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Queensland Centre for Mental Health Research

An Independent Evaluation of the Q-MOST Pilot

Final Report - May 2024

This evaluation was commissioned by the Children's Hospital Foundation and was conducted by the Mental Health Evaluation Stream at the Queensland Centre for Mental Health Research.

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Executive Summary

Introduction

Queensland Centre for Mental Health Research (QCMHR) was commissioned by the Children's Hospital Foundation in December 2021 to evaluate the implementation of Orygen Digital's Moderated Online Social Therapy (MOST) platform in Queensland, known as the Q-MOST pilot. The evaluation adopted a mixed methods approach, incorporating the analysis of available quantitative data, as well as the collection and analysis of primary qualitative data. The evaluation framework was developed in partnership with Q-MOST funders, the Children's Hospital Foundation and Queensland Health's Mental Health and Other Drugs Branch (MHAODB). The evaluation used the RE-AIM framework which assesses a project's Reach, Effectiveness, Adoption, Implementation and Maintenance. For clarity, the report is organised with the pilot implementation and consumer journey in mind, and presents qualitative and quantitative data collected from service providers (Orygen Digital, Queensland Health Hospital and Health Services and headspace centres), young people, and parents.

About Q-MOST

Developed by Orygen Digital, Moderated Online Social Therapy (MOST) is a freely accessible, digital mental health intervention designed for young people aged from 12 to 25-years-old. It provides access to social engagement with peers and other young people, therapeutic content, and contact with clinicians and vocational consultants. MOST has two age specific platforms, one for 12 to 14-year-olds, and one for 15 to 25-year-olds.

In October 2021, Orygen Digital was funded by The Children's Hospital Foundation and Queensland Health to implement the Q-MOST pilot in seven Queensland Hospital and Health Services (HHS), and 12 selected headspace centres statewide.

During the pilot, young people could be referred to the MOST platform by clinicians at participating headspace centres or HHS mental health services. Young people who acted on their referral were then required to engage in a sign-up and onboarding process, before being granted full access to MOST.

An existing staff member at each headspace centre was appointed as the MOST champion to facilitate uptake of the pilot. Regular implementation group meetings were convened with representatives of the participating headspace centres, HHS, MHAODB, and Primary Health Networks to discuss the pilot's roll out.

Summary of Key Findings

Q-MOST pilot implementation

The launch of the Q-MOST pilot was delayed in some locations and took time to adapt to the Queensland context. These challenges frustrated some referring services, impacting their confidence and collaboration in the pilot project.

The Q-MOST pilot continued to evolve over time, but disseminating information about implementation adaptations and MOST platform updates to clinicians was problematic, especially within busy referring services who were managing many competing priorities.

Multi-agency implementation group meetings achieved limited success due to poor attendance and attendees being unwilling to participate in full and frank discussions about issues experienced during their participation in the Q-MOST pilot. Consequently, implementation group meetings were not effective for disseminating information about updates, in the pilot or MOST platform, to referring clinicians.

The impact of MOST champions was mixed, and Orygen Digital did not find them successful in some settings.

Service level adoption

Service level adoption of the MOST referral pathway was crucial to the success of the Q-MOST pilot. However, adoption was impeded by factors such as: staff turnover, resistance to change within services, clinicians' attitudes to MOST, competing demands on clinicians' time, and young people's negative responses impacting clinicians' enthusiasm to continue offering referrals. Furthermore, MOST is competing with many other digital mental health treatment and support options that are widely available to clinicians and young people, including headspace's own online offerings.

Some clinicians reported that Queensland Health and headspace National provided inadequate support for the pilot. Orygen Digital also reported difficulty engaging and collaborating with team leaders and senior managers in some HHS.

Senior clinicians tended to be more sceptical of MOST's effectiveness for the cohort of young people referred to them for care. However, those clinicians who did refer young people to MOST were enthusiastic about the speed and efficiency of the referral process, and thought Orygen Digital's risk management protocols were exemplary.

Referring services did not prioritise the Q-MOST pilot equally. Autonomy to accommodate the needs of local populations, and the availability of other mental health and youth services, impacted the adoption of MOST referrals into workflows. Young people were more likely to be referred to MOST by headspace centres with lengthy waiting lists, and/or in locations with limited alternative mental health and youth services. Clinicians also reported that it was beneficial to refer young people to MOST for support and oversight in situations where services were experiencing high demand, and young people were likely to experience delays in receiving face-to-face care. Referring clinicians mainly saw MOST as a separate and compartmentalised service and did not take a blended care approach to incorporating the platform's resources into their therapy sessions or ongoing engagement with young people.

Some of those interviewed for the evaluation discussed how a MOST referral would be helpful for young people before they reached the threshold for clinical assessment from headspace or Queensland Health services. It was suggested that school guidance officers and general practitioners should be able to refer young people to MOST for earlier intervention.

Referrals to MOST

Reach is defined by the numbers of young people who accepted a referral to the MOST platform. While there are no data for the numbers of young people who were offered a referral, clinicians consistently reported that about half of all referral offers were declined by young people.

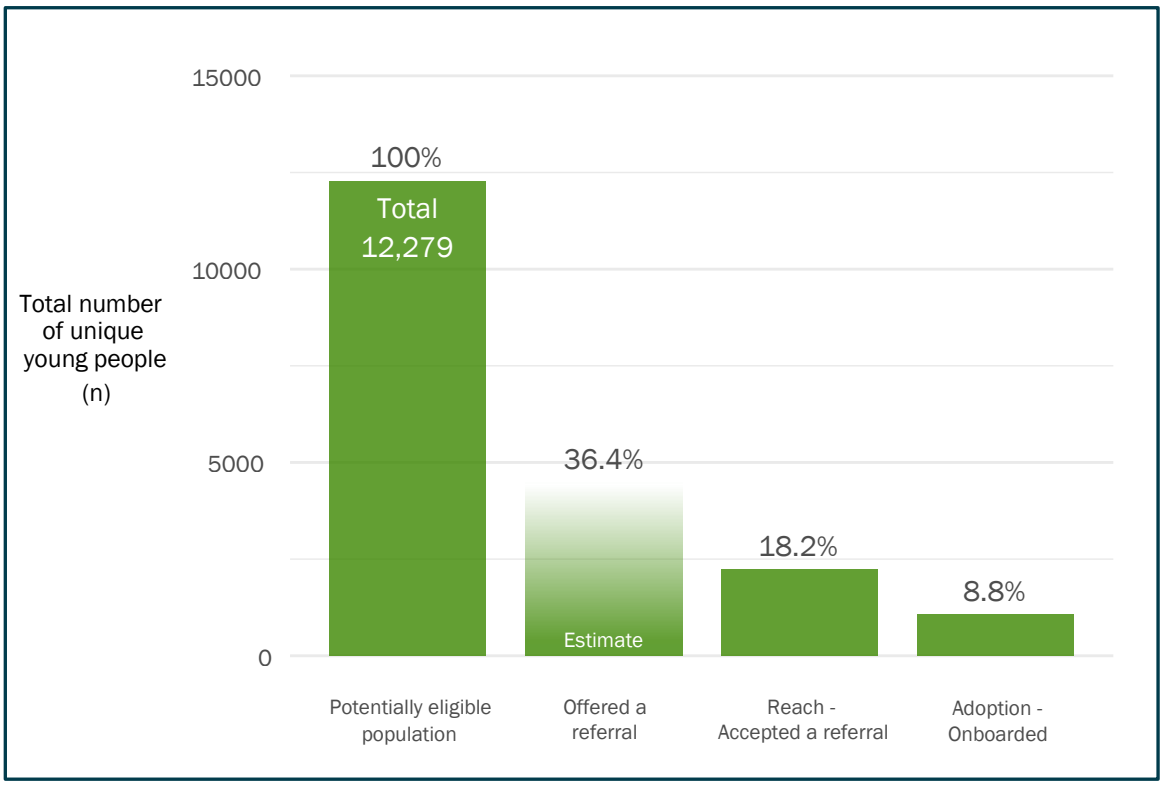
The proportion of young people who accepted a referral to MOST was calculated from data provided by Queensland Health and headspace National. From commencement dates in each headspace centre, until the 31 December 2023, 18.2% of young people accepted a MOST referral (Figure 1). In six Queensland Health HHS from 1 January until 31 December 2023, 5.8% of young people accepted a referral to MOST (Figure 2).

Young people turned down a referral to MOST for several reasons, including a preference for face-to-face engagement with mental health clinicians; difficulties with internet access, particularly for disadvantaged groups; poor levels of literacy; and, in some cases for those in the 12 to 14-year-old cohort, because their parents did not consent.

Young People's Adoption of MOST

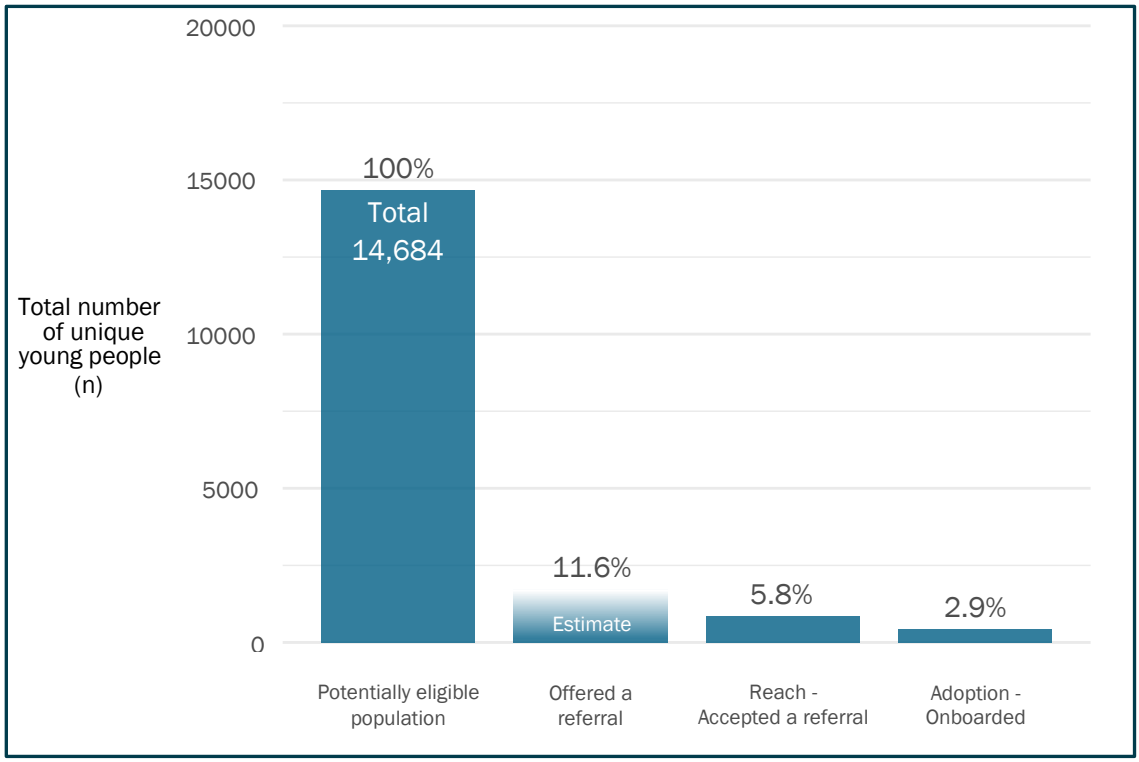
For the purposes of the Q-MOST evaluation, adoption was defined as the numbers of young people who completed MOST's onboarding process, and therefore gained full access to the platform's content. Referral alone was an insufficient measure for adoption, given young people who accepted a referral to MOST did not necessarily go on to engage with the platform. From the 18.2% of young people who accepted a referral to MOST from headspace (Figure 1), and 5.8% of young people who accepted a referral from HHS (Figure 2), 8.8% and 2.9% completed onboarding respectively.

Figure 1: MOST referrals and onboarding from Q-MOST pilot commencement date in each headspace centre to 31 December 2023.



Includes data from all 12 headspace centres participating in the Q-MOST pilot.

Figure 2: MOST referrals and onboarding from 1 January 2023 to 31 December 2023, in six Queensland Health HHS.



Includes data from West Moreton HHS, Metro South HHS, North West HHS, Central Queensland HHS, Wide Bay HHS, and Darling Downs HHS.

The launch of a MOST app in April 2023 was identified by many as vital to secure improved engagement from young people, as many found the website-based platform an unsatisfactory experience. Some thought that young people's willingness to engage with the Q-MOST pilot had been impacted by the absence of an app from the beginning. When the MOST app was launched, it was only available for the 15 to 25-year-old platform and has not yet been made available for the 12 to 14-year-old group. Functionality that was expected by young people, such as push notifications, are not available on the MOST app.

The data shows that many young people engaged very little with the platform, although a small proportion of individuals achieved comparatively higher levels of engagement than the majority. Analysis of individuals' session times revealed the median (midpoint) time for a young person's engagement with MOST was 26 minutes for the 12 to 14-year-old platform. On the 15 to 25-year-old platform, the median time for a young person's engagement with MOST was 18 minutes. Regardless of whether young people were referred to MOST from headspace or Queensland Health, patterns of engagement in terms of time and MOST content accessed were similar. An effective level of engagement with the MOST platform is unknown, in common with all digital mental health interventions and face-to-face engagements with clinicians. Outcomes and results will vary across different individuals with diverse needs and presenting problems.

In July 2023 Orygen Digital began collecting data on the time that the MOST clinical team spent preparing for and communicating with young people, family members, carers, Orygen Digital staff, and referring services. During the 37-week period for which contact data is available, 3,022 separate contacts were

made regarding 417 young people. When young people were contacted directly, modes of contact were direct message on the MOST platform (76.4%), SMS to smart devices (12.3%), and telephone calls (11.2%).

Effectiveness

This evaluation could not determine MOST's effectiveness at improving young people's mental health outcomes. The Q-MOST pilot was not a randomised controlled trial, therefore any changes in individuals' mental health outcomes could not be attributed to engagement with MOST. While Orygen Digital has been collecting self-complete mental health questionnaires, these have been obtained from a sample of young people who are not representative of everyone who engaged with the platform. QCMHR's evaluation showed that a small proportion of young people are highly engaged with MOST, however interviews with referring clinicians indicate that this group is also highly engaged, or likely to become highly engaged, with their referring services. They are usually motivated to understand and self-manage their mental health. Clinicians also explained that young people with lower levels of motivation and self-efficacy will probably struggle with the energy and commitment required to sign-up, onboard, and engage with the self-directed nature of the MOST platform's content.

Concluding comments

This evaluation of the Q-MOST pilot examined the implementation of a Digital Mental Health Intervention in a wide range of health service settings in Queensland. QCMHR believes the findings in this report are relevant to the planning and implementation of Digital Mental Health Intervention initiatives more broadly. The learnings have the potential to be applied across different service settings, populations, and implementation projects. Given the current appetite to incorporate digital solutions in addressing the challenges in the mental health sector, the evaluation provides valuable insights for policy makers and service providers.

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Acknowledgements

In the spirit of reconciliation, the Queensland Centre for Mental Health Research (QCMHR) respectfully acknowledges the Traditional Owners as the custodians of the lands in which QCMHR operates. We pay our respects to their Elders, past and present, and extend that respect to Aboriginal and Torres Strait Islander peoples today.

We acknowledge people in our communities with lived experience of mental health, drug and alcohol concerns, and those who care for them. We respect and value their generous contributions to our research.

We are grateful to individuals and groups who met with the evaluation team at the co-design stage of this project. They include young people with lived experience of mental health issues, clinicians, parents, carers, and the Youth Reference Groups at headspace Capalaba and headspace Mount Isa. Team members from Gidgee Healing also met with us and facilitated meetings with Aboriginal Elders and community members on the traditional lands of the Kalkadoon people.

We would also like to acknowledge the contributions of everyone who took part in this evaluation of the Q-MOST pilot, particularly those who helped to arrange and gave up their time to be interviewed. This includes young people offered referral to the MOST platform, their parents, senior management and clinicians at Queensland Health Hospital and Health Services, headspace providers/lead agencies, and employees of Orygen Digital. Various headspace centres and Queensland Health services also generously made rooms available for us to meet with young people and their parents to conduct evaluation interviews.

The authors would also like to acknowledge the contribution of Meaghan McLellan during the initial stages of establishing this evaluation project, and Laura Corcoran at QCMHR for her work on the design of this report.

Acronyms & Abbreviations

Acronym	Definition
AI	Artificial Intelligence
App	Application software
cCBT	Computerised Cognitive Behavioural Therapy
CFI-9	Career Futures Inventory – 9 Item
CHF	Children's Hospital Foundation
CHU-9D	Child Health Utility 9 Dimension Instrument
CIMHA	Consumer Integrated Mental Health and Addiction
CYMHS	Child and Youth Mental Health Service
DM	Direct Messaging
DMHI	Digital Mental Health Intervention(s)
DSM	Diagnostic Statistical Manual (for mental disorders)
FTE	Full-time equivalent
GAD-2	Generalised Anxiety Disorder – 2 Item
hAPI	headspace Application Platform Interface
HHS	Hospital and Health Service(s)
ICD-10	10th edition of the International Classification of Diseases
IoT	Internet of Things
K10	Kessler Psychological Distress Scale 10 Item
MHAODB	Mental Health and Other Drugs Branch
Mini-SPIN	Mini Social Phobia Inventory
MOST	Moderated Online Social Therapy
NSQDMH	National Safety and Quality Digital Mental Health
PHN	Primary Health Network
PHQ-2	Patient Health Questionnaire 2 item
PHQ-4	Patient Health Questionnaire 4 item
PICF	Participant Information and Consent Form

PSS-4	Perceived Stress Scale – 4 item
QALY	Quality Adjusted Life Year
QCMHR	Queensland Centre for Mental Health Research
Q-MOST	Queensland Moderated Online Social Therapy
RCI	Reliable Change Index
RCT	Randomised Controlled Trial
RE-AIM	Reach, Effectiveness, Adoption, Implementation, Maintenance
REDCap	Research Electronic Data Capture
SES	Socio-Economic Status
SMS	Short message/messaging service
SWEMWBS	Short Warwick & Edinburgh Mental Wellbeing Survey
TA	Treatment Authority
UCLA-3	University of California, Los Angeles Loneliness Scale – 3 Item

Glossary

Term	Definition
Active Days	Number of unique days that a young person accessed the MOST platform.
Adoption	Defined by the number of young people who onboarded to MOST.
Clinical and allied moderation team	The team providing clinical, peer work and vocational support on MOST.
Go-live	The date MOST became available for referral at a headspace centre or HHS clinic.
Onboarded	After signing-up to the MOST platform and completing a questionnaire, young people gained full access to MOST's content, and were categorised as 'onboarded'.
Reach	Defined by the number of young people who accepted a referral to MOST.
Referring Clinicians	Clinicians that could refer young people to MOST during the Q-MOST pilot.
Sign-up	The process young people complete to set up a MOST account.

1 Introduction

1.1 Project summary

Queensland Health and the Children's Hospital Foundation (CHF) commissioned Orygen, through its technology division Orygen Digital, to implement a pilot of their Moderated Online Social Therapy (MOST) platform. The Queensland adaptation of MOST, referred to as Q-MOST, was implemented across seven Queensland Hospital and Health Services (HHS) (Table 1.3.1), and 12 selected headspace centres that are provided by a variety of lead agencies, and fall under four Queensland Primary Health Networks (PHNs) (Table 1.3.2). MOST was adapted for the Queensland context, by aligning online content and modality of digital delivery to two specific age cohorts of intended consumers through two separate platforms, one for 12 to 14-year-olds and one for 15 to 25-year-olds.

The Queensland Centre for Mental Health Research (QCMHR) was contracted by CHF to conduct an independent evaluation of the Q-MOST pilot. Both quantitative and qualitative data were analysed for the evaluation, which was based on the RE-AIM framework (Glasgow, Vogt, & Boles, 1999) encompassing assessment of the project's reach, effectiveness, adoption, implementation and maintenance.

1.2 Background

Digital Mental Health Interventions (DMHI) are defined as technology-based programmes designed to support the mental health of users, and are delivered via digital channels including telehealth, the internet, mobile platforms, peripheral devices, and video games (Lattie, Stiles-Shields, & Graham, 2022; Park, Nicksic Sigmon, & Boeldt, 2022). Over the past 15 year these programmes have expanded exponentially and are now almost unanimously accessible via the internet.

1.2.1 The Mental Health of Adolescents and Young People

Globally, mental disorders are major contributors to the overall burden of disease, disproportionately impact adolescents and young adults, are rising in developed countries, and are estimated to carry large economic costs (Arias, Saxena, & Verguet, 2022; Ferrari et al., 2022; Whiteford et al., 2013). In Australia from 2020 to 2022, an estimated 39% of 16-24 year olds met diagnostic criteria for having a mental disorder within the previous 12-months (*National Study of Mental Health and Wellbeing*, 2023). At the state level, it is reported that 223,100, or 14.4% of Queenslanders aged under 25-years have behavioural or mental difficulties: 10.3% have anxiety related challenges, and 4.4% have mood (affective) issues (Australian Bureau of Statistics, 2015). Of 897,000 Queenslanders who experienced a mental or substance use disorder in 2011 and 2012, 138,000 or 15.4% were children aged under 15 years (Diminic et al., 2013). Across Australia there is evidence that mental health impacts adolescents and young people more than children. Roughly, 8.9% of children under 15 have mental and behavioural problems, yet this increases to approximately 19.4% in the 15 to 24-year-olds population. The onset of adult mental disorders and chronic mental ill-health typically peak during adolescence (Solmi et al., 2022).

1.2.2 The Digital Divide in Queensland and Australia

Young people access the internet more than any other age group, with 98% of 15 to 24-year-olds using the internet in Australia from 2016 to 2017 (*Persons use of the internet*, 2018). Young people's proficiency and enthusiasm in navigating the online environment was considered justification for using internet based communication to engage them on mental health topics (O'Reilly et al., 2019). While Australian adolescents do use the internet to access mental health information, and large amounts of online activity is directed towards connecting with other young people (Burns et al., 2016; Burns et al., 2010; *The digital lives of Aussie teens*, 2021; *Persons use of the internet*, 2018). Social relationships and interactions in everyday life during adolescence have important implications for mental health (Blakemore & Mills, 2014)

It is estimated that adolescents and young people spend between 14 and 15 hours online per week (*The digital lives of Aussie teens*, 2021). However, high levels of internet use among this cohort are not universal. Four elements of digital technology access and engagement have been identified that describe the digital divide: physical access, digital skills, different usage, and motivation (van Dijk, 2012). These elements contribute to the disparity in digital equality across different groups within society and are made up of many contributing and often interacting factors (Hargittai, 2002; Robinson, 2009; Thomas et al., 2023).

The Australian Digital Inclusion Index (ADII) measures three dimensions of digital inclusion (access, affordability, and digital ability) and explores disparities over time, across different social groups and geographic locations. ADII scores range from 0 to 100: 'highly excluded' (below 45); 'excluded' (45 to 60); 'included' (61 to 79); and 'highly included' (80 and above). The latest report (Thomas et al., 2023) highlights how digital inclusion at the national level continues to improve, from an index score of 67.5 in 2020, to 73.2 in 2022, with Queensland reaching the national average of 73 in 2022. While the national percentage of excluded and highly excluded individuals is declining, the report still identifies 23.6% of the national population falling into those categories. Highly excluded Australians are more likely to reside in public housing (28.2% highly excluded), live with a disability (24.5% highly excluded) or have not completed high school education (32.5% highly excluded). There are also significant disparities between First Nations and non-First Nations communities. Nationally, First Nations communities are indexed at 7.5 points lower than non-First Nations communities, however that gap increases to 21.6 points and 23.5 points lower for First Nations people living in remote and very remote locations respectively. The report also describes further challenges for digital inclusion for those with lower incomes, those who are unemployed, and those who live in higher degrees of rurality, findings which are echoed in the Australian Bureau of Statistics information on household use of information technology (*Persons use of the internet*, 2018).

Assuming everyone has the same relationship with digital and online infrastructures runs a risk of further exacerbating social inequities and digital exclusion (Bowman, Nic Giolla Easpaig, & Fox, 2020; *Children in a Digital World*, 2017; Piers, Williams, & Sharpe, 2023).

1.2.3 Current landscape of Digital Mental Health Interventions

Emerging Digital Mental Health Interventions (DMHI) are delivered in a wide range of formats, reflecting the rapid expansion and broad functionality of the internet and associated technologies. In 2017 over 10,000 publicly available mental health apps were available, and growing at a rapid rate (Torous & Roberts, 2017). Ongoing advances in new technologies such as: artificial intelligence (Sheu et al., 2023; Sturgill et al., 2021; Torous & Blease, 2024); simulated realities (Habak et al., 2020; Montaner-Marco,

Jaen, & Pons, 2021; Usmani, Sharath, & Mehendale, 2022); the internet of things (IoT) (Khatun et al., 2023); machine learning (McHugh et al., 2023); and distributed ledgers (Khatun et al., 2023; Oh et al., 2021; Wies, Landers, & Ienca, 2021), which are being developed in conjunction with DMHI mean that the field will continue to innovate and develop at a rapid rate. However, ongoing work by independent DHMI developers has resulted in the creation of numerous programs, many of which appear to be replicating one another and thus performing the same function (Burns, Liacos, & Green, 2014).

Several online resources exist that detail some of the many DMHI emerging in the nascent field of digital mental health, and while these are not comprehensive, they illustrate some of the efforts to catalogue and categorise the available options that continue to grow. The 'Resource Library' and the 'NASQDMH Accredited Services' provide a guide for DMHI which have been deemed appropriate for use in Australia. The National Safety and Quality Digital Mental Health (NSQDMH) has only recently finalised their accreditation process (Rigby et al., 2024), and are currently undertaking a major campaign to encourage digital mental health services that are in scope to seek accreditation. QCMHR understands that Orygen Digital intend to apply for NSHDMH accreditation for the MOST platform by the end of 2024 and informed the QCMHR evaluation team that federally funded services are required to achieve accreditation by June 2024, after which there will be capacity for other services to be assessed.

Table 1.2.3.1: Online directories of Digital Mental Health interventions.

