equity into the future.

In short, the recommendations have been formulated to be taken up by the health sector (SLHD) as it is operating in 2022 and beyond, incorporating actions to reduce and prevent inequities in health.

The recommendations were developed to address identified health equity impacts. The list of recommendations is a starting point. Identifying actions to implement recommendations will require input from multiple actors, including SLHD staff, those communities experiencing health equity impacts and partner organisations that work with these communities.

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