Organisation	Description	Link
Queensland University of Technology, Black Dog Institute, Menzies School of Health Research, and University Centre for Rural Health North Coast	Nationally funded directory compiled to support health professional's training and awareness of evidence-based e-mental health services.	dMH library[1]
National Safety and Quality Digital Mental Health (NSQDMH) Standards.	List of digital mental health services which have been independently assessed to meet safety and quality requirements, and accreditation of the NSQDMH	NASQDMH Accredited Services[2]
The Division of Digital Psychiatry under guidance of the American Psychiatric Association's app evaluation framework	Free and publicly accessible database of mental health apps	M-Health Index and Navigation Database[3]

The diversity of mental health conditions DMHI aim to assist with or treat also varies broadly. Many developers focus their efforts on treating a single mental health condition, while some encompass others when comorbidity is common. However, some DMHI are designed to be applied across a range of user presentations, and are referred to as transdiagnostic (Sauer-Zavala et al., 2017).

[1] https://www.emhprac.org.au/directory/
[2] https://www.safetyandquality.gov.au/standards/national-safety-and-quality-digital-mental-health-standards/accreditation-national-safety-and-quality-digital-mental-health-standards#register-of-nsqdmh-accredited-services
[3] https://mindapps.org/Apps

1.2.4 Systematic Reviews on the Effectiveness of Digital Mental Health Interventions for Young People.

Effectiveness among public health interventions is commonly measured by their ability to affect intended outcomes. Among DMHI, efficacy is determined by comparing an intervention to the absence of treatment (passive control), or by comparing it with an accepted treatment (active control) (Karlsson & Bergmark, 2015; Lehtimaki et al., 2021). Intended outcomes of DMHI are usually an improvement in mental health outcomes, which are measured by clinical evaluation, or scores achieved by consumers completing mental health instruments that are indicative of mental-ill health. Four recent systematic reviews which examined the effectiveness of DMHI designed for adolescents and young people are summarised below.

Garrido et al. (2019) performed a systematic review to investigate the effectiveness of DMHI addressing depression and/or anxiety in young people and adolescents. While insufficient studies for anxiety were returned, the authors reported a small statistically significant improvement in DMHI treating depression compared to no intervention. This small improvement was not significantly different to regular treatments. When comparing DMHI on available variables the authors suggested that DMHI may only demonstrate a clinically significant improvement in mental health outcomes if they include human supervision or therapist interaction. However, it was also apparent that privacy and anonymity offered by digital mediums were important for young people. Low levels of adherence and engagement were reported in many of the included studies, with technical glitches, boring material, and poor user interfaces considered off-putting. Conversely similarities to gaming experiences, and content that is interactive and relatable were attractive to young people. There were concerns about bias in many of the studies included in this review, with 27 out of the total 41 studies being appraised as having high risk of overall bias. The authors noted that studies reporting larger improvements in mental health outcomes were more likely to carry a higher risk of bias.

Christ et al. (2020) performed a systematic review examining the effectiveness of computerised cognitive behavioural therapy (cCBT) for improving depression and/or anxiety for young people. When compared to no treatment, the authors reported a small statistically significant improvement for anxiety, and a moderate statistically significant improvement for depression. The improvements for anxiety and depression for cCBT were not found to be different to face-to-face cognitive behavioural therapy (CBT) or regular care. While this study sought to investigate the presence of moderating variables for effectiveness, none were found. Of the 24 studies included in their review the authors noted that 22 had high risk of overall bias.

Zhou et al. (2021) examined the effectiveness of several types of DMHI targeting various mental health symptoms among youth, including depression, anxiety, psychological stress/distress, quality of life, mental health well-being, and sleep. All DMHI included in this review were delivered online and reported effectiveness determined by a randomised controlled trial (RCT). However, the authors removed 28 out of 73 shortlisted articles for this review as they were deemed of poor methodological quality. Of the 45 remaining, 33 were considered of good quality. The authors reported small to moderate statistically significant improvements for depression and anxiety. It was concluded that web-based self-help platforms were effective for managing these symptoms, as well as psychological stress. The slightly more positive results found in this review compared to other reviews were attributed to the inclusion of standardised therapeutic approaches. For other common mental health presentations among youth, the authors described DMHI having potential, but low retention rates continue to be a challenge. While AI-based

chatbots were not concluded to enhance the therapeutic process, DMHI that incorporated them also demonstrated the highest retention rates.

Lehtimaki et al. (2021) performed a systematic overview of 5 meta-analyses and 13 systematic reviews to examine the effectiveness of DMHI for young people. The studies included in the analysis were designed for various mental health presentations and implemented a variety of technologies and delivery modes. The authors reported evidence for the effectiveness of DMHI for depression, anxiety, and stress when compared to no treatment. However, there were no statistically significant differences found when compared with active treatments. The authors concluded that DMHI were effective when cCBT is present in the treatment model but were not able to make similar conclusions when cCBT is absent from the intervention. The authors reported low engagement and adherence rates but concluded that DMHI incorporating human elements, such as support from therapists, were associated with greater effectiveness and adherence. Young people valued privacy, anonymity, aesthetics, and content that is personalised, engaging, interactive, and trustworthy.

Although it is imperative to monitor the mental health of those who are engaging with treatments, the motivations that drove innovation in the digital health space strongly related to health system efficiency gains addressing domains such as accessibility, convenience, and affordability (Burns, Liacos, & Green, 2014; Burns et al., 2016; Hickie et al., 2019; Hilty et al., 2013; Meurk et al., 2016). These parameters would ideally be considered in conjunction with changes in mental health outcomes if they are to be scaled for the general population (Lehtimaki et al., 2021). Measuring the effectiveness of a digital treatment solely on its efficacy in improving short-term mental health outcomes would not provide a holistic picture of the overall benefit of a DMHI.

1.3 The Q-MOST pilot

From early April 2022 until the end of March 2024, MOST was made available free of charge to young people following referral from either a Queensland Health mental health service, located in any of the seven participating HHS (Table 1.3.1), or from one of the 12 participating headspace centres, which fall under four Primary Health Networks (PHN) (Table 1.3.2). The MOST platform aims to provide digital mental health support for young people aged 12 to 25-years-old, and contains resources encompassing therapeutic content, moderated social engagement with other MOST users and peer workers, and individual engagement with MOST clinicians, peer workers, and vocational consultants. Parental consent is required for referral of the 12 to 14-year-old cohort, who access a purpose-built website to meet the needs of this age group. Those aged 15 to 25-years-old can access MOST through a website geared for an older teen and young adult aged group or, since April 2023, a mobile device application (app).

Table 1.3.1: Queensland Health HHS services that participated in the Q-MOST pilot.

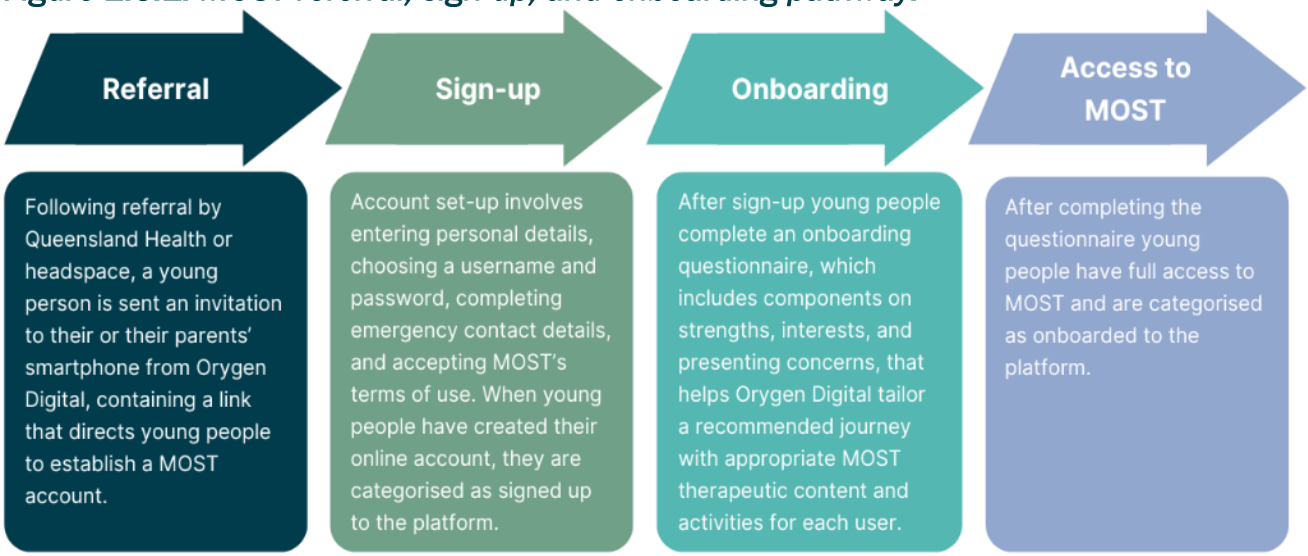
Hospital and Health Service
1. Metro South
2. Children's Health Queensland
3. Central Queensland
4. Wide Bay
5. North West
6. West Moreton
7. Darling Downs

Table 1.3.2: headspace centres that participated in the Q-MOST pilot with their lead agency providers and Primary Health Network affiliations.

headspace centre	Lead agency	Primary Health Network
Woolloongabba	Stride	Brisbane South
Meadowbrook	Stride	Brisbane South
Inala	Accoras	Brisbane South
Capalaba	Wesley Mission Queensland	Brisbane South
Gladstone	Roseberry	Sunshine Coast
Rockhampton	Roseberry	Sunshine Coast
Hervey Bay	Wesley Mission Queensland	Sunshine Coast
Maryborough	Wesley Mission Queensland	Sunshine Coast
Bundaberg	Youturn	Sunshine Coast
Ipswich	Stride	Darling Downs and West Moreton
Warwick	RHealth	Darling Downs and West Moreton
Mount Isa	Gidgee Healing	Western Queensland

Referral to the MOST platform can be offered to young people at different treatment stages: while they are waiting for their first face-to-face appointment with a clinician; as an adjunct to ongoing face-to-face engagement; or as part of discharge planning. A MOST referral can also be offered to young people who are assessed as falling short of the threshold for engagement with Queensland Health services.

Figure 1.3.1: MOST referral, sign-up, and onboarding pathway.



Online engagement with MOST clinicians, peer workers, and career consultants are also a feature of engagement with the platform, however young people can choose to engage in a self-directed manner, which forgoes direct contact with the MOST clinical team. If young people do request clinical support, a welcome call is arranged with their allocated MOST clinician, to help navigate the platform and explain the available help. For the 12 to 14-year-old cohort the MOST clinical team may also invite parents or carers to participate in a welcome call, to explain the platform's content and sometimes discuss the online access required to engage. During these welcome calls, young people are also offered the opportunity to speak with a MOST clinician without their parents or carers present.

Referring clinicians can also sign-up to access MOST and use the platform to view their clients' online activities, to assist with clinical treatment and/or transition of care planning. Referring clinicians can also recommend specific MOST content to young people by sending links through the platform. MOST clinicians and referring clinicians can communicate with each other in the young person's clinical log on the platform, or by email. MOST clinicians will also contact referring clinicians when young people's engagement on the platform signals risk.

Orygen Digital's clinical risk protocols identify and mitigate risk events on the platform. These protocols encompass content that young people may attempt to post on MOST, as well as risk that may present in young people themselves. Orygen Digital use an algorithm to identify and temporarily block any potentially risky or offensive content that young people post. When the algorithm flags this, the young person is informed that their content will be subjected to review before it appears on the platform. Content is also manually reviewed by duty clinicians, twice daily on weekdays and once daily on weekends. Duty clinicians will then decide whether to approve the potentially risky content and inform the young person of the decision taken.

Orygen Digital's clinical risk protocol also outlines management and monitoring of risk that presents in young people while they are engaged on MOST, including during interactions with other young people on the platform. If a risk is identified by a MOST clinician, the young person will be contacted and a risk assessment conducted, before appropriate action is taken. If a young person cannot be contacted, their emergency contact will be called, or if appropriate the referring service will be contacted for additional information. In the event of a risk being identified and managed by Orygen Digital the referring service will be notified about the risk assessment and subsequent action taken (Orygen Digital, 2024a).

While young people can access MOST and its content 24 hours a day, the platform is staffed by the clinical team between 8AM and 9PM Monday to Thursday and 8AM and 5PM on Fridays. Duty clinicians are also rostered to review content for limited hours on weekends. MOST is not provided or promoted as a crisis service and an urgent help link on each page of the platform directs young people to services which do provide an appropriate crisis response.

1.4 Evaluation Objectives

This evaluation set out to analyse available quantitative data and collect and analyse qualitative data from key stakeholders participating in the Q-MOST pilot. These included: young people offered a MOST referral and their parents or carers; referring clinicians and managers and/or team leaders at participating Queensland Health services and headspace centres; and Orygen Digital staff. The combination of quantitative and qualitative data helped to determine factors affecting the MOST platform's reach, effectiveness, adoption, implementation, and maintenance (see Table 2.4.1) during the Q-MOST pilot.

This is the first, and to date only, independent research project to evaluate implementation of the Q-MOST pilot in Queensland. Various components of the pilot's implementation contribute to its complexity: It is being rolled out across a variety of regions representing rural, remote, and metropolitan areas; different types of referring organisations, namely Queensland Health and headspace were included in the pilot; and a broad age range of young people from 12 to 25-years are represented in the targeted recipients of this evolving digital intervention.

1.4.1 The evolving nature of digital platforms

In common with all digital platforms, MOST continues to be developed and updated on an ongoing basis. Consequently, as learnings from its implementation were incorporated, the MOST platform offered to young people at the start of the Q-MOST pilot was not identical to the MOST platform offered to young people towards the end of the pilot.

> *We've got a much better product so all the changes that have been made on the MOST platform, and it's still ongoing, but what they've made already has really improved where we were two years ago. I think you can't compare there and now.*
>
> *Orygen Digital Employee 7 (interviewed in February 2024)*

The evolution of the platform impacted project implementation to varying degrees. Some of the amendments to the platform were minor and did not impact implementation or uptake in any significant way. However, more substantial changes had the potential to affect the attitudes of young people and clinicians toward MOST referrals. More significant changes included:

- Development of a mobile app for the 15 to 25-year-old cohort, which was made available in April and May 2023. This adaptation changed how users in this age group could access MOST, adding a mobile app to the existing web portal.
- Revision of the online referral form,
- Queensland Health clinicians referring young people to MOST in cases where they fell short of the threshold for engagement with their services.

The continuing evolution of the MOST platform and its implementation was a challenge for the QCMHR Evaluation team, who could not evaluate MOST as a static entity. To mitigate this factor, the evaluation did not focus on individual elements of the MOST platform's design or content which was subject to change. Instead, the independent evaluation considered more wide-ranging issues of project implementation, and the overall reach and adoption achieved by the Q-MOST pilot. The evaluation also considered the barriers and facilitators to introducing, and making accessible, a digital mental health platform of this type to young people, including the requirement for a referral from mental health clinicians embedded in Queensland Health services and headspace centres.

2 Methodology

2.1 Evaluation co-design

The research team consulted with various stakeholders and experts to ensure that the independent evaluation met the needs of the funders, while also considering the unique perspectives of young people with lived experience of mental health, parents and carers of young people who live with mental health issues, and professionals and clinicians who work in mental health settings. We are grateful to the Youth Reference Groups at headspace Capalaba and headspace Mt Isa who met with us and provided feedback on the evaluation framework, as well as project documentation, participant recruitment strategies, participant information and consent forms (PICFs), and interview guides. Gidgee Healing, the headspace lead agency in Mt Isa also facilitated meetings with their team members, as well as community representatives and Aboriginal Elders who discussed our plans for the evaluation and provided valuable advice and information regarding engagement with the local community. Additional consultation with the Children's Hospital Foundation (CHF) and Queensland Health's Mental Health, Alcohol, and Other Drugs Branch (MHAODB) helped understand their expectations of the Q-MOST pilot, and led to the final evaluation framework detailed in Table 2.4.1 below.

2.2 Ethics and Research Governance

Ethics approval for the independent evaluation of the Q-MOST pilot was granted by Children's Health Queensland Hospital and Health Service (HHS) Human Research Ethics Committee (HREC), and ratified by The University of Queensland HREC (Table 2.2.1). Site Specific Assessments were approved by Research Governance Officers at all seven HHS participating in the Q-MOST pilot (Table 2.2.2).

Table 2.2.1: Human Research Ethics Committee approvals.

Human Research Ethics Committee	Project approval reference number
Children's Health Queensland HHS	HREC/22/QCHQ/87415
The University of Queensland	2022/HE001493

Table 2.2.2: Site Specific Assessment authorisations.

Hospital and Health Service	Site Specific Assessment reference number
Children's Health Queensland	SSA/2022/QCHQ/87415
Darling Downs	SSA/2022/QTDD/87415
Metro South	SSA/2022/QMS/87415
North West	SSA/2022/QNW/87415
West Moreton	SSA/2022/QWMS/87415
Central Queensland	SSA/2022/QCQ/62045
Wide Bay	SSA/2022/QWB/87415

2.3 The RE-AIM Framework

It is widely accepted that interventions should be evaluated to examine whether they work as intended, particularly when applied outside of rigorously controlled intervention trials (Glasgow, Vogt, & Boles,

1999). To best identify the complex factors that determine the success and impact of the Q-MOST pilot the evaluation was based on the RE-AIM framework (Glasgow, Vogt, & Boles, 1999). The framework is a widely used and validated model that provides structure and depth to evaluations by examining the reach, efficacy, adoption, implementation and maintenance of interventions, facilitating an understanding of whether or not programs work as intended (Glasgow, Vogt, & Boles, 1999).

2.4 Evaluation Framework

The evaluation framework was designed to explore the key questions surrounding the Q-MOST pilot, using available quantitative data gathered by secondary sources, as well as qualitative data collected by QCMHR from semi-structured interviews conducted with the project's key stakeholders. The evaluation framework was designed in consultation with CHF and MHAODB to ensure the independent evaluation of the Q-MOST pilot was feasible, acceptable, and met the needs of both organisations.

Table 2.4.1: The RE-AIM framework applied to the Q-MOST evaluation.

RE-AIM Component	Evaluation Question	Quantitative Data	Qualitative Data	Data Source(s)
Reach	What are the numbers and proportions of young people who accept a MOST referral from headspace and Queensland Health?	✓		headspace National, CIMHA, Orygen Digital
	What are the demographic characteristics of those who accept referral to MOST?	✓		Limited to available demographic data collected by Orygen Digital for those who sign-up to MOST
	What are the barriers and facilitators to successful MOST referral?		✓	Qualitative interviews with all participants
Effectiveness	Do validated questionnaires completed by young people prove MOST's effectiveness?	✓		Orygen Digital REDCap surveys
	What do consumers, parents, and clinicians consider to be effective in terms of engagement with MOST?		✓	Qualitative interviews with all participants
	Does MOST impact clinical practice? If so how?		✓	Qualitative interviews with clinicians.
	Does MOST support immediate access to services and/or resources?		✓	Qualitative interviews with clinicians
Adoption (Services)	What are the barriers and enablers to referring services incorporating MOST referral pathways into their workflows?		✓	Qualitative interviews with referring clinicians
Adoption (Consumers)	Why do some consumers not sign-up or onboard to MOST following referral?		✓	Qualitative interviews with clinicians and consumers
	How many, and what proportion of consumers, sign-up and onboard to MOST following referral?	✓		Headspace National, CIMHA, and Orygen Digital data.

	What are they key barriers and enablers for consumers engaging with MOST's content?		✓	Qualitative interviews with clinicians and consumers
	Why do consumers discontinue engagement with MOST?		✓	Qualitative interviews with clinicians and consumers
	Have young people tried other apps and/or digital platforms aimed at improving mental health?		✓	Qualitative interviews with clinicians and young people
Implementation	Reflections offered by clinicians and Orygen Digital staff on implementation.		✓	Qualitative interviews with clinicians and OD staff
	What are the barriers and enablers to Q-MOST implementation?		✓	Qualitative interviews with clinicians and OD staff
Maintenance	What are the barriers and enablers to clinicians introducing MOST referrals into their everyday workflows?		✓	Qualitative interviews with clinicians and OD staff

2.5 Data sources

The independent evaluation of the Q-MOST pilot was a mixed methods research project, that analysed both quantitative and qualitative data to facilitate a comprehensive and robust evaluation within the parameters of the RE-AIM framework. Data from various sources was included in the evaluation, as detailed in Tables 2.5.1.1 and 2.5.2.1. Issues that emerged with both Qualitative and Quantitative data collection and analysis are discussed in this section, and later in the report (section 8.1).

2.5.1 Quantitative data

Quantitative data were provided by three sources: Orygen Digital, Queensland Health and headspace National. Orygen Digital provided deidentified user and platform generated information, as well as data generated by MOST clinicians and peers, and aggregate data from clinic referrals. Orygen Digital data included deidentified user information, timestamps for sign-up and onboarding, interactions and engagement within the platform, as well as the results of young people's self-complete questionnaires and satisfaction surveys. From the beginning of the evaluation discrete counts of user interactions were shared with QCMHR, however from December 2023, retrospective data on the length of session times on MOST for each user were also shared. From 19 July 2023, Orygen Digital also provided a clinician and peer workers' log, which detailed information about the time spent providing information and services to young people using the platform. The log included information on contact duration, purpose, deidentified recipients, and sometimes notes about the content of the contact.

Queensland Health MHAODB provided deidentified data from the Consumer Integrated Mental Health and Addiction (CIMHA) information system. CIMHA collects mental health service consumer information, such as demographic details, clinical data, and interactions with community and residential Mental Health Alcohol and Other Drugs Services, for the purposes of informing and supporting the provision of safe and quality health services in Queensland. Following a successful Public Health Act application, QCMHR were able to access CIMHA data from in scope Queensland Health HHS. QCMHR were provided with deidentified individual level data for all young people who were in scope for the Q-MOST pilot. Additional data collected via CIMHA which outlined specific referrals to MOST by Queensland Health

Clinicians were obtained but were incomplete. The deidentified individuals in CIMHA data could not be matched to deidentified individuals in Orygen Digital data.

Data provided by headspace National contained aggregate totals of numbers of young people who accessed headspace centres participating in the Q-MOST pilot, from the Q-MOST commencement date at each centre until December 31, 2023. The headspace National data set which contained numbers of young people serviced at each headspace centre who participated in the Q-MOST pilot was limited to annual snapshots. This data could not be broken into demographic categories such as gender, age, and Aboriginal and Torres Strait Islander peoples' status to facilitate understanding of how referral to the MOST platform differed for these groups.

Table 2.5.1.1: Quantitative data sets and reporting periods.

Dataset	Date received	Inclusive Period		
		Start		End
	Orygen Digital - De-identified MOST engagement data for those signed-up to the platform. - Summary of referrals to MOST in Queensland from HHS and headspace centres. - Health questionnaires and satisfaction surveys completed by some young people onboarded to MOST. - MOST Clinician and Peer workers' contact log (available from 19 July 2023)			
1	29 Nov 2022	Go-Live	-	29 Nov 2022
2	23 Dec 2022	Go-Live	-	23 Dec 2022
3	23 Mar 2023	Go-Live	-	23 Mar 2023
4	30 Jun 2023	Go-Live	-	28 Jun 2023
5	28 Sep 2023	Go-Live	-	24 Sep 2023
6	10 Jan 2024	Go-Live	-	3 Jan 2023
7	10 Apr 2024	Go-Live	-	2 Apr 2024
	MHAODB - All consumers aged 12-25 that engaged with an in-scope HHS mental health service during the Q-MOST pilot.			
1	11 Aug 2023	1 Jan 2022	-	30 Sep 2022
2	11 Aug 2023	1 Oct 2022	-	31 Dec 2022
3	11 Aug 2023	1 Jan 2023	-	31 Mar 2023
4	11 Aug 2023	1 Apr 2023	-	30 Jun 2023
5	3 Nov 2023	1 Jul 2023	-	30 Sep 2023
6	7 Feb 2024	1 Oct 2023	-	31 Dec 2023
	headspace National - Population level data at participating headspace centres during the Q-MOST pilot.			
1	1 Feb 2023	Go-Live	-	31 Dec 2022
2	16 Feb 2024	Go-Live	-	31 Dec 2023

2.5.2 Qualitative data

In addition to the quantitative data detailed above, QCMHR gathered and analysed qualitative data from 83 semi-structured interviews and two focus groups held with various participants (Table 2.5.2.2). Interviewees included 36 referring clinicians and clinical leads/managers at participating headspace centres; 16 referring clinicians and clinical directors/managers/team leaders at participating Queensland Health services; 19 young people offered a referral to the MOST platform; three parents of young people offered referral to the MOST Platform; and nine employees of Orygen Digital. A total of two team leaders and 16 referring clinicians also took part in two focus groups held at Metro South HHS Child and Youth Mental Health Service (CYMHS). MC was present for all interviews and focus groups, MP, AL and ZR also took part at different times. There was a maximum of two team members in interviews and focus groups.

Table 2.5.2.1: Qualitative Data recruitment.

Stakeholders	Participants	Interviews (n)	Focus Group Participants (n)
headspace	Referring Clinicians	25	
	Clinical Leads & Managers	11	
HHS	Referring Clinicians	11	16
	Clinical Directors, Unit Managers & Team Leaders	5	2
Consumers	Young People offered referral to MOST	19	
	Parents of young people offered referral to MOST	3	
Orygen Digital	Q-MOST team members	9	
	Total Participants	83	18

Table 2.5.2.2: Characteristics of young people interviewed.

Young people offered a referral to MOST		n (%[a])
Age range		
	12-14 years	3 (16%)
	15-18 years	7 (37%)
	19-25 years	9 (47%)
Gender identity		
	Male	7 (37%)
	Female	9 (47%)
	Transgender	2 (10%)
	Not Stated	1 (5%)
Indigenous Status		
	Aboriginal and/or Torres Strait Islander	1 (5%)
	Not Aboriginal and/or Torres Strait Islander	15 (79%)
	Not Stated	3 (16%)

[a] Rounded to nearest whole number

2.5.3 Participant recruitment

2.5.3.1 Referring Clinicians

Some referring clinicians, team leaders and managers from headspace and Queensland Health services that participated in the Q-MOST pilot were invited to take part in evaluation interviews. Team leaders and managers were asked to inform their teams about the independent evaluation of the Q-MOST pilot, and a brief two-page PDF about the evaluation process was created to distribute to potential participants. Team leaders and managers passed the names and contact details of individuals who expressed an interest in taking part to QCMHR or asked them to contact the evaluation team directly. If individuals wanted to take part, they were sent a copy of the PICF for consideration before an appointment was made for an evaluation interview.

Some Queensland Health teams and headspace centres invited a representative of the evaluation team to speak at team meetings, to explain the purpose and process involved in taking part in the evaluation, these presentations took place in person and online via Microsoft Teams.

2.5.3.2 Orygen Digital Employees

Employees of Orygen Digital were also invited to participate in evaluation interviews to learn about their experiences and reflections on the project's implementation. Some employees who were in contact with the evaluation team were asked directly if they would like to participate, if they were they were sent a copy of the PICF. Others were approached through Orygen Digital's Head of Strategy and Operations who distributed copies of PICFs to relevant staff, and then passed on the contact details of individuals who consented to take part to the evaluation team.

2.5.3.3 Young people offered a MOST referral and their parents

Recruiting young people who had been offered a referral to the MOST platform, and/or their parents or guardians was challenging. Initially the plan was to recruit potential participants by distributing posters and flyers containing information about the evaluation to referring services and asking them to place the material in their waiting and consultation rooms. However, this tactic did not result in any response from potential participants. An ethics amendment was approved that allowed referring services to act as gatekeepers to potential participants. This meant that referring clinicians at participating headspace centres and Queensland Health services could inform young people and/or their parents or carers about the evaluation and ask if they consented to their contact details being passed to the evaluation team at QCMHR. Young people aged under 15 years were only contacted after consent had been obtained from a parent or carer. When young people or their parents were contacted, participation in the evaluation was explained to them and if they were interested in taking part or finding out more a PICF was sent to them. Young people and parents that did participate in evaluation interviews were offered a $40 gift voucher as a thank you for their time. All young people recruited for evaluation interviews were assessed for capacity to demonstrate understood consent (Isles, 2013) before taking part.

2.5.3.4 The qualitative sample and interview settings

Overall, the numbers of potential participants recruited to take part in the evaluation was lower than anticipated. Because of this the qualitative participants in this research project were considered a convenience sample, meaning that anyone who offered to participate was interviewed. The challenges encountered with participant recruitment ruled out a purposive sampling procedure that would have

allowed us to select interviewees from a pool of volunteers who could be more broadly representative across a range of variables such as demographic characteristics, and referring service.

Wherever possible interviews were conducted face-to-face. However, at times it was not possible to meet participants in person, and a variety of other methods were used including Microsoft Teams video conferencing software, telephone calls, and Apple's FaceTime application (Table 2.5.3.4.1). Interview duration was usually between forty minutes and an hour, with only a few running over 60 minutes.

Table 2.5.3.4.1: Participant interviews.

Participant Group	In Person	Microsoft Teams	Telephone	Apple FaceTime
headspace employees	25	11		
Queensland Health employees	9	7		
Focus Group participants	17	1		
Young People	15		3	1
Parents of Young People	2		1	
Orygen Digital Employees	3	6		

2.6 Data Analysis

2.6.1 Quantitative data analysis

Quantitative data were imported to R (Version 4.2.3) and analysed using the *tidyverse*, *gtsummary*, *effsize*, *performance,* and *lmerTest* statistical packages. Data cleaning and manipulation was undertaken to process the Orygen Digital, CIMHA, and headspace National data, and to compute new variables to address the aims described by the evaluation protocol. Four young people were removed from the data whose ages were out of scope or missing. Descriptive statistics such as frequency counts, proportions, means, medians, and quantiles were used to analyse available variables, and engagement with the MOST platform. Multi-variate linear regression with natural log outcomes were used to compare platform usage across available variables. Two sample Chi-square tests were used to compare those who signed-up but did not complete the onboarding process, with those who did complete the onboarding process. This method was also used to compare those who completed health questionnaires with those who did not. Wilcoxon Rank Sum tests were used to further compare the engagements of those who completed Health Surveys with those who did not. This method was also used to compare the engagements of young people who were onboarded early in the pilot with those who were onboarded later. Paired sample t-tests were primarily used to compare the change in health questionnaire scores over time. The results from baseline observation to 6 and 12 week timepoints are reported.

2.6.2 Qualitative data analysis

Semi-structured interviews and focus groups with all participants were audio recorded and transcribed verbatim by a professional transcription company. A thematic analysis was conducted on the deidentified qualitative data (Braun & Clarke, 2006; Clarke & Braun, 2013) which were coded and collated in NVivo (versions 13 & 14). MC began reading transcripts and conducting initial coding while interviews were ongoing. This iterative approach allowed emerging codes and themes to be explored in subsequent interviews as an in-depth understanding of the qualitative data set developed. All interviews were initially coded by MC using an inductive approach. The interviewers used semi-structured interview guides that

had been created for each of the participant groups, therefore questions had been formulated to consider the RE-AIM framework within the context of the Q-MOST pilot. However, the initial coding was not restricted to a pre-determined coding frame and ensured that the analyses were data driven. When all interviews and focus groups had been coded, MP reviewed MC's coding of a sample of interviews and confirmed consistency. MC and MP independently re-examined the codes, and conducted a second level of deductive analysis that grouped interview and focus groups extracts into agreed upon themes that were informed by the RE-AIM framework. This refocused the analysis at the broader level of themes and allowed the possibility of several codes contributing to a single identified theme. MC and MP discussed the second level qualitative analyses together at length. A final level of refinement was conducted when the qualitative analysis was re-examined and written up into this final report.

2.6.3 Potential limitations to the evaluation

There are some potential limitations to the evaluation data and methodology that are important to consider when reviewing the findings of this report. The evolution of the MOST platform and the Q-MOST pilot, discussed in section 1.4.1 of this report, meant that QCMHR could not evaluate a static entity, and thus could not focus on individual elements of the MOST platform's design or content that were subject to change. Rather, the evaluation considered broader issues of project implementation, the overall reach and adoption of the Q-MOST pilot, barriers and facilitators to introducing a digital mental health platform of this type, and how it was made available to young people through referrals from mental health clinicians embedded in Queensland Health services and headspace centres.

The sample of qualitative participants who took part in evaluation interviews must be considered a convenience sample. Challenges with recruitment meant a purposive sample (i.e. a sample selected from a pool of potential candidates that ensured a representative sample of demographic values) was not possible. However, the qualitative sample achieved theoretical sufficiency (Dey, 1999) as a considerable number of participants were interviewed. Interviews and focus groups were also conducted with participants from all cohorts that were involved in the Q-MOST pilot.

As detailed in section 6.2, there may be some minor discrepancies in the alignment of data from CIMHA and Orygen Digital used to calculate the Reach of the Q-MOST pilot in relation to Queensland Health referrals.

3 Q-MOST Implementation

I think we're caught in a little bit of a catch 22 with implementation in some ways in that, it's often the services that are really struggling and are overburdened and have a lot of turnover and don't have much clinician time and all those sorts of elements, where governments and lead agencies say that's what needs support. But actually, if you were going to list the prime environment for implementation, a whole lot of staff turnover, system change, and in turmoil, would not be on that list shall we say. I think there's always sort of a tension there.

Orygen Digital Employee 8

3.1 Launching the pilot

Orygen Digital were tasked with establishing a new referral pathway to the MOST platform for clinicians to incorporate in selected headspace centres and Queensland Health HHS clinics. Initially, the pilot that was implemented in Queensland was based on Orygen Digital's experience with MOST in Victoria. However, Orygen digital were less familiar with the services and health systems they encountered in Queensland, and vice versa. Orygen had its own extensive experience of providing headspace services in Victoria, but the close relationship Orygen Digital held with individual headspace centres there was not replicated to the same extent in the Queensland context. This disconnect was apparent to some of the headspace lead agencies and Queensland Health services, who perceived a gap between how MOST had been established in Victoria, and how it needed to be adapted to achieve a successful implementation in Queensland.

I got a lot of support from the equivalent in Victoria, and really tried to look at what they'd documented in terms of things that they'd tried, things that hadn't worked. Just looking at the contextual similarities and differences between the two. There wasn't a lot of structure to begin with, so we had to try and figure all of that out. I think they kept saying "We're building the plane as we're flying it", and that was definitely the vibe and the momentum of trying to establish things.

Orygen Digital Employee 3

Although Orygen Digital recruited people who were familiar with the local operating environment in Queensland, it still took time to establish and adapt the Q-MOST pilot to the Queensland context. Engagement and collaboration with an organisation of the size and complexity of Queensland Health were also challenging and delayed the pace of project implementation. For example, collaboration agreements needed to be signed independently in all seven HHS jurisdictions that were participating.

Following initial engagement with the Orygen Digital team, some managers and senior mental health clinicians from headspace centres and Queensland Health services felt the Orgyen Digital team seemed to lack understanding about how the pilot would run in Queensland. This observation led to frustration and some feeling pessimistic about the implementation process. There were also changes to the launch, and some of the referring services were frustrated about not receiving information and marketing material to help them explain and promote the MOST platform to team members and eligible young people.

In the beginning I don't think we had any flyers. We had no tangible things to give young people to show them what we were talking about, and when it's just relying on us to explain what it is, it can be quite difficult if we're not fully across what it is.

C01 headspace centre MOST champion & access and engagement officer – South East Qld

This created problems because Orygen Digital needed these clinicians to refer young people to MOST. Some services felt that the Q-MOST pilot was not ready to be launched on time. Almost all of the services that participated in the Q-MOST pilot were also experiencing unrelated issues, such as high levels of demand, organisational change, and staff retention and turnover, that combined to exacerbate the challenges of introducing and learning about the new MOST referral pathway. As the pilot progressed some clinicians acknowledged how receptive Orygen Digital were to the feedback they gave about how the Q-MOST pilot was progressing.

Additional qualitative data for this section is available in Appendix A, page 102.

3.2 Implementation group meetings

Participating services in the Q-MOST pilot were divided into four implementation groups based on their geographical location, and meetings were scheduled by Orygen Digital for each group to discuss progress and shared learnings as the program was rolled out. Attendance at these meetings fell away as the pilot progressed, and some were cancelled due to limited acceptance of meeting invitations. Orygen Digital employees found it challenging to encourage discussion and contributions from referring services during the meetings.

The combination of attendees at the meetings created barriers on several levels. Senior managers from Queensland Health HHS and headspace lead agencies were perceived as being distant from the day-to-day implementation of the Q-MOST pilot on the ground, and not best placed to discuss challenges being encountered by clinicians who were engaging directly with young people.

Participants also questioned the rationale of including representatives from Queensland Health, headspace lead agencies, and PHNs in implementation group meetings, as it impeded full and frank conversations about the pilot's implementation. PHNs fund the lead agencies to provide headspace services, and this relationship dynamic, together with the presence of various lead agencies didn't facilitate an open discussion. Some felt uncomfortable revealing details of challenges they were experiencing with MOST referral uptake in a multi-agency meeting, because this may have been perceived as a service vulnerability or weakness.

I've only attended a couple of them, but for the most part they seem quite superficial. … those implementation groups are very high level, so lots of people who are removed from the actual implementation of the program on the ground. … it's very difficult for people to have that service vulnerability in those multiagency meetings.

C12 headspace clinical service manager - South East Qld

Some attendees at the implementation group meetings also felt that feedback they offered could only impact the pilot in limited ways. This made them question how much they could influence and benefit pilot implementation by attending and contributing at the meetings.

Additional qualitative data for this section is available in Appendix A, page 103.

3.3 MOST Champions

When the pilot was first implemented, the plan was to establish MOST champions in all referring services. A champion would act as the point of contact in a referring service for other staff members, giving team members immediate access to someone who could answer their questions about the implementation of the Q-MOST pilot, provide the latest information about referral processes, and act as a conduit between the service and Orygen Digital's clinical implementation facilitators. However, champions were ultimately not recruited in Queensland Health services due to a range of challenges.

headspace centres received funding from Orygen Digital to allocate MOST champions in their services, and some headspace providers considered this funding important to their commitment to the Q-MOST pilot. The impact of MOST champions varied across headspace centres for a range of reasons including the motivation and professional backgrounds of individuals chosen for the roles, the environments and culture at different headspace centres, and the way they have been encouraged to promote MOST by Orygen Digital.

The individual clinicians who became MOST champions discussed how their attitudes to the platform and the pressures of their everyday workloads impacted their ability to fulfill the role. At some headspace centres MOST champions were enthusiastic advocates of the platform, however, at others, champions felt unsupported and conflicted in their roles, especially when they were unconvinced of the efficacy of MOST.

> *Initially I felt a lot of pressure to sell this thing to young people when I didn't necessarily love it myself. I didn't always think it was going to be helpful or appropriate, but I felt that we were supposed to be kind of encouraging a young person to engage anyway … I think that's also been the hard part is that for a very long time, I felt like no one else was kind of considering MOST, no one else was on board with it, no one else was talking to young people about it. I felt like the pressure was all on me.*
>
> *C01 headspace centre MOST champion & access and engagement officer – South East Qld*

Towards the end of the Q-MOST pilot, Orygen Digital changed the way that they worked with MOST champions at headspace centres, and instead focussed on individuals that they referred to as 'early adopters', clinicians who were enthusiastic about implementing MOST as an intervention within referring services.

Additional qualitative data for this section is available in Appendix A, page 103.

3.4 MOST training

Orygen Digital provided referring services with orientation and training sessions to explain the MOST platform, how to refer young people, and possible benefits of engagement. Feedback about these sessions in the early stages of the Q-MOST implementation were mixed, and it took time to develop a flexible training formula that worked for the wide range of referring services taking part in the pilot.

Initially training for the Q-MOST pilot was based on the experiences of the MOST rollout in Victoria, and Orygen Digital's training needed to be adapted for the Queensland context. After the appointment of Orygen Digital's clinical implementation facilitators, services noticed an improvement in the standard and relevance of training that was provided.

The people who were chosen initially to explain it all to us didn't really understand it. So it was very difficult to get excited about it. … it still remained a little bit elusive and I still wasn't quite sure exactly what it looked like.

C37 Qld Health psychiatrist – Regional Qld

As the pilot progressed, Orygen Digital's training developed, and feedback became more positive. Clinical implementation facilitators tailored training sessions to the nuances of different referring services and accommodated their needs by repeating and recording training on demand, for example when new staff joined. Early limitations imposed by COVID-19 lockdowns also allowed for the possibility of training taking place in person rather than online.

Challenges existed around the frequency of training sessions to update referring clinicians on developments to the platform. This issue was exacerbated by the evolving nature of MOST and modifications and updates that came online as the pilot progressed. Time poor clinicians who experience significant day-to-day workload pressures, were unlikely to prioritise attending repeated training sessions for an external referral option such as MOST. However, clinicians unfamiliar with the latest developments on the platform could have passed on inaccurate information to young people when explaining MOST. Achieving this balance was difficult, despite Orygen Digital's clinical implementation facilitators' flexibility. A resource called 'Care planning and MOST – A guide for clinicians' was shared with the Q-MOST Pilot Advisory Group at their February 2024 meeting. The document was a guide to help clinicians and services incorporate MOST into care planning. Introducing similar resources for clinicians much earlier in the pilot would have been beneficial, however, the evolving nature of MOST and the Q-MOST pilot may have made this impractical.

I'm still trying to figure out MOST myself. I think maybe a little bit more training in how clinicians could use MOST because obviously there was a few changes on the platform, but we didn't necessarily get told what those changes looked like. So, we're working, we're short of time, we might not know to the full extent of how to use MOST unless we take the time to actually have those conversations and it being brought to our attention.

C33 headspace general registered psychologist – Regional Qld

Additional qualitative data for this section is available in Appendix A, page 104.

3.5 Orygen Digital Clinical Implementation Facilitators

The efforts of Orygen Digital's clinical implementation facilitators were appreciated by referring clinicians who chose to engage with them. Clinicians described how helpful and flexible they were when delivering training and information, either through MOST champions in headspace centres, or when engaging directly with team members.

So, she's very responsive, and always is very responsive when we have onboarded new staff about organising training and very timely in that as well. So, I think in terms of that, the contact we've had with them, has been fantastic.

C12 headspace clinical service manager - South East Qld

Additional qualitative data for this section is available in Appendix A, page 104.

3.6 Summary

Referring services experienced challenges with the implementation of the Q-MOST pilot, which meant it did not start smoothly and subsequently created frustrations and impacted confidence. This was compounded by some of the initial orientation and training which was poorly received. It took time to adapt the MOST project that was implemented in Victoria to the Queensland context. The challenges of collaborating with various Queensland Health HHS and headspace lead agencies added to the complexity of the implementation.

The format of Orygen Digital's training sessions was refined as the pilot progressed, and later worked in a way that accommodated the various services' needs. However, clinicians' availability for training was limited, and as the pilot evolved, this hampered communication about changes and upgrades to the MOST platform to improve functionality and content. In turn, this made it more likely that clinicians were communicating inaccurate information to young people about MOST.

Implementation group meetings did not provide a forum for full and frank discussion of the issues referring services experienced during their participation in the Q-MOST pilot. Poor attendance meant that the meetings could not be used to effectively disseminate information to referring clinicians on the ground.

The impact of MOST champions was mixed, and Orygen Digital did not find them successful in some settings. By the end of the Q-MOST pilot, Orygen Digital shifted their emphasis to focus on early adopters and senior leaders instead, who they hoped would be better influencers within referring services.

3.7 Findings

The Q-MOST pilot experienced delays, and then took time to adapt to the Queensland context. These challenges frustrated some referring services and impacted their confidence and cooperation with the pilot project.
The Q-MOST pilot continued to evolve over time, but disseminating information about implementation adaptations and MOST platform updates to clinicians was problematic, especially with a busy workforce in referring services who were managing many competing priorities.
Some initiatives introduced at the start of the Q-MOST pilot, such as implementation group meetings and MOST champions, achieved limited success.

4 Service level adoption of Q-MOST

I think it definitely has its place and it's been really useful but I think again, just the time, the time to get your staff to get their head around it. The time it takes to step things up. It's very easy and it's very quick but when you're under so much pressure, it seems like one more thing.

C30 headspace clinical lead – Regional Qld

4.1 Service level challenges

Incorporating a new referral pathway into services was challenging, and the implementation of the Q-MOST pilot was complicated by the operating environments of headspace and HHS referring services. Staff retention and turnover, as well as high levels of demand for mental health services were some of the main issues that put clinicians under pressure. Embedding a MOST referral process into services is something that has taken time, patience and perseverance from everyone, and pressure points in the mental health service landscape in Queensland have impacted the adoption of the Q-MOST pilot.

4.1.1 Staff turnover

The difficulties with staffing levels in the sector result in challenges with incorporating referral to the MOST platform into service delivery. Being short-staffed increases the demand on clinicians' time. Staff employed on short-term and part-time contracts are less likely to be familiar with existing systems and processes.

We don't have anyone who's in the permanent position for the CYMHS at the moment, and that's been months, if I'm honest.

C45 Qld Health senior mental health clinician – Regional Qld

Additional qualitative data for this section is available in Appendix A, page 104.

4.1.2 Time management and familiarity with referral

Clinicians explained how the nature of their work means that they are time limited during engagement with young people and must juggle competing priorities. These pressures mean that discussing a MOST referral with a young person does not always happen. Some admitted that they simply forgot to mention MOST to potentially eligible young people. Maintaining familiarity with the MOST referral process can also be problematic if referrals are few and far between.

Often, I would forget about it too because there's so much stuff that we discuss, it's not in the forefront of my brain when I'm with clients.

C19 headspace care coordinator – Regional Qld

By the time I needed to refer someone, I had to get help on how to actually log in and everything because I hadn't needed it from when it was introduced to us. It was months later before I actually had someone interested in referring.

C18 headspace community and youth engagement officer – Regional Qld

Additional qualitative data for this section is available in Appendix A, page 105.

4.1.3 Private practitioners in headspace centres

Some headspace centres host private practitioners who have a caseload of young people who have presented to the centre. Because these clinicians aren't employed directly by the lead agencies that provide the headspace centres, it can be difficult to encourage them to invest the time necessary to attend Orygen Digital's orientation and training sessions, to understand the MOST pilot, and incorporate referrals into their everyday working practice.

If you're a private practitioner you're sort of here as a consultant. You can decide, I want to do six appointments a day, no case management time. So asking them to get on and have a look at the platform is trickier because they're already taking a much reduced fee by working in a bulk billing facility. So that's a tricky one to motivate.

C05 headspace MOST champion & intake team leader - South East Qld

So our private practitioners (PPs), they only get paid for the 50 minutes in which they're with the young people. so we're not bothering to really, well they don't attend information sessions and things like that. ... we send out all the videos and all the resources, but I think there's also an overload in terms of the information that they're sent. ... we always invite them to attend. They're always welcome to. But we have not had any uptake.

C07 headspace clinical manager – South East Qld

4.1.4 Established working practices

Well established working practices are difficult to change. As digital integration is relatively new in mental health services, this made the transition to introducing young people to MOST more challenging for some. Evaluation interviews confirmed that some clinicians have set ways of doing things and fall back on techniques they have relied on before.

This is your first session for someone who's experiencing depression or anxiety and you've kind of got these just planned sessions in your head already and actually changing that is, yeah, it's a change. ... They have their folders of resources that they grab a few handouts from. Yeah, I still think there are some pretty ingrained session planning stuff going on.

C07 headspace clinical manager – South East Qld

Additional qualitative data for this section is available in Appendix A, page 105.

4.1.5 Individual clinicians' attitudes to MOST

Individual clinicians in headspace and Queensland Health services are granted a high degree of autonomy to engage with young people. A wide range of attitudes towards introducing the MOST platform was apparent in both services. Even within some individual headspace centres or HHS clinics there were clinicians with good, bad and indifferent attitudes towards the potential benefits that MOST could bring to clinicians and young people. These attitudes impacted referrals to MOST.

There's definitely a difference between intake workers who are all kind of guns firing, yes, let's ask this person and every person if they want to be referred to MOST. So there's definitely a difference in staff.

C30 headspace clinical lead – Regional Qld

The attitudes of individual clinicians towards the MOST platform are important to consider because, even if intake clinicians were prompted by management to offer MOST to young people, a lack of enthusiasm for the platform would be apparent to young people, and that could transfer to poor acceptance rates for referrals.

I know that it's been mentioned among the team a lot that we're confused by how to sell this, essentially. I think it comes across that we are trying to sell it, as well, instead of there being this really genuine passion for it, and young people can pick up on that. They're sort of naturally a bit suspicious.

C03 headspace access and engagement officer – South East Qld

The referring behaviour of clinicians varied for a range of reasons linked to seniority, their role within the clinical workflow, and recency of employment within a service.

The evaluation found MOST was commonly introduced to young people by more junior clinicians during the intake and assessment stages of treatment. It was also found that younger more recently qualified clinicians tended to be employed in intake roles, particularly in headspace centres, and were more likely to incorporate MOST referrals into their workflow, as they had no experience of the role before MOST referrals were introduced.

To be really frank, our intake team, they're early career clinicians. If they're told, hey, can we start using this platform, they will. My clinicians are more experienced. If it's not important to young people, it's not going to be important to them. They need to know it's important to young people otherwise they won't do it.

C02 headspace centre manager and clinical lead – South East Qld

I started learning with MOST, so I don't think I've really had to think about not having MOST, either.

C32 headspace clinical psychologist – Regional Qld

Additional qualitative data for this section is available in Appendix A, page 105.

4.1.6 Negative responses to referral

One senior mental health clinician at a headspace centre in regional Queensland reported offering MOST referrals to dozens of young people during the years the pilot was operating, and only ever receiving two or three positive responses. Not all clinicians maintained that level of perseverance. Some recalled how negative responses to MOST, or feedback about young people's lack of engagement with the platform, had impacted their own motivation to continue offering referrals.

All the people that I have referred to MOST have declined the referral so I think that kind of puts me off.

C11 headspace intake clinician - South East Qld

So, I think, naturally what that does is people kind of say, well look, if only two out of four people that I actually refer to this program are going to take it up, you're going to be less likely to refer.

C02 headspace centre manager and clinical lead – South East Qld

Additional qualitative data for this section is available in Appendix A, page 106.

4.1.7 eheadspace, headspace online, and other Digital Mental Health Interventions (DMHI)

Interviews revealed that other available online mental health supports are sometimes promoted to young people by headspace and Queensland Health clinicians. headspace have their own online offerings, eheadspace offers support through online chat, telephone calls, and email. The headspace website promotes eheadspace as a free and confidential service that is available for young people aged 12 to 25-years old, and/or family and friends of young people who are concerned about them. It is designed as a short-term support option.

During the rollout of the Q-MOST pilot, some headspace centres reported that headspace National had emphasised the importance of encouraging young people who engaged with the service to set up a free headspace online account. This is another option for therapeutic resources, community chat, and one-on-one support with headspace clinicians.

Participant C25 explained the context of eheadspace and a headspace online account in relation to MOST referrals, and highlighted the uncertainty it created for the team at that headspace centre:

> *Partway through this year [2023], headspace and National put out to us that we're now to try and start getting young people in intake sessions do a headspace online account, which essentially is a similar format to Q-MOST in that you can get the resources. There's like the message board and the clinician access. We, as a senior team, just decided we're not introducing that at all because we've now just become familiar with this [MOST] and we don't want to add a whole other change on to all the clinicians. But I guess that then potentially impacts future use of Q-MOST. ... I guess to give context, when the MOST platform first was introduced, eheadspace had a really poor name, we were using it because our waitlist back then for just the access and engagement service, was upwards of four months. So, the idea then was this [MOST] could be great as a waitlist management, that was our initial take on it. ... We're in a place now where not only could it be that waitlist thing, but we could also use it with treatment, but we're not really sure how to do that yet. Then, we've got this eheadspace looming over the top as well and we don't know where it sits. So if the guys come to me, I'm like what are you comfortable with? If they say I'm comfortable referring to MOST because I've had a client that's used it before, great do that. If they say I'm comfortable referring to headspace because it's within the hAPI model, fine, do that. Until somebody says otherwise.*
>
> *C25 headspace centre MOST champion & senior access and engagement officer – Regional Qld*

The evaluation found that clinicians who were familiar with DMHI tend to be familiar with many of the alternative platforms that are currently available for young people in the mental health space. Some even said that they became aware of new mental health apps when young people told them about them. Throughout the evaluation interviews other DMHI and mental health, mindfulness, and meditation apps were mentioned, such as Smiling Mind, Calm Harm, and Headspace, an app operated since 2012 by the UK/US healthcare company Headspace Inc, which is unrelated to Australia's headspace organisation.

Additional qualitative data for this section is available in Appendix A, page 107.

4.1.8 Support for the Q-MOST pilot from referring services

Some referring clinicians felt that their employers could have done more to embed the MOST referral process into workflows and systems. One headspace clinical manager explained that making referrals to MOST part of the clinical audit process would have encouraged the centre's team to adopt the pilot with greater enthusiasm. Another participant mentioned that adding MOST referrals to their headspace notes template would have improved integration and encouraged greater fidelity to suggesting MOST To young people.

Establishing the Q-MOST pilot within HHS services was more challenging. Orygen Digital found engagement with some HHS mental health services difficult after the pilot was implemented. One of Orygen Digital's clinical implementation facilitators highlighted the noticeable increase in enthusiasm for the Q-MOST pilot that occurred after a change in leadership at one CYMHS that participated.

The HHS who were able to implement this really robustly were ones that had established leadership and leadership who were on board. So therefore they and their services were a lot more structured, a little bit more stability within their structures, and there was a lot more directive leadership about, "please get on board with this", they could help sell it to their services. So yeah, definitely having a strong leadership was incredibly helpful.

Orygen Digital Employee 3

Additional qualitative data for this section is available in Appendix A, page 107.

4.2 MOST Effectiveness for Referring Services

Clinicians in referring services discussed the benefits of a MOST referral from their points of view. The ease and efficiency of the online referral process was highlighted by many. The speed with which a link to sign-up to the MOST platform was dispatched to young people after referral was also recognised as a benefit, especially compared to other referral pathways available in the health service.

Clinicians reported that the MOST platform facilitated young people's engagement with other young people, peer workers, and clinicians, and reduced young people's reliance on regular contact with individual treating clinicians out of session. For example, one Queensland Health clinician who had a caseload of severe to complex mental illness referred a young person to the platform while they were also engaged in ongoing therapy. The clinician noticed that engagement with MOST reduced the numbers of phone calls they were fielding from the young person between appointments. One interviewee thought MOST provided a supportive platform for young people experiencing similar mental health issues to communicate with each other about their experiences and see they are not alone. This is a benefit not gained through traditional one-on-one therapy with a clinician. Given that access to MOST requires a referral from a headspace or HHS, young people using the platform are also more sensitive to each other's vulnerabilities, and find it to be a safer space to communicate than mainstream social media, where the culture is often toxic and unsupportive.

Engagement with other young people, or some validation of their experience to engaging with the content and realising they're not alone in their experience. I think that sounds appealing to me as a clinician and something that young people are not going to get from seeing me face-to-face, realistically. I can't provide what other young people provide.

C38 Qld Health senior mental health clinician – South East Qld

The benefits of a MOST referral for young people approaching discharge was also highlighted by clinicians, who explained that the support offered by the MOST platform could reduce the stress and anxiety experienced by some young people during transition between or out of mental health services.

While the potential benefits of a MOST referral were identified by many of the clinicians that were interviewed, some also explained that those benefits were only available to young people who chose to engage with the content and clinician engagement that the platform offered. Many referring clinicians recognised that the limited levels of engagement they had seen from young people on MOST meant that the potential benefits were not being experienced by a large cohort of the young people who engaged with their services.

Additional qualitative data for this section is available in Appendix A, page 108.

4.2.1 Risk events

The management and escalation of risk to referring services was an element of the Q-MOST pilot that referring clinicians expressed concern about in the early days of the project's implementation. As the roll out progressed, clinicians were reassured by Orygen Digital's clinical risk protocols, and their confidence was reinforced by the actions of, and communication with, MOST's clinical and moderation teams. None of the interviewees expressed any negative feedback in relation to the safety of young people referred to MOST.

> *I feel really confident in the safety measures that have been put in place by Orygen, that it's highly monitored … I actually think it's a lot better than everything else out there.*
>
> *C07 headspace clinical manager – South East Qld*

Additional qualitative data for this section is available in Appendix A, page 108.

4.2.2 MOST supporting referring services

A large proportion of MOST referrals from headspace centres were targeted at young people placed on a waiting list to see a mental health clinician. Clinicians were relieved to be able to involve a third party in the clinical oversight of young people before they began regular appointments. A successful MOST referral relieved some of the burden of responsibility they felt for young people who presented to their services for help but could not be seen immediately. They also recognised the potential benefits of providing young people with an opportunity to begin engaging in the various types of content and connection offered by the MOST platform. While headspace and Queensland Health services didn't think that referral to the MOST platform had reduced the size or length of waiting lists, they hoped that engaging with the MOST platform would add value beyond the regular check-ins provided to young people who were waiting for an appointment.

> *I think our goals would be that it helps keep the young person afloat until they get to their face-to-face appointments. So I guess we feel comfort in the fact that there is other oversight, like shared oversight on the young person whilst they're waiting. Not so much with the view to removing the need for face-to-face services, but more to help them along and keep them okay to get there.*
>
> *C29 headspace intake clinician – South East Qld*

When young people reached the end of a waiting list and could engage directly with clinicians, many thought that a MOST referral was unnecessary. The motivation for those that did offer a referral was the access to MOST resources and moderation between appointments.

Offering a MOST referral softened the blow when informing young people they were sub-threshold for HHS mental health services, or would have to wait for an extended period before accessing face-to-face care. The additional support MOST could provide for those approaching discharge was also welcome.

> *It was fantastic to be able to offer something to families in that conversation that we have really often which is look, unfortunately they're not complex enough or severe enough for our service. But get on the wait list for somewhere else for three months. So, this was a nice kind of, but look, in the meantime, there's this platform. It's new, we're all sort of learning about it but it offers them, I guess, we market it as a bit of a self-help tool. So, it was a relief for us.*
>
> *C50 Qld Health mental health clinician –Regional Qld*

Additional qualitative data for this section is available in Appendix A, page 109.

4.2.3 Compartmentalised care

Clinicians who participated in the Q-MOST pilot did not find that referral to MOST represented a collaborative or integrated approach to treatment or case management. They saw young people's engagement with the platform as separate to the care they received from their referring clinician or service. Young people also discussed how engagement with MOST and a referring service was compartmentalised.

We're not expected to be following what any young person is doing on the platform because they have a MOST clinician who is meant to be overseeing that. Then if a MOST clinician notices something they write to us. … I think at the moment our job ends, it's not ideal, but ours ends with, have we made the referral.

C05 headspace MOST champion & intake team leader - South East Qld

We haven't really integrated it. We offer it as like an add on I suppose, but not really integrated in what we're doing day to day.

C47 Qld Health CYMHS mental health clinician – Regional Qld

Additional qualitative data for this section is available in Appendix A, page 109.

4.3 Alternative referral services

A consistent theme that emerged from qualitative interviews highlighted how young people might benefit from a MOST referral earlier in their mental health care journey. People suggested that referral pathways from general practitioners, youth services, as well as school guidance officers and school nurses could be a way of introducing MOST to a broader cohort of young people than those limited to headspace or HHS presentations.

Our guidance officers at the moment they're struggling out here. The schools out here are just drowning with mental health concerns.

C41 Qld Health CYMHS team leader – Regional Qld

I absolutely see benefit in us being able to offer school well-being teams, in conjunction with their referral to mental health, of referring to MOST at that stage. Same with GPs. … Or we go in and we start training the well-being, guidance officers within schools. … If we can train them up using MOST so that a young person can not only, they can help them onboard, because we also know that's a bit of a sticky point as well, but they can also help them go through the content, navigate the content, and ask questions on the platform productively, that kind of thing.

Orygen Digital Employee 7

Additional qualitative data for this section is available in Appendix A, page 110.

4.4 Summary

Service level adoption of the MOST referral pathway was crucial to the success of the Q-MOST pilot, because young people could only access the MOST platform after receiving a referral from a participating headspace centre or HHS mental health service. The extent to which participating services embraced the Q-MOST pilot directly affected the numbers of young people offered referral to the platform. The evaluation interviews identified several factors that impacted referring services' capacity and commitment to effectively incorporate MOST referrals into their regular workflows.

4.4.1 Service level challenges

Difficulties maintaining staffing levels hindered the ability of some referring services to adopt the Q-MOST pilot. The limited time that clinicians spend with young people means they must decide which issues to address, and discussion of MOST was not always prioritised. Some also forgot how to refer by the time an appropriate candidate did present. The 'private practitioner' model that some headspace centres operate was not conducive to the Q-MOST pilot, as clinicians were reportedly reluctant to commit the necessary time to attend Orygen Digital orientation and training sessions.

Many clinicians fall back on traditional ways of doing things, and resistance to change can be difficult to overcome, particularly when DMHI are relatively new and unfamiliar to many. Individual clinicians' attitudes to the MOST platform ranged from good, bad, to indifferent, sometimes within the same location. Some suggested that younger more recently qualified clinicians were more likely to embrace the Q-MOST pilot than their senior colleagues. Clinicians' attitudes to MOST were important, because they were responsible for promoting the platform to young people and their parents. The negative feedback some clinicians received from young people about being referred to MOST diminished their motivation and perseverance to continue offering referrals.

Clinicians and young people were aware of other digital mental health options and have continued to suggest and engage with these during the Q-MOST pilot. Some clinicians feel conflicted about promoting headspace's own online services as opposed to MOST referrals.

The levels of support for the pilot that were provided by headspace National and Queensland Health were questioned by some. After implementation team leaders and senior managers in some HHS were very difficult for Orygen Digital to engage and collaborate with. More top-down support for the Q-MOST pilot could have encouraged greater enthusiasm and adoption across the referring services that participated.

4.4.2 MOST effectiveness for referring services

The speed and efficiency of the MOST referral process was appreciated by clinicians who were familiar with it. Orygen Digital's Clinical and Moderation Team's management of risk on the MOST platform was also endorsed by those who had experience of it.

Offering young people who were on a waiting list a referral to MOST meant clinicians could share the burden of responsibility and risk management, while also potentially providing some support to young people while they waited for face-to-face engagement. The resources provided by MOST were also helpful for some young people, because they provided an alternative to contacting their referring services between appointments. The support offered when young people were approaching discharge was also welcomed by referring clinicians, especially if CYMHS were discharging to community services that also had lengthy waiting lists. During qualitative interviews referring clinicians explained that they saw MOST as a separate and compartmentalised service and did not take a blended care approach to incorporating the platform's resources into their therapy sessions or ongoing engagement with young people.

4.4.3 Alternative referral services.

Some clinicians and Orygen Digital employees reported that a MOST referral would be helpful to a young person before they reach the threshold for headspace or Queensland Health engagement. They suggest that giving school guidance officers and general practitioners the ability to make MOST referrals may be a more appropriate point in the care pathway to introduce a digital mental health platform to young people.

4.5 Findings

Service level adoption of the Q-MOST pilot was crucial to success. Several barriers to successful service level adoption were identified by the evaluation.

- Staffing issues placed pressure on referring services, which impacted adoption of the pilot.
- Clinicians balance competing demands during their engagement with young people, sometimes a MOST referral was not prioritised.
- Private practitioners in headspace centres did not make time available for MOST orientation and training.
- Changing established working practices is hard, thus impacting MOST referral and adoption.
- Clinicians' attitudes towards MOST were diverse, the Q-MOST pilot was not universally supported among referring services.
- Young people's negative responses to offers of referral, and limited engagement with the platform, discouraged some clinicians from offering referrals on an ongoing basis.
- The availability of other digital mental health options, particularly a headspace online account, meant that MOST did not have a monopoly on referrals from headspace centres or Queensland Health services.
- A lack of support for the Q-MOST pilot from headspace National and some senior management and team leaders in Queensland Health HHS and mental health services impacted the adoption of the pilot.

Some referring clinicians embraced the effectiveness of the Q-MOST pilot from referring services points of view.

- Orygen Digital's management of risk protocols for young people who engaged with the MOST platform was lauded.
- MOST resources were seen to be beneficial for young people who chose to engage with the platform, especially if they were on waiting lists.
- Referring services were relieved to be able to offer young people some support and oversight while they were on a waiting list or approaching discharge.
- Referral to MOST was not viewed by clinicians or young people as blended or collaborative care, MOST engagement was generally seen as compartmentalised and separate to therapy received from referring services.

Interviewees identified the value of making it possible for general practitioners, school guidance councillors, and youth groups to refer to MOST when interacting with young people who could benefit from early mental health intervention and support.

5 Case Study: Gladstone and Rockhampton

5.1 Profile

The Gladstone and Rockhampton headspace centres both participated in the Q-MOST pilot and are operated by Roseberry Queensland, a registered charity and community led corporation that provides programs and services across regional Queensland. Located approximately 100 kilometres apart, the centres are part of the Sunshine Coast Primary Health Network, which services the Central Queensland, Wide Bay and Sunshine Coast regions.

5.1.1 Service similarities.

The headspace centres in Gladstone and Rockhampton were comparable in the following ways:

- The same Inner Regional Australia Code RA2 ranking according to the Australian Statistical Geography Standard - Remoteness Area classification (Australian Bureau of Statistics, 2021).
- Similar clinician staffing levels (Table 5.1.1.1).
- Comparable service use for 12–25-year-olds, with Gladstone accepting 844 young people into service and Rockhampton accepting 876 people into service, between both centres' identical Q-MOST commencement date of 10 April 2022, and 31 December 2023 (Table 5.1.1.2). The age range of 12 to 25-years corresponds to eligibility for a MOST referral.

Table 5.1.1.1: Staff at headspace Gladstone and Rockhampton.

Gladstone		Rockhampton	
Role	**n**	**Role**	**n**
Full time clinician	2 x full time	Full time clinician	2 x full time
Clinical lead with small case load	1 x part time	Centre manager with small case load	1 x part time
Intake with some brief interventions case load	2 x full time	Intake only	1 x full time
		Intake with some brief interventions case load	1 x full time
Early Career Graduate from headspace national	1 x full time	Early career graduate from headspace national	1 x full time

Table 5.1.1.2: Reach and adoption at headspace centres from Q-MOST commencement date in each centre to Dec 31 2023.

Headspace Centre[a]	Q-MOST commencement date	Total young people aged 12-25 serviced at headspace centre between commencement date and 31/12/2023[b]	Reach Young people who accepted a MOST referral		Adoption Young people onboarded to MOST	
			n	%[c]	n	%[d]
Ipswich	11 May '22	1260	394	31.3	209	16.6
Gladstone	10 Apr '22	844	234	27.7	99	11.7
Meadowbrook	16 Feb '22	1937	450	23.2	233	12.0
Woolloongabba	16 Feb '22	1555	329	21.2	148	9.5
Inala	16 Feb '22	1542	290	18.8	159	10.3
Warwick	28 Sep '22	431	79	18.3	40	9.3
Capalaba	02 Apr '22	1350	219	16.2	75	5.6
Bundaberg	12 Jan '23	628	69	11.0	33	5.3
Hervey Bay	13 Apr '22	948	94	9.9	39	4.1
Rockhampton	10 Apr '22	876	56	6.4	28	3.2
Maryborough	13 Apr '22	519	16	3.1	9	1.7
Mt Isa	05 Apr '22	389	9	2.3	4	1.0

[a] headspace centres listed in descending order of reach achieved, as a proportion of total serviced 12–25-year-olds.
[b] Total 12-25-year-olds serviced at each headspace centre between Q-MOST commencement date and 31 December 2023, provided by headspace national.
[c] Reach - Accepted MOST referral as a proportion of total serviced young people at each headspace centre between Q-MOST commencement date and 31 December 2023.
[d] Adoption - Onboarded to MOST as a proportion of total serviced young people at each headspace centre between Q-MOST commencement date and 31 December 2023.

5.1.2 Service differences.

The Rockhampton and Gladstone headspace centres differed significantly in terms of the numbers of young people who accepted a referral to the MOST platform. In Gladstone, 234 (27.7% of eligible service users) accepted a referral to MOST, while only 56 (6.4% of eligible service users) accepted a MOST referral in Rockhampton (Table 5.1.1.2).

When assessing the proportion of service users who accepted a referral to MOST across all twelve headspace centres that participated in the Q-MOST pilot up to 31 December 2023, Gladstone achieved the second highest referrals and Rockhampton the tenth highest (Table 5.1.1.2).

5.2 Explaining the differences in MOST referrals

To further understand the differences in accepted MOST referrals across both centres, QCMHR analysed qualitative data collected via interviews with staff at both centres, including Roseberry's clinical practice manager who oversaw the Gladstone and Rockhampton headspace centres. Some of the variation in MOST referrals were attributed to differences inherent to the local communities of Gladstone and Rockhampton, the autonomy provided to headspace centres in terms of how they implement programs to meet the needs of the young people they serve, the length of waiting lists, and the attitudes of individual clinicians towards offering a referral to the MOST platform.

5.2.1 headspace centre autonomy

Service providers are required to deliver headspace centres in line with a national model, a process that is monitored by conducting regular assessments through the headspace Model Integrity Framework. The process outlines minimum requirements that each headspace centre must meet to demonstrate alignment with the model (headspace, 2022). However, in order to meet the requirements of the various Primary Health Networks who commission headspace service providers, as well as the needs of the local communities where headspace centres are located, a degree of flexibility is encompassed in the headspace model (KPMG Consulting, 2022),

> *Adapting headspace to the local community is part of that headspace way of doing things. We know headspace comes from inner Melbourne, obviously very different communities and clientele. So I think that's kind of been the success, in a way, of headspace. In that they've given a broad framework, all these programs, or you know saying this is what we want to be doing or this is the way to do things. But actually, how you do it and how that looks in your centre needs to be what works for you. So it is in consultation with our youth reference groups, it is in consultation with our consortium partners. You know, what are the gaps? How do we implement this and how we make it work for our community and our young people. ... I think it's really a good part of the headspace model. The fact that we can have a national brand or national centres. But even though they're similar in some ways, they're very much unique and tailored to the needs of who they're servicing,*
>
> *Clinical Practice Manager, Roseberry*

5.2.2 Differences between Rockhampton and Gladstone

Despite the close proximity of Gladstone and Rockhampton, there are differences between the local communities served by each headspace. When these differences were explained by Roseberry's clinical practice manager, some of the reasons for the disparity in MOST referral rates at each centre become clear. Access to public transport and travel time to the service was a big factor.

> *I think it's also worth noting that in Gladstone we have a few outlying communities. ... All of these kind of fall within the Gladstone catchment. A lot of them just can't come into Gladstone for their appointments. So being able to offer something like MOST is probably really beneficial in that regard as well. Whereas Rockhampton, we've got a few outlying places but typically in my experience a lot of clients still access the service and have, I suppose, better public transport and infrastructure to be able to facilitate that.*
>
> *Clinical Practice Manager, Roseberry*

Similarly, the Clinical Practice Manager reported that the industry and employment base of each of the cities contributed to the different life experiences and mental health needs of young people, and drove the Rockhampton and Gladstone headspace services to take different approaches to care, despite their proximity.

> *Here in Gladstone it's a big industry hub. So we have a lot of particularly young men going into trades and working in industries. Whereas Rockhampton, you know they have boarding schools up there, which we don't have. They have a lot of agriculture and farming and mining as well. So even the presentations and what we see in terms of vocational needs or support, or what they're struggling with. Again, Rockhampton, even being away from home maybe, being at boarding school. Or being out in the mines and working seven on, seven off, feeling lonely, feeling isolated. So even the presenting issues, as much as we're close geographically, I suppose are very individual to each location.*
>
> *Clinical Practice Manager, Roseberry*

The flexibility in the headspace model allows Roseberry to implement programs at each centre that are appropriate to the needs of young people in each location.

> *On that note, when I'm using that example of vocational needs, our Rockhampton centre has the IPS [Individual Placement Support] program which is a headspace National vocational program in the centre that supports vocational needs. Whereas Gladstone isn't part of that, we don't have an IPS program in Gladstone. So we don't have a dedicated vocational team. So even when we're responding to these needs, it's different again. I mean being so close, two centres and a one lead agency have access to different programs and resources within each centre.*
>
> *Clinical Practice Manager, Roseberry*

Another factor that may impact the MOST referral rates at each centre is the availability of other mental health and youth services in both cities.

> *We find that typically Rockhampton has a wider variety of services that meet different needs of young people. So our headspace centre, rather than being more maybe holistic and addressing needs across our four core streams that we typically do at a headspace centre, there's enough support services that young people actually are accessing in Rockhampton, that we could just focus maybe more on the mental health needs.*
>
> *Even things like in Gladstone we typically see a higher level of presentations in terms of risk. Or when we look at the clinical staging model, which is what headspace uses, we were seeing those higher-level presentations because there was a lack of support services for them. Whereas headspace Rockhampton were able to stick more to what you would typically expect from headspace. Which is that brief and early intervention, that very first onset, really early emerging mental health difficulties or psychosocial stresses.*
>
> *So even that might add a bit of context in terms of the needs of the people that we're seeing and how MOST can maybe support or maybe not really support those differing presentations. I suppose that might have even influenced how we saw MOST as well between the two services. You know Gladstone being very much, needing extra support services and feeling like we can't do everything. Whereas Rockhampton maybe feeling like there was enough, kind of either in the centre or around, that the young people maybe weren't even needing that additional support.*
>
> *Clinical Practice Manager, Roseberry*

5.2.3 Differences between headspace centres

As well as the environmental and circumstantial differences outlined above, it was found that the autonomy afforded to headspace centres resulted in tailored approaches to the way that each location sought to meet the needs of their local youth.

> *I think there's both a difference in the clientele but also a difference in the way each centre operates. So obviously yeah, we've got the same lead agency. But I suppose the processes are very distinct between each centre. That's because of the local needs and responding to, just the differences between the locations.*
>
> *Clinical Practice Manager, Roseberry*

At headspace Gladstone every young person is introduced to MOST during the intake phase and asked if they would like a referral to the platform. However, at Rockhampton referral to MOST at the initial intake phase is reviewed on a case-by-case basis, to consider an individual's circumstances.

While intakes are triaged to ensure that young people with higher levels of risk and/or acuity of symptoms are prioritised, service users of headspace Gladstone wait longer to receive face-to-face care than those at headspace Rockhampton. One clinician explained that waiting lists could sometimes extend up to 12 weeks for brief interventions. Being able to offer young people on the waiting list a referral to MOST was seen by staff as an option to provide some additional support during that period.

I know Rockhampton generally had a smaller and shorter waitlist, at times no waitlist. Whereas Gladstone typically has always had a waitlist. So whether that's just there's a higher demand for the service in Gladstone. … But that's always kind of been the way.

Clinical Practice Manager, Roseberry

As was reported in interviews at other headspace locations participating in the Q-MOST pilot, a longer waiting list can sometimes lead to a higher proportion of young people accepting a referral to MOST. If the waiting list for face-to-face engagement is only a few weeks, young people may be more inclined to forgo the opportunity of referral to an online platform and wait to see a clinician in person. Young people at headspace Gladstone are informed at intake of the waiting list for face-to-face service and offered a referral to MOST as an alternative source of support in the meantime.

As discussed with clinicians at other locations (see section 6.4.6), the intake process experienced by a young person when they first present to a headspace centre can be time consuming and exhausting. Especially as they may be experiencing heightened acuity of symptoms which may have contributed to seeking help at headspace. There is a lot of introductory information for young people to absorb, as well as several questions to answer to complete a headspace Application Platform Interface (hAPI) survey, which is part of the intake procedure at all headspace centres. The intake team at Gladstone give young people a welcome pack, and a consent form to fill out, which is when they also introduce the MOST platform. Intake clinicians explained that by then, some young people's focus and engagement has started to wane.

If young people do accept a referral to MOST during initial engagement with a headspace centre, there is no guarantee that they will onboard to the platform and engage with the content or MOST clinical team. However, the teams at Gladstone and Rockhampton recognise that reminding young people about MOST later can sometimes encourage engagement, when their circumstances may have changed. Young people on a waiting list are spoken to regularly during check-in calls, and these contacts can offer another opportunity to remind people about the offer of a MOST referral, even if they initially turned down that option.

If young people do sign-up, onboard, and engage with the MOST content while on a waiting list for face-to-face service, clinicians see MOST's content as beneficial, even though the engagement doesn't directly contribute to reducing the waiting list.

I feel like it's helped to add value to the work being done while on the waitlist. If that kind of makes sense. So you know particularly here in Gladstone, being regional. Our intake workers are not psychs and social workers, as you'd probably find in a metro centre. They are studying psychs or you know human service workers and things like that. So they may not even be able to bring a lot of therapeutic tools or knowledge to their role. So being able to give them a platform to increase those toolkits and then also use them with young people while on the waitlist, I think is the benefit that I saw. Yeah, maybe not the reduction in the waitlist though.

Clinical Practice Manager, Roseberry

The clinical teams at Gladstone and Rockhampton were able to introduce the MOST platform to young people at various points in the care pathway. Gladstone's universal offer of a MOST referral while on a waiting list for service was also reported to suit the headspace centre's needs.

I feel like speaking to the staff in Rockhampton when we were rolling out MOST, there maybe wasn't as much of a need or it wasn't viewed as a resource that would necessarily assist at that time. Because there wasn't that kind of waitlist happening for them. So I think for them it was more trying to see how it fits to their face-to-face, and complements their

face-to-face service delivery. I think they were using it more as a discharge tool as well. So when they're exiting the young people, offering that as a continued support option. Whereas I know Gladstone, when they implemented it, it was very much aiming at that intake because that was the bottleneck and where we could, it felt like, get the most use out of MOST for our facility in Gladstone. So we were sort of aiming at two different parts of the client's journey and engagement with us as well.

Clinical Practice Manager, Roseberry

However, challenges were experienced in introducing MOST referrals across the different treatment stages at headspace centres, particularly as an adjunct to face-to-face engagement with a clinician.

That's something we've really tried to embed in the Gladstone centre for the past, probably six or 12 months. Because we were really good at referring at that point of intake. But yeah, we really wanted to try and see how it worked as a blended care model and if it would work in our centre. I suppose we had some change of clinicians late 2022, early 2023. So we had some staff that saw the initial part and then some new staff come on board. So that's probably influenced that a little bit. Then, I suppose, for me I think the biggest barrier in that has been the time for clinicians to get on the MOST platform, learn the resources that they have. To then be able to embed that better into their sessions with the young person. You know, they're so time poor that that probably just hasn't been occurring.

Clinical Practice Manager, Roseberry

5.2.4 Differences in individual clinicians

As previously discussed in section 4.1.5, clinicians' attitudes towards adopting a new digital mental health platform into the range of options offered to young people was another factor influencing adoption of MOST as a referral pathway by all services participating in the pilot. The clinical teams at Gladstone and Rockhampton headspace centres were found to be consistent with other participating services statewide in this regard. Individual interviews with Roseberry's clinicians revealed how some team members drove referrals to MOST and were supportive of the pilot, while others did not see any value in the pilot and did not make referrals to the platform.

I think digital mental health is still such an emerging space. It's hard for clinicians who have probably been around for a little while to kind of change up their way of doing things. You know, clinicians, speaking myself as a clinician, we get very comfortable and have a set way of doing things. So when something new comes along, unless it's really front of mind and unless we really see that value and we can pick it up and put it in straight away into our toolkit. We can tend to stick to the same kind of strategies and the same resources and the same old things. So I think part of it is yeah, just shaking that from the old clinicians and kind of getting used to something new and something different and trying to give that a red hot crack.

Clinical Practice Manager, Roseberry

5.3 Case study summary

The challenges encountered while providing mental health services to young people across Queensland could only be fully understood by listening to those tasked with engagement and delivery. As outlined above, the autonomy of mental health services across the state supports modification of service delivery to account for the local needs of youth populations. Individual clinicians' attitudes towards offering referrals to a digital mental health platform also impacted successful adoption of new technology into services, especially when considering the demands placed on a time poor workforce to understand the evolving nature of digital mental health interventions.

Gladstone and Rockhampton are not far apart in the Queensland context, and both headspace centres are managed by the same lead agency that employs very similar clinical teams, who see almost identical numbers of young people asking for help. Understanding the various factors that impacted MOST referral numbers at Gladstone and Rockhampton headspace centres informs a wider understanding of some of the barriers and facilitators to achieving MOST referrals across the Q-MOST pilot. Some of the findings from this case study, such as clinicians' attitudes to digital mental health, a paucity of alternative youth mental health referral options in some locations, and longer waiting lists leading to increased MOST referrals, were also reported by clinicians at some Queensland Health services and other headspace centres.

5.4 Case study findings

The autonomy afforded to mental health services across Queensland allowed modification of service offerings to meet local needs. The Q-MOST pilot was not prioritised equally by all services, and those decisions impacted referral rates to the platform.
There were inconsistencies in the points of the care pathway where referring services chose to introduce young people to the MOST platform.
The availability of alternative mental health and youth services in different locations statewide contributed to the prioritisation of the MOST platform at individual headspace centres and HHS clinics.
Longer waiting lists increased offers of MOST referrals to young people.

6 Q-MOST's reach

> *I think, there's two major issues I see in terms of uptake. One, is clinician onboarding, and the clinician's capacity for that onboarding, and the second is, I guess, young people and their willingness to engage in the platform.*
>
> *C12 headspace clinical service manager - South East Qld*

The Q-MOST pilot's reach is impacted by several factors, which are discussed in the following sections. In this report, reach is defined by the number of young people who accept a referral to MOST. The proportion of young people who were reached by the Q-MOST pilot is calculated by dividing the total number of young people who accepted a MOST referral (*n*), by the total number of young people who presented to in-scope mental health services (*N*), and then converting to a percentage by multiplying 100.

Equation 6.1: Proportion of Q-MOST reach.

$$\textbf{Proportion of Reach as a percentage} = \left(\frac{n}{N}\right) \times 100$$

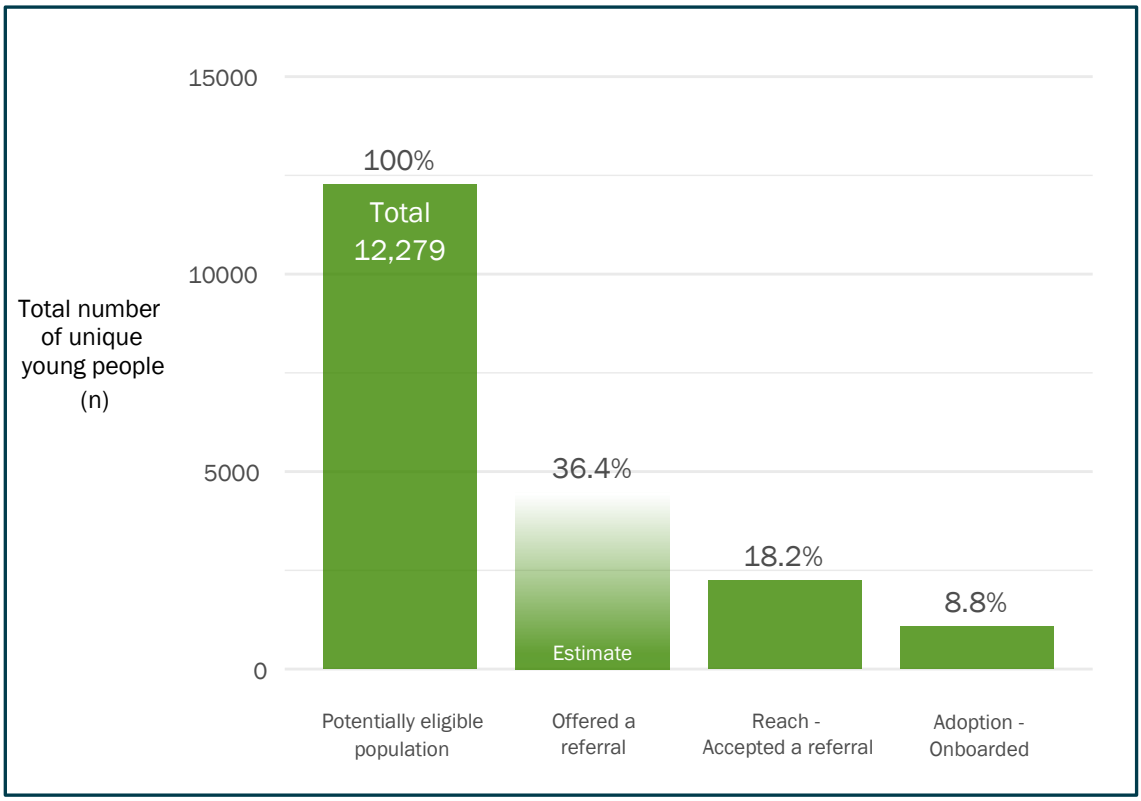
n = Total number of 12 to 25-year-old young people who accepted a referral to the MOST platform from a headspace or HHS participating in the Q-MOST pilot.
N = Total number of 12 to 25-year-old young people who presented to a headspace centre or HHS participating in the Q-MOST pilot.

Orygen Digital's data shows that 4,011 young people accepted a referral to MOST during the pilot, 2,157 completed the sign-up process, and 1,943 completed the onboarding process. Because young people could have presented to both HHS mental health services, and headspace centres, or could have been transitioned from one to the other during the lifecycle of the Q-MOST pilot, QCMHR have presented reach data separately for HHS and headspace referrals.

6.1 headspace reach

headspace National provided data for the total number of young people from 12 to 25-years old who were serviced at headspace centres that participated in the Q-MOST pilot, from the MOST go live date in each centre to the end of December 2023. From a total of 12,279 (*N*) young people, Orygen Digital data showed that 2,239 (*n*) accepted a referral to the MOST platform. The overall level of reach across all participating headspace centres was 18.2% (Figure 6.1.1 and Table 6.1.1). Reach varied on a centre-by-centre basis from 31.3% at Ipswich to 2.3% at Mount Isa. Some young people may have been considered unsuitable for a MOST referral by referring clinicians based on factors such as acuity of mental health symptoms, but that information was not recorded in headspace data.

Figure 6.1.1: Q-MOST's overall reach and adoption at headspace.



For headspace, data from Q-MOST commencement dates until the 31 December 2023 are used.
Percentage values for 'Reach – Accepted a referral' and 'Adoption - Onboarded' are calculated from the total number 'Potentially Eligible Population' for each respective referring service.
Some individuals may have been considered unsuitable for MOST referral by clinicians due to acuity of symptoms or other unrecorded reasons.

Table 6.1.1: Reach at headspace centres.

headspace Centre [a]	Q-MOST commencement dates	Serviced (*N*) [b]	Accepted a referral		Adoption	
			n	% [c]	n	% [d]
Ipswich	11 May '22	1,260	394	31.3	209	16.6
Gladstone	10 Apr '22	844	234	27.7	99	11.7
Meadowbrook	16 Feb '22	1,937	450	23.2	233	12.0
Woolloongabba	16 Feb '22	1,555	329	21.2	148	9.5
Inala	16 Feb '22	1,542	290	18.8	159	10.3
Warwick	28 Sep '22	431	79	18.3	40	9.3
Capalaba	2 Apr '22	1,350	219	16.2	75	5.6
Bundaberg	12 Jan '23	628	69	11.0	33	5.3
Hervey Bay	13 Apr '22	948	94	9.9	39	4.1
Rockhampton	10 Apr '22	876	56	6.4	28	3.2
Maryborough	13 Apr '22	519	16	3.1	9	1.7
Mt Isa	5 Apr '22	389	9	2.3	4	1.0
Total		**12,279**	**2,239**	**18.2**	**1,076**	**8.8**

[a] headspace centres listed in descending order of reach achieved, as a proportion of total serviced 12 to 25-year-olds.

[b] Total 12 to 25-year-olds serviced at each headspace centre between Q-MOST commencement date and 31 December 2023, provided by headspace national.
[c] Reach proportion - Accepted a MOST referral as a proportion of total serviced young people at each headspace centre between Q-MOST commencement date and 31 December 2023.
[d] Adoption proportion - Onboarded to MOST as a proportion of total serviced young people at each headspace centre between Q-MOST commencement date and 31 December 2023.

6.2 Queensland Health reach

CIMHA data was used to calculate the denominator (*N*) value of the total number of young people from 12 to 25-years-old who presented to participating HHS mental health services during the Q-MOST pilot. Because only some of Children's Health Queensland (CHQ) HHS clinics participated in the Q-MOST pilot, their presentations and accepted MOST referrals were excluded from the overall calculations of proportion of reach (Figure 6.2.1 and Table 6.2.1).

During the pilot it was discovered that referrals to MOST by Queensland Health clinicians were not accurately captured in the CIMHA database, therefore Orygen Digital's data on young people who accepted a MOST referral from each participating HHS were used to calculate the numerator (*n*) value. As data sets from CIMHA and Orygen Digital were utilised to calculate levels of reach for Queensland Health consumers, it was necessary to align a comparable date range from both data sources.

QCMHR's calculations encompass CIMHA data for the total number of 12 to 25-year-olds who presented to in-scope HHS for the period from 1 January 2023 to 31 December 2023. Orygen Digital's referral acceptance data (*n*) encompasses the period from 24 December 2022 to 3 January 2024. Although the durations of both data sets do not align precisely, the numbers of accepted referrals to MOST during the additional 11 days of MOST data are likely to have been very small, and not significantly impacted the calculation of reach in HHS services during 2023.

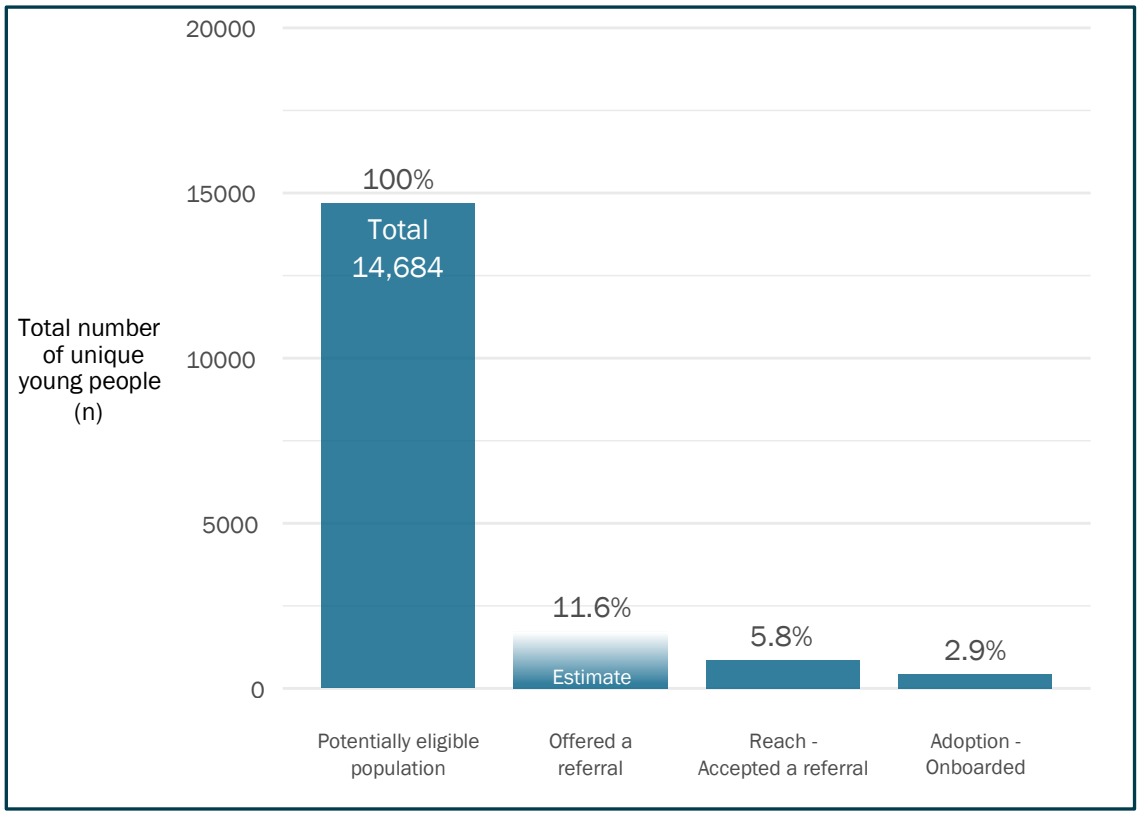
Data from these dates also ensured that almost all HHS referring clinics had implemented the Q-MOST pilot and were given an opportunity to establish the MOST referral pathway into their services before reach was calculated.

Four mental health services commenced referrals after 1 January 2023. Metro South Youth and Family Wellbeing Team were live on 1 June 2023 and referred 0 young people throughout 2023, West Moreton Acute Care Team and West Moreton Ipswich Living Well Clinic both were live on 4 April 2023 and referred 40 and 2 young people respectively throughout 2023. Queensland Children's Gender Service were live on 20 February 2023 and referred 51 young people throughout 2023. This group falls under CHQ HHS and is therefore not included in the overall reach analysis.

Eligible young people (*N*) include those who attended Metro South Youth and Family Wellbeing Team, West Moreton Acute Care Team, and West Moreton Ipswich Living Well Clinic, before those clinics began referring young people to MOST, which has resulted in a slight underestimate of the proportion of reach. However, the effect on the overall proportion of reach will be very small, because of the comparatively low number of accepted referrals from those sites.

The CIMHA data shows that young people can present several times, and to different HHS over time. QCMHR eliminated duplicate presentations from the CIMHA dataset to analyse reach. Therefore, even if it was not possible to remove young people who presented at Metro South Youth and Family Wellbeing Team, West Moreton Acute Care Team, and West Moreton Ipswich Living Well Clinic, from the population data before those clinics began offering referrals to MOST, individuals may have appeared again in the CIMHA data at a later time.

Figure 6.2.1: Q-MOST's overall reach and adoption at HHS.



CIMHA data for potentially eligible population available from 1 January 2023 to 31 December 2023.
Orygen Digital accepted a referral, sign-up and onboarding data begins 24 December 2022 and ends 3 January 2024.
Potentially eligible population and MOST referrals and onboarding excludes CHQ HHS.
Percentage values are calculated from the total number for 'Potentially eligible population'.
Some individuals may have been considered unsuitable for MOST referral by clinicians due to acuity of symptoms or other unrecorded reasons.

Table 6.2.1: Reach at HHS.

HHS [a]	Q-MOST commencement dates	Serviced (*N*) [b]	Accepted a referral		Onboarded	
			n	% [c]	n	% [d]
North West	1 Apr 22	412	37	9.0	13	3.2
Wide Bay	13 Jan '22 - 24 Aug '22	1,831	163	8.9	84	4.6
West Moreton	9 Feb '22 - 4 Apr '23 [e]	2,967	190	6.4	94	3.2
Darling Downs	7 Dec 22	2,527	159	6.3	83	3.3
Central Qld	15 Jul '22 - 16 Nov '22	1,924	77	4.0	48	2.5
Metro South	16 Feb '22 - 1 Jun '23 [e]	5,840	232	4.0	109	1.9
Total (*N*)		**14,684** [f]	**858**	**5.8**	**431**	**2.9**
CHQ	1 Apr '22 - 20 Feb '23 [e]	4,038	101	2.5	63	1.6

[a] HHS listed in descending order of reach (accepted a referral), as a proportion of total serviced 12 to 25-year-olds.
[b] Total number of 12 to 25-year-olds appearing in CIMHA data at each HHS between 1 January 2023 and 31 December 2023.
[c] Reach proportion - Accepted a MOST referral as a proportion of total number of young people accepted into service at each HHS between 1 January 2023 and 31 December 2023.
[d] Adoption proportion - Onboarded to MOST as a proportion of total serviced young people accepted into service at each HHS between 1 January 2023 and 31 December 2023.
[e] Includes sites that went live in 2023: Metro South Youth and Family Wellbeing Team (1 June 2023); West Moreton Acute Care Team and West Moreton Ipswich Living Well Clinic (4 April 2023); Queensland Children's Gender Service (20 February 2023).

[f] Duplicated young people removed, some individuals presented to more than one HHS.
Some individuals may have been considered unsuitable for MOST referral by clinicians due to acuity of symptoms or other unrecorded reasons.
N CHQ omitted from totals.

Referring clinicians may have considered some young people were unsuitable for a MOST referral based on factors such as acuity of mental health symptoms, but that information was not recorded in CIMHA.

Based on the available data and QCMHR analysis, 5.8% of the potentially eligible population in the six included HHS, accepted a MOST referral during 2023.

6.3 Accepting a referral to MOST

Total numbers of young people who accepted a referral to MOST are reported in Tables 6.1.1 and 6.2.1. Data was not collected on numbers of young people who were offered a referral to MOST, however, qualitative interviews with referring clinicians from both Queensland Health and headspace services indicated that a considerable number of young people refused a referral to the platform when offered. Clinicians reported in interviews that about half (or 50%) of young people accepted a MOST referral.

Generally my experience has been 50/50 with young people.

C53 Qld Health clinical nurse consultant – South East Qld

Maybe half the people I offer it to pick it up.

C36 headspace clinical lead – Regional Qld

Additional qualitative data for this section is available in Appendix A, page 111.

6.4 Barriers to referral

Several barriers to referral were discussed in qualitative interviews, and are highlighted in the following sections.

6.4.1 The digital divide

The digital divide emerged as a prominent theme in qualitative interviews, with some young people reporting restricted access to smart devices, computers, or the internet. In some cases, this was because parent restricted internet access, but in other cases, factors such as credit, available mobile data, and proximity to wi-fi may have restricted access to MOST. Although free public wi-fi can be found in some locations, it is not always available at an appropriate time or place for engagement with a mental health platform. Young people who only have limited data available prioritise how they use it.

Some clinicians also discussed referring services' readiness to incorporate digital options, and how they don't have access to digital resources to show young people the MOST platform during consultations.

I get some clients that don't even have a phone. They just don't have a phone at all.

C19 headspace care coordinator – Regional Qld

Most of the time it's whenever we like [wi-fi internet access at home], but very rarely it gets turned off. When it does it's either for a few hours or for a few days.

YP13 17-year-old– South East Qld

There's a Maccas in each of the towns. It's at night, when they're sitting in their room by themselves and they're ruminating and need to connect, they may not have that Wi-Fi access then.

C37 Qld Health psychiatrist – Regional Qld

We're not digitally trained. I don't think that we're well-resourced in that space. We don't have iPads and all that sort of business going on. I think, half of our interview rooms don't even have computers in them.

C52 Qld Health adult community care team leader –South East Qld

Additional qualitative data for this section is available in Appendix A, page 111.

6.4.2 Literacy

Poor literacy levels were reported by many clinicians as a potential barrier to accepting a Q-MOST referral. Despite use of cartoon strips and illustrations on the MOST platform, engagement was still problematic for young people with limited literacy skills.

I think literacy, for sure. If you can't read or write very well, you're not going to access something as easily if it's not user friendly for someone like that, especially if you've got like 10 pages to fill out. That's not going to be ideal, is it? I would feel quite confronted by that and I'm quite literate. I wouldn't want to bother with that.

C19 headspace care coordinator – Regional Qld

There's obviously quite low SES, there can be some literacy issues, and that has been a bit of a barrier for us, and one of the feedback pieces from a lot of the clinicians that they're getting is that they would benefit from some videos, more videos on the platform.

C12 headspace clinical service manager - South East Qld

Additional qualitative data for this section is available in Appendix A, page 113.

6.4.3 Disadvantaged groups

Young people for whom English is not their first language, Aboriginal and Torres Strait Islander peoples, young people living in rural and remote communities, and other groups of young people experiencing disadvantage, face additional challenges accessing digital mental health interventions (DMHI) such as MOST. Issues already discussed in this section, such as the digital divide, are commonly experienced by many Aboriginal and Torres Strait Islander peoples, particularly those living in remote areas of Queensland. This finding is consistent with the latest Australian Digital Inclusion Index report (Thomas et al., 2023).

I think, having a bit more dedicated First Nations content on there as well. Potentially, other languages like more languages, we are quite a diverse community here.

C12 headspace clinical service manager - South East Qld

Yeah, confidentiality. For sure [in Indigenous communities]. You don't know who's receiving that because there's 10 different people who could have the phone. So is the person that needs to get that message actually getting it?

C42 Qld Health provisional psychologist – Regional Qld

First Nations people probably represent 80 per cent, 85 per cent of our clients. ... a high percentage of young people out here, say your average 15-year-old has probably got eight-year-old level literacy skills. So their ability to get on and read something that, when I've looked on it, I did a bit of, It is content heavy as far as words and reading material. It's not user friendly for somebody that's borderline illiterate.

C41 Qld Health CYMHS team leader – Regional Qld

Additional qualitative data for this section is available in Appendix A, page 113.

6.4.4 Parental consent to access MOST

Young people under 15 years of age are required to have parental consent to be referred to MOST. Clinicians reported mixed responses from parents to the offer of a MOST referral, and said that delays or barriers to referral were common when further engagement with parents was required. One parent interviewee expressed reluctance to consent to their child's transition from the 12 to 14-year-old platform to the 15 to 25-year-old platform. This was because of concerns they would be interacting with young people who might be in their mid-twenties and expose their child to issues they may not be mature enough, or developmentally ready, to navigate. They explained they would have been more comfortable with a 15-to 18-year-old platform, and a 19 to 25-year-old platform, to stagger the age differences on MOST.

Some parents have been hesitant about the online and the moderation, where there's been self-harm in the past, of what is my child going to be exposed to?

C64 Qld Health senior psychologist – South East Qld

Sometimes the parents are very keen, but then once we email the information through and then I'll call up and hey, well, did you have a look? They're like, yeah, no, no, it's okay.

C34 headspace care coordinator – Regional Qld

Additional qualitative data for this section is available in Appendix A, page 115.

6.4.5 A preference for face-to-face engagement

A strong theme that emerged from the evaluation interviews was a preference for face-to-face engagement with a clinician instead of engagement with a digital mental health platform, or telehealth. This preference was reinforced for many referring services by poor uptake of telehealth options offered by headspace services, especially during the COVID-19 pandemic. When referring services were able to return to in-person consultations after lockdowns, they found that young people quickly preferenced face-to-face engagement again. Clinicians explained that young people were well equipped to explore online options relating to their mental health and had made a deliberate decision to present to headspace or HHS services because they wanted to speak to someone in person. Some clinicians thought that offering those young people a MOST referral because they were either below clinical thresholds for more intensive mental health care, or as a stop-gap for those on waiting lists, made some young people feel that they were being offered an inferior service to a face-to-face appointment.

Young people in the region there are simply not interested in any form of telehealth or adjacent provision. … I would say it's simply a matter of, this is not a good approach for regional centres in general and we need to acknowledge the differences region to region … people from more rural areas more highly prize and value interpersonal communication face-to-face

C22 headspace Manager – Regional Qld

I thought about it, but personally I prefer the face to face. I am not one that really likes telehealth as well. I despise it to be honest, but I have to do it in some situations, but I prefer the face to face so it wasn't really something I was too interested in. I think I did make an account if I remember correctly, but that's as far as I got with it. … Personally, I just didn't think it was necessary for me to be on that app as I'm getting the help I need currently here face to face.

YP8 22-year-old – Regional Qld

Additional qualitative data for this section is available in Appendix A, page 115.

6.4.6 Referrals at intake

To overcome the barrier of relying on clinicians to remember, or make time for, making a referral to MOST, some headspace centres modified their intake processes to incorporate MOST referrals. However, several headspace intake clinicians reported that young people were overwhelmed by the volume of information provided at intake, particularly when the acuity of their mental health symptoms could be more severe at intake and assessment stages.

> *We included it in our intake form and we asked that question when a young person is first presenting. A lot of them say no, probably because there's a lot, we ask a lot of questions in intake and they start opening their headspace account and doing surveys and there's just so much information. … Pure exhaustion, it's a long day so the intake itself can take up to 90 minutes which is a lot, you're giving a lot of information. … It's hard for me to take longer and explain [MOST] because really, how much concentration, how much time can someone give without being totally, totally exhausted?*
>
> *C17 headspace care coordinator – Regional Qld*

Additional qualitative data for this section is available in Appendix A, page 116.

6.5 Summary

The Q-MOST pilot reached 4,011 young people by 2 April 2024. The proportion of reach for the young people referred by participating headspace centres from MOST commencement dates to the end of 2023 was 18.2%. The proportion of reach for young people seen by participating HHS Services during 2023 was 5.8%. No data are available for those who rejected the offer of a referral to MOST, but qualitative interviews with clinicians highlight that the proportion of refusals is likely to be high. Various barriers to MOST referral were discussed in qualitative interviews. These include: the digital divide, which is exacerbated for disadvantaged groups; poor levels of literacy which were reported by referring clinicians at some mental health services that participated in the Q-MOST pilot; parental consent to access MOST for the 12 to 14-year-old cohort; and young people's preferences for face-to-face engagement with mental health clinicians. Many referring services have decided to offer MOST to young people when they present at intake. However, some clinicians thought the amount of information that young people receive and provide during intake and assessment procedures means this is not the best opportunity to discuss a MOST referral.

6.6 Findings

The proportion of accepted referrals to MOST for young people from headspace centres was 18.2%.
The proportion of accepted referrals to MOST for young people from HHS Services was 5.8%.
No data are available for those that rejected the offer of a referral to MOST, but qualitative interviews with clinicians highlighted that the proportion of refusals is likely to be high.
Various barriers to MOST referral were reported including: • Young people's preferences for face-to-face engagement with mental health clinicians. • The digital divide, which was exacerbated for disadvantaged groups. • Poor levels of literacy among some young people who engaged with participating mental health services. • Parental consent for the 12 to 14-year-old cohort. • Introducing MOST to young people during intake assessments was often not conducive to accepting a referral.

7 Young people's MOST adoption

> *I think we've had a lot of referrals to the platform, is my understanding. Then less people have clicked the link to sign up and then less have completed the onboarding. The attrition kind of goes down as we go through the process.*
>
> *C35 headspace clinical manager – Regional Qld*

Following referral to MOST a young person is sent an invitation to their, or their parents' smartphone from Orygen Digital, containing a link to setting-up a MOST account. The account set-up involves entering personal details, setting a username and password, providing emergency contact details, and accepting MOST's terms of use. When that process is successfully completed young people are categorised as signed-up to the platform. After sign-up young people complete an onboarding questionnaire, which includes components on strengths, interests, and presenting concerns. That information helps Orygen Digital tailor a recommended journey encompassing therapeutic content and activities on the MOST platform. After completing the questionnaire young people have full access to MOST content and are categorised as onboarded. Within this report, adoption is defined by the number of young people who completed onboarding to the MOST platform during our evaluation of the Q-MOST pilot.

7.1 From Referral to Onboarding

To improve MOST adoption rates and streamline the signup process, Orygen Digital undertook a major redesign and rebranding of the MOST platform. At the December 2022 Q-MOST advisory group meeting, Orygen Digital presented sign-up and onboarding data from nine weeks before, and six weeks after the changes were implemented across all States and Territories where MOST projects were running at that time, not just Q-MOST. That data showed the changes improved sign-up rates from all accepted referrals from 49.89% to 57.94%, and onboarding rates from 43.85% to 53.71%.

Because the changes to platform design and sign-up process were introduced at the same time, the improvement of almost 10% in adoption rates nationally cannot be definitively attributed to either the sign-up process or redesign and rebranding of the platform.

QCMHR's analysis found no significant differences in the available data (headspace or Queensland Health referrals; point of referral; selected pronouns; Indigenous status; and ages) between young people who had signed-up to the platform and completed onboarding, and those who had signed-up to the platform but not onboarded within 30 days.

Of all young people who accepted a referral, under half continued to be onboarded to MOST. Specifically:

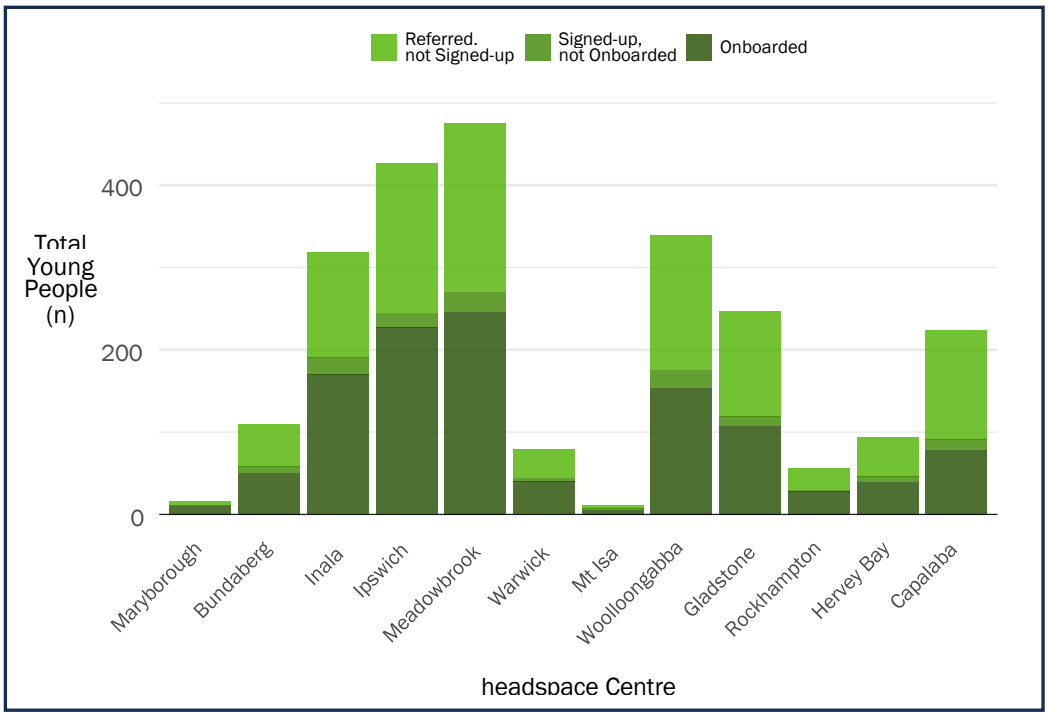
- 48.1% attending headspace centres that participated in the Q-MOST pilot continued to be onboarded to MOST (Table 7.1.1).
- 48.9% attending one of the seven HHS that participated in the Q-MOST pilot continued to be onboarded to MOST (Table 7.1.2).

Table 7.1.1: headspace Centres' referral, sign-up and onboarding rates up to 2 April 2024.

headspace centre	Go Live dates	Accepted a Referral (n)	Signed-up (n)	Signed-up (% [a])	Onboarded (n)	Onboarded (% [a])
Maryborough	13 Apr '22	16	11	68.8	10	62.5
Inala	16 Feb '22	319	191	59.9	170	53.3
Ipswich	11 May '22	427	245	57.4	227	53.2
Meadowbrook	16 Feb '22	475	270	56.8	246	51.8
Warwick	28 Sep '22	79	44	55.7	40	50.6
Rockhampton	1 May '22	56	30	53.6	28	50
Bundaberg	12 Jan '23	110	58	52.7	50	45.5
Mt Isa	1 Apr '22	11	7	63.6	5	45.5
Woolloongabba	16 Feb '22	339	175	51.6	154	45.4
Gladstone	1 May '22	247	119	48.2	107	43.3
Hervey Bay	13 Apr '22	94	46	48.9	39	41.5
Capalaba	2 Apr '22	224	91	40.6	78	34.8
Total		**2,397**	**1,287**	**53.7**	**1,154**	**48.1**

headspace Centres' ordered in decreasing onboarding rates
Percentages calculated from Accepted a referral' column.
[a] An unknown number of young people who appear in these aggregate totals have declined permission for their individual deidentified data to be analysed.

Figure 7.1.1: headspace Centres' accepted referral, onboarding and sign-up rates up to 2 April 2024.



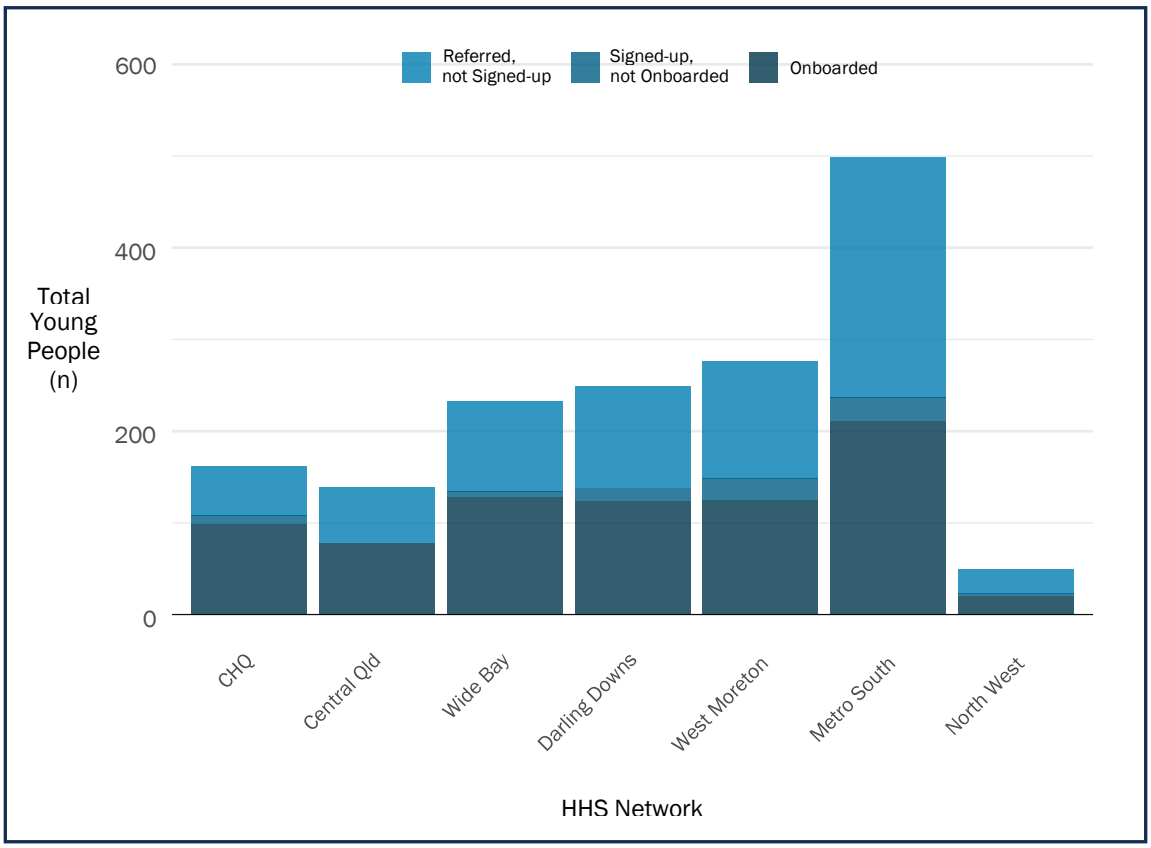
Of 2,397 Young people who accepted a referral to MOST from headspace Centres, up to 2 April 2024, 1,287 (53.7 %) Signed-up, and 1,154 (48.1 %) Onboarded.

Table 7.1.2: Queensland Health HHS' referral, onboarding and sign-up rates to 2 April 2024.

HHS	Go Live dates [a]	Accepted a Referral (n)	Signed-up (n)	Signed-up (% [b])	Onboarded (n)	Onboarded (%[b])
CHQ	1 Apr '22 - 20 Feb '23	162	108	66.7	99	61.1
Central Qld	15 Jul '22 - 16 Nov '22	139	78	56.1	78	56.1
Wide Bay	13 Jan '22 - 24 Aug '22	233	134	57.5	128	54.9
Darling Downs	7 Dec '22	254	141	55.5	127	50
West Moreton	9 Feb '22 - 4 Apr '23	277	149	53.8	126	45.5
Metro South	16 Feb '22 - 1 Jun '23	499	237	47.5	211	42.3
North West	1 Apr '22	50	23	46	20	40
Total		**1,614**	**870**	**53.9**	**789**	**48.9**

HHS ordered in decreasing onboarding rates.
Percentages calculated from 'Accepted a Referral' column.
[a] Not all HHS clinics and services went live on the same date within some HHS.
[b] An unknown number of young people who appear in these aggregate totals have declined permission for their individual deidentified data to be analysed.

Figure 7.1.2: Queensland Health HHS' referral, onboarding and sign-up rates to 2 April 2024.



Of 1,614 Young people referred to MOST from HHS up to 2 April 2024, 870 (53.9 %) Signed-up, and 789 (48.9 %) Onboarded.

7.1.1 Accepting a referral to please clinicians

As the data in Tables 7.1.1 and 7.1.2, and Figures 7.1.1 and 7.1.2 shows, accepting a referral was not a guarantee that a young person would continue on to sign-up or onboarding. During interviews clinicians talked about how they believed that some young people may have accepted a referral to MOST without any intention of signing up to the platform, because they did not want to be perceived as someone who turns down support that is being offered.

> *I feel like people can acquiesce a little bit because they're a bit concerned. They don't want to be perceived as turning down support.*
>
> *C15 headspace intake team leader - South East Qld*

Additional qualitative data for this section is available in Appendix A, page 116.

7.2 Available Data for those onboarded

The available variables for the young people who have onboarded are limited to 'Treatment Stage' (Figure 7.2.1.1 and Table 7.2.1.1), 'Age' (Figure 7.2.2.1 and Table 7.2.2.1) and 'Pronoun' (Figure 7.2.3.1 and Table 7.2.3.1). From 22 December 2022 Orygen Digital also began collecting data on 'Indigenous Status' (Figure 7.2.4.1 and Table 7.2.4.1).

Data was only available for 1,726 young people who onboarded to MOST and consented to their data being used for research purposes. Unfortunately, comparable data regarding age, pronoun, and Indigenous status was not available for young people who presented to headspace or HHS mental health services.

Therefore, it was not possible to determine whether MOST was more effective and appealing to some cohorts of young people, or whether these particular groups were represented in higher numbers at referring services.

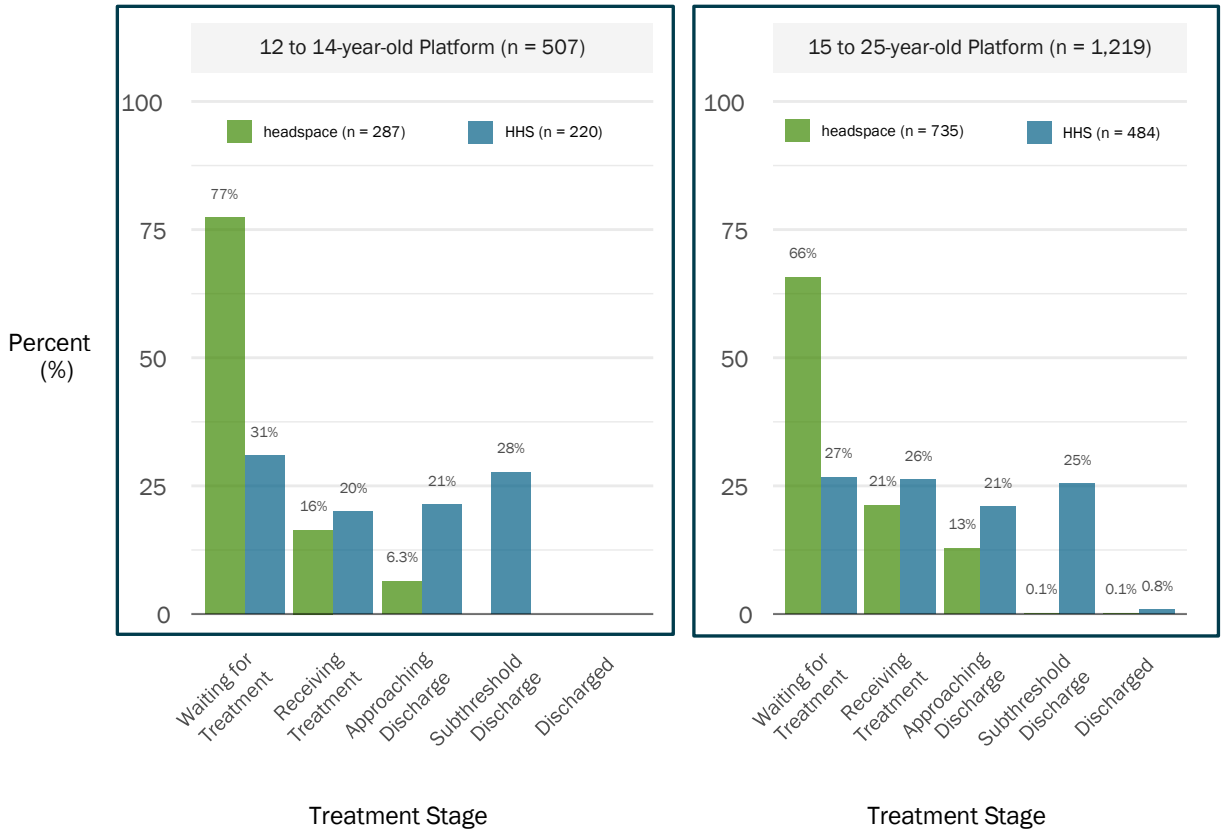
7.2.1 Treatment stage of those onboarded

Overall, the proportion of young people waiting for face-to-face care was found to be 41% higher[4] in headspace services, than the same group in the participating HHS services. However, the proportion of young people who were receiving treatment or approaching discharge from the HHS services, was significantly higher than the same groups in headspace. The proportion of young people who were subthreshold discharge from HHS was significantly higher than those in headspace. Very small sample sizes in the discharged category meant that there were no significant differences found between the cohorts from each referring service.

The different ways referring services, headspace centres, and HHS clinics incorporated the Q-MOST pilot into their day-to-day operations, as discussed in sections 4 and 5, contributed to the differences in treatment stages of those who accepted a referral.

[4] (χ^2: 280.86, $p < 0.001$, df = 1, 95% CI: 37-45)

Figure 7.2.1.1: Treatment stage of onboarded up to 2 April 2024.



Data for 1,726 young people onboarded up to 2 April 2024
Percentages are calculated by dividing the total number of young people in each bar, by the referring service total for each platform.
Values greater than one rounded to the nearest whole number.

Table 7.2.1.1: Treatment stage of onboarded up to 2 April 2024.

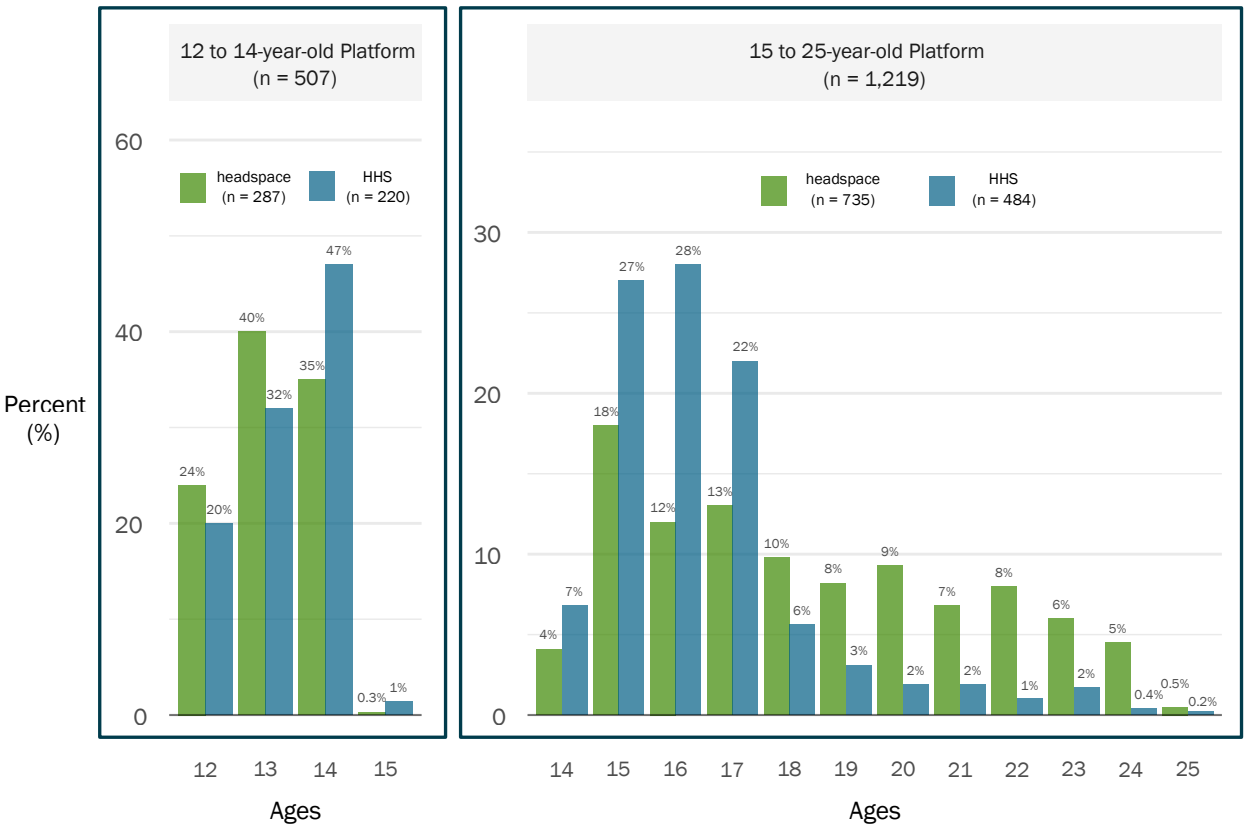
	12 to 14-year-old Platform (n = 507)				15 to 25-year-old Platform (n = 1,219)			
	headspace		HHS		headspace		HHS	
Treatment stage	n	%	n	%	n	%	n	%
Waiting for Treatment	222	77.4	68	30.9	483	65.7	129	26.7
Receiving Treatment	47	16.4	44	20.0	156	21.2	127	26.2
Approaching Discharge	18	6.3	47	21.4	94	12.8	101	20.9
Subthreshold Discharge			61	27.7	1	0.1	123	25.4
Discharged					1	0.1	4	0.8
Total [a]	**287**	**100**	**220**	**100**	**735**	**100**	**484**	**100**

[a] Percentage totals rounded to the nearest whole number

7.2.2 Ages of those onboarded

On the 12 to 14-year-old platform, the proportion of 14-year-olds referred by HHS was 12% lower[5] than the proportion of 14-year-olds referred by headspace. There were no statistical differences for the ages; 12, 13, and 15. On the 15 to 25-year-old platform the proportions of young people in the 14 to 17-year ages referred by HHS were significantly higher than those in the same age groups referred by headspace centres. The proportions of young people in the 18 to 24-year-old ages referred by HHS were significantly lower than those in the same age groups referred by headspace. The proportions of those who were aged 25 was not significantly different between referring services, and problematic due to the small sample size in that category. Equivalent data for young people's ages were not available for the potentially eligible population of young people offered a referral to MOST by headspace centres or HHS. However, the drop off in ages of older people who accepted a MOST referral, may be connected to the perceived age appropriateness of content on the platform, and poor uptake of the Q-MOST pilot among Queensland Health's Adult Mental Health services, discussed in sections 7.2.2.1 and 7.2.2.2 respectively.

Figure 7.2.2.1: Ages of onboarded up to 2 April 2024.



Data for 1,726 young people onboarded as of 2 April 2024
Percentages are calculated by dividing the total number of young people in each bar, by the referring service total for each platform.
Values greater than one rounded to the nearest whole number.

[5] (χ^2: 7, $p < 0.01$, df = 1, 95% CI: 3-20)

Table 7.2.2.1: Ages of onboarded up to 2 April 2024.

Age	12 to 14-year-old Platform (n = 507)				15 to 25-year-old Platform (n = 1,219)			
	headspace		HHS		headspace		HHS	
	n	%	n	%	n	%	n	%
12	70	24.4	43	19.5				
13	115	40.1	71	32.3				
14	101	35.2	103	46.8	30	4.1	33	6.8
15	1	0.3	3	1.4	129	17.6	131	27.1
16					88	12.0	136	28.1
17					98	13.3	108	22.3
18					72	9.8	27	5.6
19					60	8.2	15	3.1
20					68	9.3	9	1.9
21					50	6.8	9	1.9
22					59	8.0	5	1.0
23					44	6.0	8	1.7
24					33	4.5	2	0.4
25					4	0.5	1	0.2
Total [a]	**287**	**100**	**220**	**100**	**735**	**100**	**484**	**100**

[a] Percentage totals rounded to the nearest whole number

7.2.2.1 Qualitative data on age

The analysis of ages shows a higher proportion of young people accepted a referral to the MOST platform (Figure 7.2.2.1) in the under 18-year-old's category. This difference was more pronounced for HHS referrals that for headspace centres. The qualitative data offers some explanations for this.

Some clinicians thought that the design and content of the MOST platform was more appropriate for younger people, which may have inhibited offers of referral to the older cohort. One parent was also concerned about their child transitioning from the younger platform to the older platform, because of possible exposure to mental health content and discussions with young people who could be up to 10 years older than their child.

I do query whether or not it is a little bit childish as you start to get into your 20s, particularly seeing those very different stages of life for people in their 20 to 25 age range. Like some people have families of their own, working, both parents working, or whatever that might be. While some are still at Uni having a great time and a bit more immature.

C12 headspace clinical service manager - South East Qld

I think that the people who seem most engaged with it would be that 12, 13, 14. The younger kind of age group, I think.

C44 Qld Health CYMHS team leader –Regional Qld

It's patronising, or it's invalidating, I think, for a 24-year-old.

C08 headspace clinician – South East Qld

I feel like [young people] won't find that as useful if they're over 16. I think it might be for the younger kids.

C11 headspace intake clinician - South East Qld

So when the gap is that huge, it's a 10 year difference in issues, in life, in experience. So for me it's, am I exposing her to more or am I holding her back from being able to access more content. But in the same breath you're like do you want her to have more content that could be opening up things that she hasn't even been exposed to?

P1 parent of 14-year-old

Additional qualitative data for this section is available in Appendix A, page 117.

7.2.2.2 Queensland Health Adult Mental Health Services

Qualitative interviews explored the finding that there was a pronounced drop off in accepted referrals to MOST from those aged 18 and over who were engaged with Queensland Health services. Interviewees familiar with the services reported that this was likely to be because young people who were engaged with adult Queensland Health services were more likely to be acutely ill and have more severe and enduring mental health problems, not suitable for referral to MOST.

Additionally, young people do not automatically transition between CYMHS and adult mental health services in Queensland, so there is little if any continuity between the cohorts of young people engaged with each service. One CYMHS clinician, who worked with the most complex and challenging cohort of consumers, explained that she had only transitioned two clients from CYMHS to adult mental health care teams when they turned 18 during 13 years of working for Queensland Health.

Young people engaged with adult mental health services commonly experience other confounding factors, as well as severe mental health symptoms, as one adult mental health clinician and team leader explained:

Sadly, a lot of the people who do come to this mental health service, there's poverty, they don't have access to the same technology that other people do. ... I've got to be honest and say, a lot of the people who present in that demographic it's probably to do with substances and intoxication. ... When people come into the 18 plus age group, they're then grouped with everybody from 18 until end of life. So, clinicians, they're not as aware of kind of individual referral pathways [for a small part of the cohort]... A lot of people as well within the acute mental health or even a continuing care team, which is like the long-term case management, they're chronically unwell. They've sort of got enduring severe mental health problems which impairs their function and ability to do things like use technology, let alone afford it. So, the kind of the reality is that it's just difficult to even see how people would access it without a lot of support around them.

C48 Qld Health adult mental health acute care team leader – South East Qld

The evaluation also found that only a small number of consumers who were accepted into adult mental health services fell within the appropriate age range for a MOST referral. Another team leader from the adult service reported that it was not a priority to devote time to Q-MOST referrals, given the small proportion of suitable young people in their care.

At the moment we have about 250 to 260 patients on our books. Just for the benefit of your transcript, I did run the numbers, we've got 37 patients between the ages of 18 and 25. Twenty-four of those are on Involuntary Orders. So, under the Mental Health Act 2016, they don't have the capacity to make decisions around their mental health treatment. When you're talking about more than half of that client group who meets the criteria for Q-MOST, a Treatment Authority (TA) is sort of somewhat representative of being under-engaged in your own care. So that's one of the reasons people end up on Involuntary Orders. One of those clients is also under the Forensic Provisions as well of the Mental Health Act. ... we sort of treat the pointy end of the stick. So that if one in four Australians has a mental illness, we'd probably treat only a very small portion of those people. So the majority of our clients have serious mental illnesses. Something that is either treatment-resistant or they're sitting at the extreme ends of the deterioration. Which I think might not necessarily be representative of services like CYMHS. ... I think that Q-MOST isn't very much in the front of our minds because it only treats like 14 per cent of our client group. Of that 14 per cent, more than 50 per cent of them, we're having trouble

engaging them and we've got them on TAs and things like that. … So things that help us do our job easier, staff are more likely to get involved in, and I just think Q-MOST, it doesn't, I don't know how it helps a staff member. … I don't think we offered it to one of our clients. If I'm honest with you, I'd be amazed if we offered it to one of our clients.

C52 Qld Health adult community care team leader –South East Qld

C52's explanation of some of the barriers to referral in HHS adult mental health services may help to explain why Orygen Digital staff have found it so difficult to engage with managers and team leaders in some adult mental health services across the state. Although the issues that were discussed earlier in this report (section 4.1), will also have contributed to those challenges.

So it was harder to find people who had, actually, a population of consumers who were eligible and interested for this because of the age and their complexity.

Orygen Digital Employee 3

I did try to get the adult team on board but that was, technically they are live, but they didn't quite get past the orientation stage and then there were some challenges there.

Orygen Digital Employee 4

Additional qualitative data for this section is available in Appendix A, page 117.

7.2.3 Pronouns of those onboarded

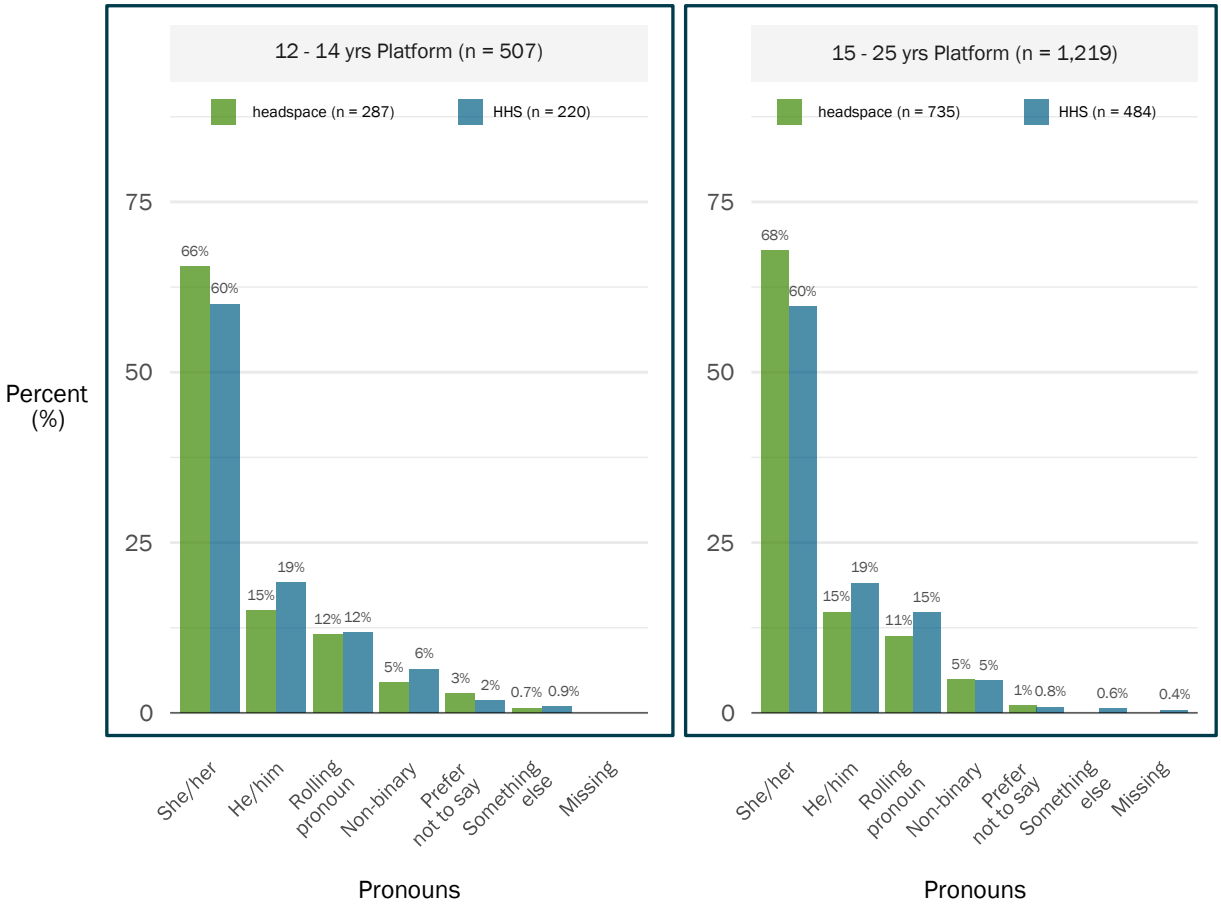
During the onboarding process, young people could have chosen their own preferred pronoun(s), by making a selection from available options and/or providing additional information in a free text field. Provided options were: 'They/them', 'She/her', 'He/him', 'Prefer not to say', and 'Something else'. Young people were not restricted to one choice, and those who selected more than one, and/or used the free text field were categorised by QCMHR as 'Gender diverse'.

Pronoun data were also collected (Figure 7.2.3.1 and Table 7.2.3.1), for those onboarded by 2 April 2024, 64.2% selected she/her pronouns, 16.6% he/him, 12.3% identified as gender diverse, 5.0% preferred non-binary (they/them), and those remaining did not select a preferred a pronoun. Overall, the proportion of young people from headspace referrals who elected She/her pronouns was 7% higher[6] than the same group in the HHS services. Overall, the proportion of young people from headspace referrals who elected he/him pronouns was 4% lower[7] than the same group in the participating HHS services. No other statistical differences were detected across referring clinics for selected pronouns.

Because the equivalent selected pronoun data were not available for the potentially eligible populations from headspace or the HHS services, it was not possible to determine whether the proportions of those who were onboarded reflect referral to the platform being more effective for that cohort, or a representation of a higher proportion of those cohorts who presented to a referring service.

[6] (χ^2: 9.98, $p < 0.01$, df = 1, 95% CI: 3-12)
[7] (χ^2: 5.22, $p < 0.05$, df = 1, 95% CI: 0.5-8)

Figure 7.2.3.1: Pronouns of onboarded up to 2 April 2024.



Data for 1,726 young people onboarded as of 2 April 2024
Percentages are calculated by dividing the total number of young people in each bar, by the referring service total for each platform.
Values greater than one are rounded to the nearest whole number.

Table 7.2.3.1: Pronouns of onboarded up to 2 April 2024.

Pronoun	12 to 14-year-old Platform (n = 507)				15 to 25-year-old Platform (n = 1,219)			
	headspace		HHS		headspace		HHS	
	n	%	n	%	n	%	n	%
She/her	188	65.5	132	60.0	499	67.9	289	59.7
He/him	43	15	42	19.1	109	14.8	92	19
Gender diverse	33	11.5	26	11.8	83	11.3	71	14.7
Non-binary	13	4.5	14	6.4	36	4.9	23	4.8
Prefer not to say	8	2.8	4	1.8	8	1.1	4	0.8
Something else	2	0.7	2	0.9	0	0	3	0.6
Missing					0	0	2	0.4
Total [a]	**287**	**100**	**220**	**100**	**735**	**100**	**484**	**100**

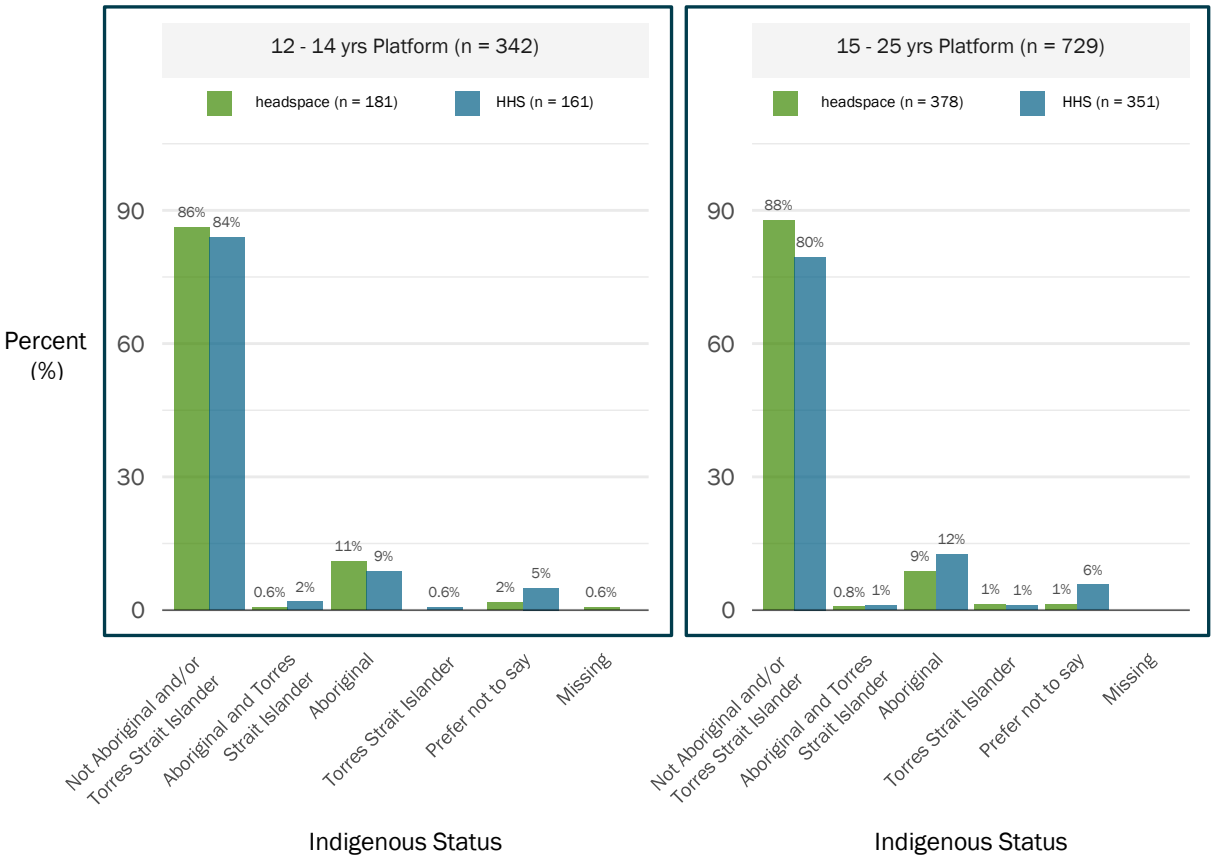
[a] Percentage totals rounded to the nearest whole number

7.2.4 Indigenous status of those onboarded.

Orygen Digital began collecting data to describe the Indigenous status of those who onboarded to MOST on 22 December 2022. Before this, information relating to Indigenous status was only collected if a young person completed health questionnaires. Indigenous status is available for a total of 1,071 young people who onboarded on or after 22 December 2022 (Figure 7.2.4.1 and Table 7.2.4.1. On the 15 to 25-year-old platform, 8.3%[8] more young people identified as 'Not Aboriginal and/or Torres Strait Islander' in headspace services than those from the HHS services. No other statistical differences were detected.

Because the equivalent Indigenous status data were not available for the potentially eligible populations from headspace or the HHS services, it is not possible to determine whether the proportions of those who have onboarded reflect referral to the platform being more effective for that cohort, or a representation of a higher proportion of those cohorts who presented to a referring service.

Figure 7.2.4.1: Indigenous Status of onboarded up to 2 April 2024.



Data for 1,071 young people onboarded from 22 December 2022 to 2 April 2024
Percentages are calculated by dividing the total number of young people in each bar, by the referring service total for each platform.
Values greater than one are rounded to the nearest whole number.
Orygen Digital collected and shared details on Indigenous status from 22 December 2022 to 2 April 2024.

[8] (χ^2: 9.24, $p < 0.01$, df = 1, 95% CI: 3-14)

Table 7.2.4.1: Indigenous Status of those onboarded from 22 December 2022 to 2 April 2024.

Indigenous Status	12 - 14 yrs Platform (n = 342)				15 - 25 yrs Platform (n = 729)			
	headspace		HHS		headspace		HHS	
	n	%	n	%	n	%	n	%
Not Aboriginal and/or Torres Strait Islander	156	86.2	135	83.9	332	87.8	279	79.5
Aboriginal and Torres Strait Islander	1	0.6	3	1.9	3	0.8	4	1.1
Aboriginal	20	11.0	14	8.7	33	8.7	44	12.5
Torres Strait Islander			1	0.6	5	1.3	4	1.1
Prefer not to say	3	1.7	8	5	5	1.3	20	5.7
Missing	1	0.6						
Total [a]	**181**	**100**	**161**	**100**	**378**	**100**	**351**	**100**

[a] Percentage totals rounded to the nearest whole number.
Indigenous status commenced collection on the MOST platform from 22 December 2022.

7.3 Levels of engagement

More young people had accepted a referral from headspace centres (2,397 young people) than Queensland Health services (1,614 young people) by 2 April 2024. To calculate levels of engagement with MOST, young people who onboarded were allowed 30 days to engage before being included in the engagement data that QCMHR analysed. This ensured that individuals had a reasonable amount of time to engage with the MOST platform content before being included in the data analysis.

More young people had onboarded from headspace referrals (998 young people) than Queensland Health referrals (677 young people) by 3 March 2024 (30 days prior to the end date of Orygen Digital's engagement data shared with QCMHR). Delays in implementing the Q-MOST pilot in various HHS may account for some of the disparity in numbers of young people onboarded. However, the mild to moderate acuity of headspace clients, and the moderate to severe mental health acuity of Queensland Health consumers are also key factors. Young people referred by both services displayed similarities in the extent and ways in which they engaged with MOST.

7.3.1 Developing a MOST app

Many of the referring clinicians and young people that were interviewed before Orygen Digital released the MOST app strongly expressed the opinion that the platform needed to be experienced through an app. Young people found it inconvenient to sign-in to the website platform that hosted MOST and expressed frustrations at delays they experienced with direct message communications with the Orygen Digital clinical team. They wanted improved functionality that was familiar to them from experiences with other apps they used on a day-to-day basis, such as push notifications.

MOST was made available as a mobile app in April and May 2023, first for smart devices with an Android operating system, then later for Apple devices. To date, the app has only been made available for young people who access the 15 to 25-year-old platform, and push notifications have not been incorporated. After the release of the app, some clinicians and young people that were interviewed were still unaware that the platform was now available for download as an app.

But I don't know, it needs to be an app. That's all I know. Because the website is painful. I tried my phone, but it would lag a lot, like it wouldn't load, so it was better on my laptop. … I feel if it was an app, more people would use it and more often because it's right there instead of going to a website and signing in on the website and all that.

Yp12 14-year-old – South East Qld

At that point it wasn't an app and I reckon that was probably its biggest failing in the early stages, that it didn't come straight into that app space. I think if it had done that, I think take-up initially would have been a little better.

C25 headspace centre MOST champion & senior access and engagement officer – Regional Qld

The most common thing we heard from young people for a long time was we want an app available on the app store. That was something that was consistent across all states. … I just can't remember off the top of my head, but the vast, vast majority of users now are using the app, rather than the web platform, which makes a lot of sense.

Orygen Digital Employee 6

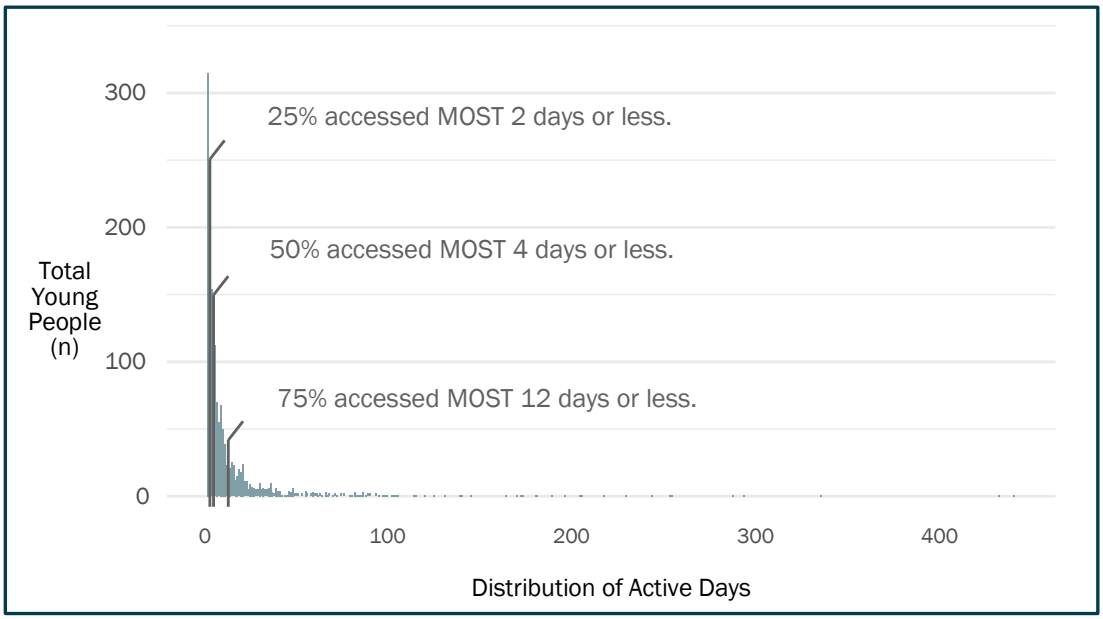
Additional qualitative data for this section is available in Appendix A, page 117.

7.3.2 Active Days

Engagement with MOST was measured by analysing data made available by Orygen Digital. Active days are a measure of the number of unique days that a young person accessed the MOST platform, though it should be noted that one active day is recorded when a young person completes the MOST onboarding process. For example, if a young person accessed the platform on 1 March 2023 to complete their onboarding process, and then a second time on 30 March 2023 to access some MOST content, that would record a total of two active days. An active day makes no distinction in terms of the amount of time spent logged onto the MOST platform, nor the amount of content accessed during that active day.

The active days data (Figures 7.3.2.1 and 7.3.2.2) showed that engagement with both platforms fell away after initial engagement. Overall 25% of young people who onboarded to MOST, accessed the platform on no more than two separate days, 50% accessed MOST for no more than five separate days, and 75% accessed MOST on no more than 12 separate days. See Figure 7.3.2.1 below.

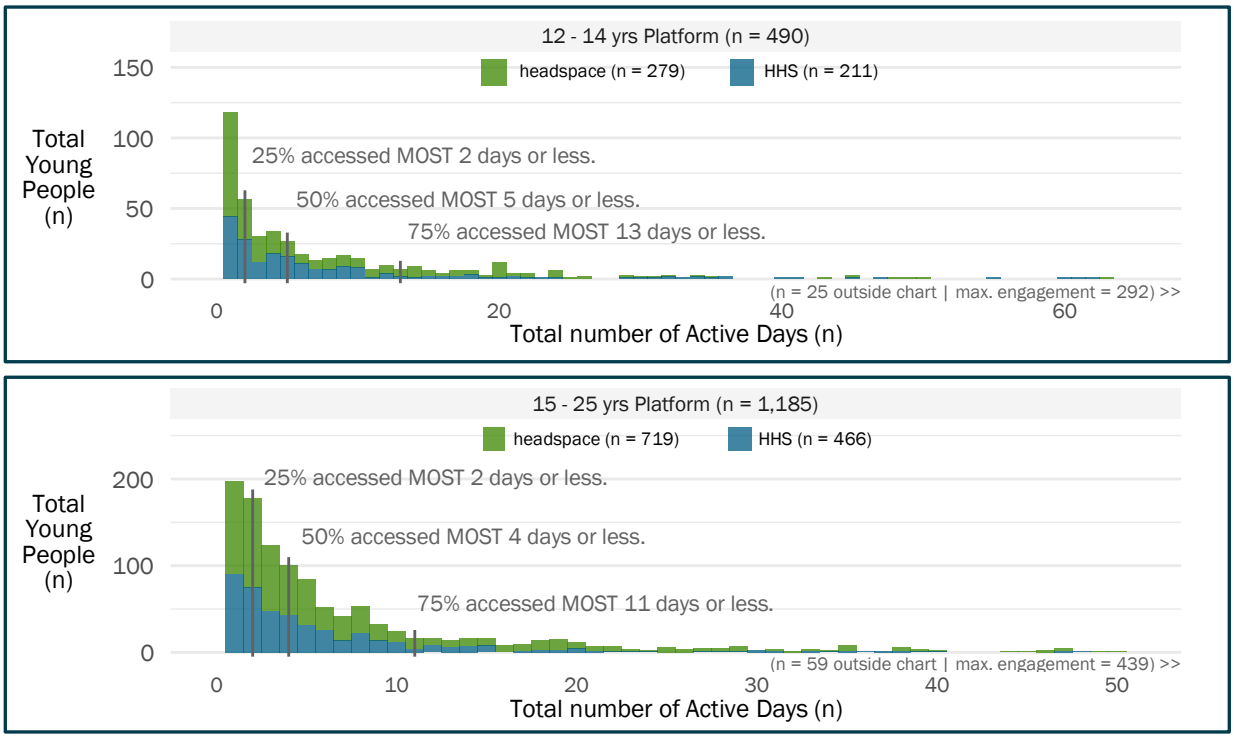
Figure 7.3.2.1: Overall adoption of Young People by 3 March 2024



Includes 1,675 young people onboarded to MOST, who have had a minimum of 30 days to engage as of 2 April 2024 and have agreed to share their data for Research and Evaluation.
By default, a young person accrues 1 active day by completing the onboarding process.
Maximum Active days accrued by a young person = 439.

An effective level of engagement with the MOST platform is unknown and will vary among different people with diverse needs and presenting problems. This disparity in levels of engagement is not unique to the digital domain in mental health care and has also been recorded in face-to-face engagement with mental health clinicians. The Evaluation of the Better Access initiative (Pirkis et al., 2022) reported that between 2018 and 2021 approximately two thirds of mental health treatment plans resulted in between one and six face to face sessions, with the median number being five and the maximum over 31.

Figure 7.3.2.2: Active days for those onboarded to MOST by 3 March 2024 by Platform.



Quartiles calculated from the total number of young people on each platform, who have had a minimum of 30 days to engage, as of 2 April 2024.
Cropped to include 95% of MOST users. Details of the highest engaged 5% are noted in the bottom right of each chart.
On the 12 to 14-year-old platform, engagement across clinics is:
headspace: First Quartile = 1 days, Second Quartile = 5 days, Third Quartile = 14 days. (Range = 1-292)
HHS: First Quartile = 2 days, Second Quartile = 5 days, Third Quartile = 10 days. (Range = 1-172)
On the 15 to 25-year-old platform, engagement across clinics is:
headspace: First Quartile = 2 days, Second Quartile = 5 days, Third Quartile = 13 days. (Range = 1-439)
HHS: First Quartile = 2 days, Second Quartile = 4 days, Third Quartile = 8 days. (Range = 1-431)

7.3.2.1 Qualitative data on declining engagement

Many clinicians interviewed for the evaluation reported that young people who they referred to the MOST platform, only engaged with it briefly, which reflect the quantitative engagement outlined in 7.3.2.1, Figure 7.3.2.2, Figure 7.3.3.1 and Figure 7.3.3.2.

I know that there is quite a number that then are referred or they're onboarded or whatever, and then sort of don't touch it from there.

C04 headspace clinical lead – South East Qld

The engagement, from what we talk about, seems to be reasonably brief with it … I guess that seems to be the biggest challenge is just getting them to run with it.

C06 headspace brief interventions clinician – South East Qld

I think I looked at it a couple times.

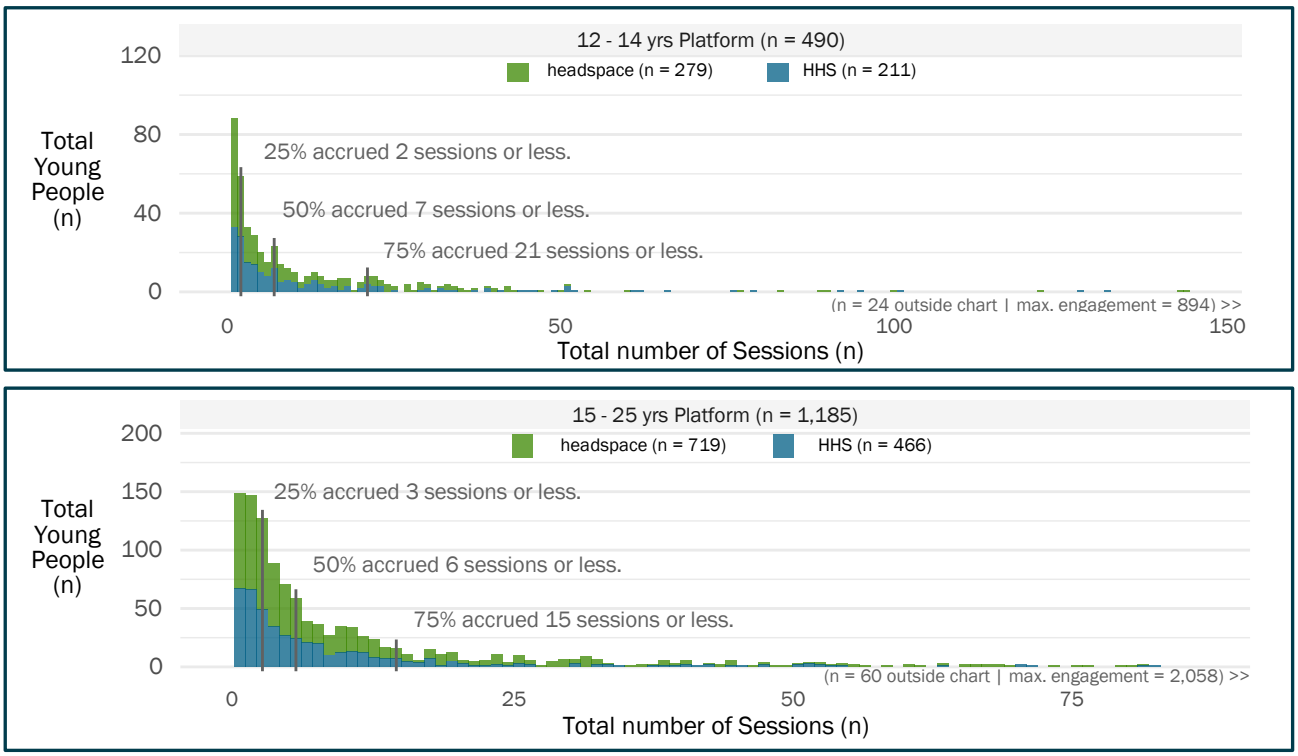
YP18 13-year-old Regional Qld

Additional qualitative data for this section is available in Appendix A, page 118.

7.3.3 Sessions on MOST

From December 2023, Orygen Digital provided data representing the duration of young peoples' periods of engagement on the MOST platform. This data was retrospective and available for all young people who onboarded to MOST from the beginning of the Q-MOST pilot. A 'session' is recorded when a young person has at least two interactions with the MOST platform that occur within a 30-minute timeframe. Examples of interactions are creating social content or navigating to any page on the MOST platform. A session is considered to have ended once a period of non-interaction lasting more than 30 minutes is recorded. A single interaction that is not followed by another within 30 minutes would not accrue a session. This method for measuring online user behaviour is described by Google Analytics (Google, 2024). The total number of sessions accrued by each young person from the commencement of the Q-MOST pilot to 2 April 2024 is detailed in Figure 7.3.3.1.

Figure 7.3.3.1: Numbers of sessions for those onboarded to MOST by 3 March 2024 by Platform.

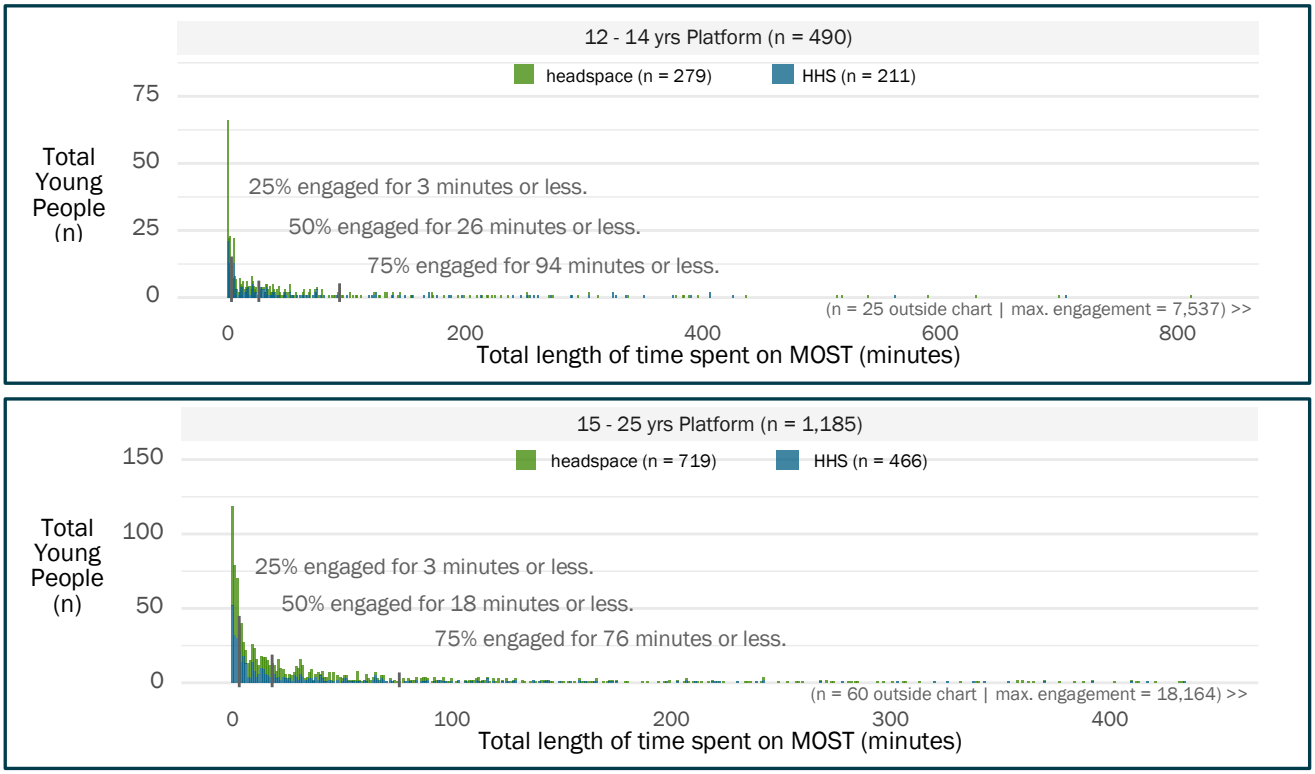


Quartiles calculated from the total number of young people on each platform, who have had a minimum of 30 days to engage, as of 2 April 2024.
Cropped to include 95% of MOST users. Details of the highest engaged 5% are noted in the bottom right of each chart.
On the 12 to 14-year-old platform, engagement across clinics is:
headspace: First Quartile = 2 sessions, Second Quartile = 7 sessions, Third Quartile = 22 sessions. (Range = 1-894)
HHS: First Quartile = 2 sessions, Second Quartile = 6 sessions, Third Quartile = 18 sessions. (Range = 1-351)

On the 15 to 25-year-old platform, engagement across clinics is:
headspace: First Quartile = 3 sessions, Second Quartile = 6 sessions, Third Quartile = 19 sessions. (Range = 1-2,058)
HHS: First Quartile = 2 sessions, Second Quartile = 5 sessions, Third Quartile = 12 sessions. (Range = 1-1,512)

The duration of individual sessions are recorded for each young person and then added together to calculate a total session time, and therefore a total length of engagement since onboarding to MOST. Orygen Digital provides this data in seconds and QCMHR rounded it to the nearest minute in Figure 7.3.3.2. On the 12 to 14-year-old platform the median total session time was 26 minutes, on the 15 to 25-year-old platform the median total session time was 18 minutes.

Figure 7.3.3.2: Session time for those onboarded to MOST by 3 March 2024 by Platform.



Quartiles calculated from the total number of young people on each platform, who have had a minimum of 30 days to engage, as of 2 April 2024.
Cropped to include 95% of MOST users. Details of the highest engaged 5% are noted in the bottom right of each chart.
Session minutes are rounded to the nearest whole minute.
On the 12 to 14-year-old platform, engagement across clinics is:
headspace: First Quartile = 3 minutes, Second Quartile = 26 minutes, Third Quartile = 97 minutes. (Range = 0-7,537)
HHS: First Quartile = 5 minutes, Second Quartile = 24 minutes, Third Quartile = 86 minutes. (Range = 0-2,884)
On the 15 to 25-year-old platform, engagement across clinics is:
headspace: First Quartile = 4 minutes, Second Quartile = 22 minutes, Third Quartile = 90 minutes. (Range = 0-18,164)
HHS: First Quartile = 3 minutes, Second Quartile = 14 minutes, Third Quartile = 58 minutes. (Range = 0-11,683)

7.3.4 Social Engagement and Therapeutic Content

After onboarding to MOST, young people can interact with the social forum and/or access therapeutic content. Social engagement on MOST can be active or passive. Active engagement involves creating content in one of three ways: writing a post; writing a comment; or making a reaction. Passive engagement involves reading content created by others without creating content in the form of a comment or reaction. Passive engagement is very difficult to measure, and young people may be consuming social content on the MOST platform, but not be included in the measures of content creation.

QCMHR did not include young people in social and therapeutic engagement measures until 30 days after they had onboarded, to ensure they were given ample opportunity to engage with the platform before their data were analysed.

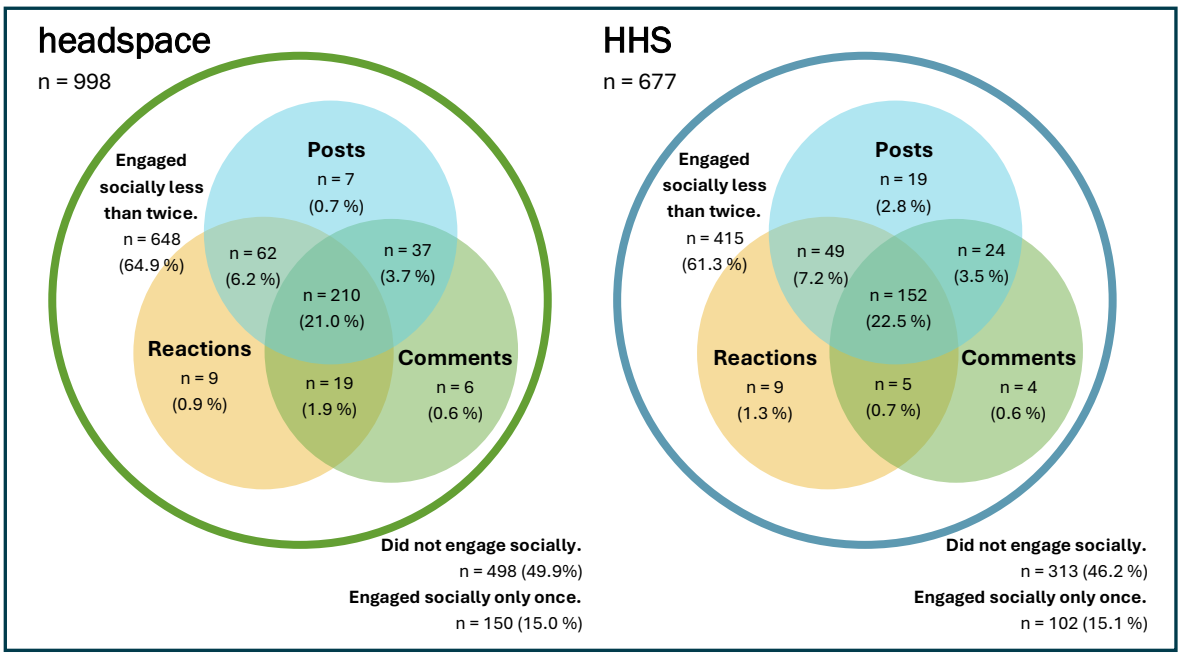
7.3.4.1 Social engagement

Young people interacting socially on MOST as part of the Q-MOST pilot could also see content created by young people taking part in other MOST pilots around Australia. Young people on the 12 to 14-year-old platform could not view content from the 15 to 25-year-old platform and vice versa.

Some young people who participated in qualitative interviews explained that they had not continued to engage with the social content on MOST after making an initial post or comment. Therefore, QCMHR set a threshold of at least two social interactions on the platform as a baseline for analysis. These two interactions could consist of any of the three types of engagement, or be two interactions from one category. Figure 7.3.4.1.1 shows that those who did engage socially, were most likely to use all categories of content creation, and this was consistent across both age specific platforms.

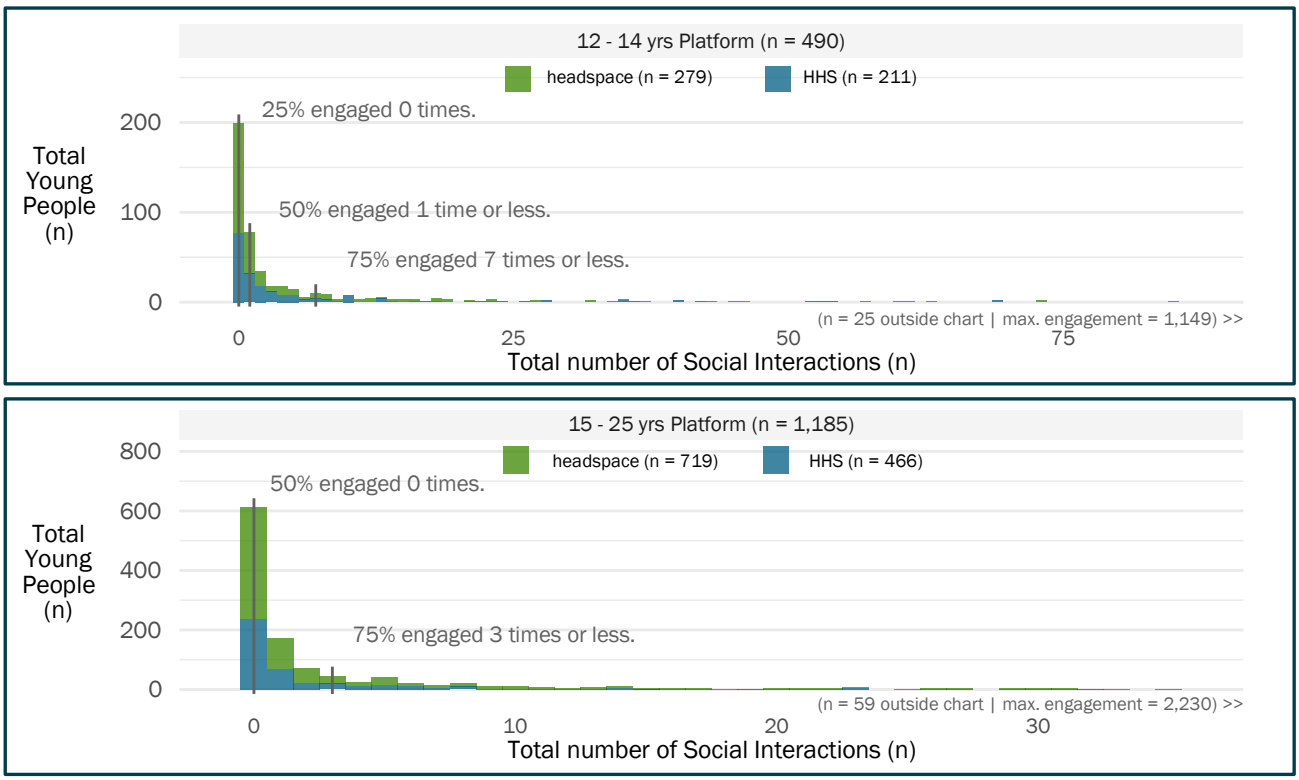
From Q-MOST commencement dates until 2 April 2024, including only those who had at least 30 days to engage, 998 young people were onboarded from headspace referrals. Of those, 49.9% did not contribute to the social content, while 15.0% interacted no more than once (creating either a post, comment, or reaction). From HHS referrals, of 677 young people, 46.2% did not contribute to the social content, and 15.1% engaged socially no more than once (Figure 7.3.4.1.1). The median number of social interactions was 1 on the 12 to 14-year-old platform, and 0 on the 15 to 25-year-old platform (Figure 7.3.4.1.2).

Figure 7.3.4.1.1: Social engagement for those onboarded to MOST by 3 March 2024 by referring service.



The threshold for baseline engagement with the social forum requires a minimum of 2 interactions on any social parameter.
Only includes young people onboarded for a minimum of 30 days.

Figure 7.3.4.1.2: Total number of social interactions for those onboarded to MOST by 3 March 2024 by Platform.



Quartiles calculated from the total number of young people on each platform, who have had a minimum of 30 days to engage, as of 2 April 2024.
Cropped to include 95% of MOST users. Details of the highest engaged 5% are noted in the bottom right of each chart.
On the 12 to 14-year-old platform, engagement across clinics is:
headspace: First Quartile = 0 times, Second Quartile = 1 times, Third Quartile = 6 times. (Range = 0-1,149)
HHS: First Quartile = 0 times, Second Quartile = 1 times, Third Quartile = 6 times. (Range = 0-439)
On the 15 to 25-year-old platform, engagement across clinics is:
headspace: First Quartile = 0 times, Second Quartile = 0 times, Third Quartile = 3 times. (Range = 0-2,230)
HHS: First Quartile = 0 times, Second Quartile = 0 times, Third Quartile = 4 times. (Range = 0-1,401)

7.3.4.1.1 Qualitative data on social engagement

Young people's social engagement with the MOST platform was discussed in qualitative interviews. In the early days of the Q-MOST pilot, the numbers of young people who engaged with the social content on the MOST platform was small, and some young people noticed that the only responses received from content they posted was from the peers employed by Orygen Digital. However, as the Q-MOST pilot continued in Queensland and other states, the platform became populated and the need for peers to respond directly to young people in order to generate engagement decreased.

Some young people who did engage earlier in the pilot were discouraged from continuing to engage by the lack of responses they received from other young people. Some said they only engaged in a limited way and did not persevere after their initial contributions. However, they may have continued to read other people's content, and one young person discussed how they used the social content as a kind of journaling tool, to describe their feelings and emotions on an ongoing basis. Another young person also mentioned that someone was using the platform to write a book, by posting small sections at a time.

I think I've made two posts. It sounds bad, but I don't really like putting myself out there. I kind of just like reading about people's stories and I like, like and sort of comment on that. I don't really like to put stuff, you know. … I kind of just look at what people say and revisit my toolkit. There's this one person who's writing a book on there, which I find quite interesting.

Yp12 14-year-old – South East Qld

Some clinicians and young people appreciated the moderation to make the MOST platform a safe space for users. They liked the anonymity provided by MOST and the supportive community of likeminded young people who are only able to participate in the social community on MOST following referral from a mental health clinician.

Whereas on MOST it's more comfortable to post because it's anonymous.

YP7 17-year-old – South East Qld

It was nice seeing people say nice things to each other.

YP19 15-year-old – Regional Qld

Some referring clinicians described MOST as being like Facebook or other mainstream social media platforms. Young people reported that they found the reality of social engagement on MOST didn't live up to that description. One young person described at length how they could not curate their own space on MOST or administer their own feed of updated information. They also found it difficult to follow other individuals' posts or comments, because of the way content is arranged on the platform. This functionality did not improve after introduction of the MOST app. It is possible that some of the limited engagement evident from the data (Figure 7.3.4.1.1 and Figure 7.3.4.1.2) resulted from people's expectations not being met, or young people's frustrations with the way that social content is presented.

I was just kind of told that if I ever needed to have a chat in terms of mental health that it's kind of like, they explained it as kind of like Facebook where you go on and you can chat to someone.

YP1 17-year-old, South East Qld

I think some of them call it like a supported Facebook kind of platform. I don't think it quite fits that. But, you now, I think some of them [referring clinicians] describe it as that.

C04 headspace clinical lead – South East Qld

The way that I talk about it is that it is an online platform, similar to Facebook.

C36 headspace clinical lead – Regional Qld

When you look at the community network, I guess what young people are used to in terms of technology when it comes to social networking now, I believe that's actually a barrier to engagement … The interface isn't up to the standard that young people are used to and I think that definitely affects engagement on the platform as a whole, not just the community.

Orygen Digital Employee 5

Additional qualitative data for this section is available in Appendix A, page 119.

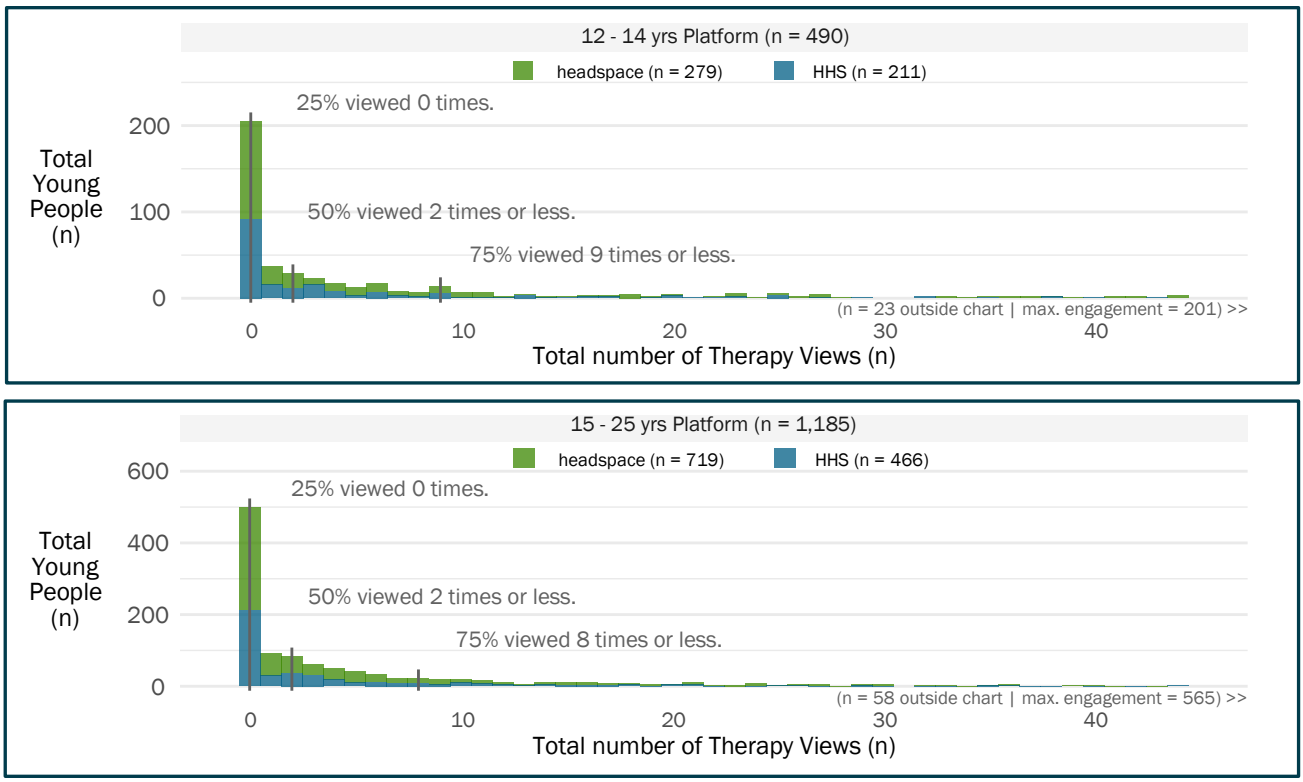
7.3.4.2 Therapeutic content

Orygen Digital measured engagement with therapeutic content in two ways. Each time a young person opened a unique page containing therapeutic content, a 'therapy item' was counted. A subsequent visit to the same page did not increase the count. However, young people can visit the same page multiple

times, and these page visits are cumulatively counted as ‘therapy views’. A young person’s therapy views can be made up of visits to different therapeutic pages or the same pages repeatedly.

Analysis of this data showed that correlations between young people’s total numbers of therapy items and therapy views are high, which suggests limited value in reporting both types of measurement. Therefore, the total number of individuals’ therapy views are reported here. Orygen Digital informed QCMHR that on the 25 January 2023 there were 270 therapy items on the 12 to 14-year-old platform and 518 therapy items on the 15 to 25-year-old platform. On the 22 April 2024 the number of therapy items on the 12 to 14-year-old platform had increased to 307, while the number on the older platform remained the same.

Figure 7.3.4.2.1: Total number of views of therapeutic content for those onboarded to MOST by 3 March 2024 by Platform.



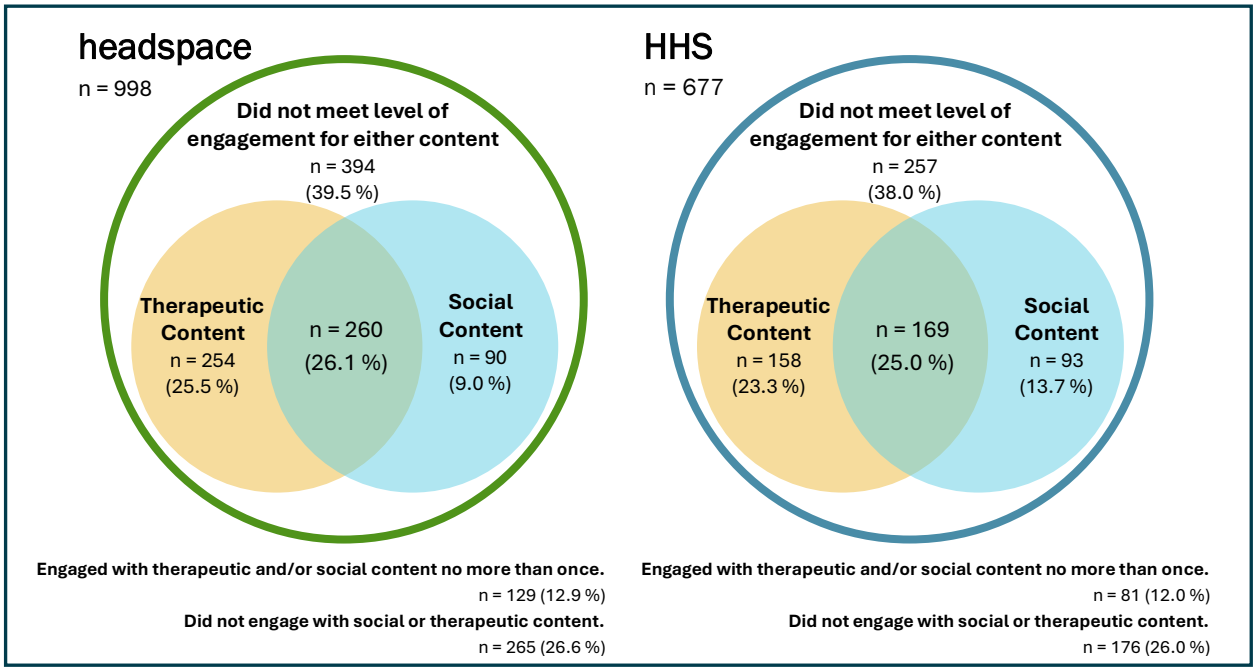
Quartiles calculated from the total number of young people on each platform, who have had a minimum of 30 days to engage, as of 2 April 2024.
Cropped to include 95% of MOST users. Details of the highest engaged 5% are noted in the bottom right of each chart.
On the 12 to 14-year-old platform, engagement across clinics is:
headspace: First Quartile = 0 views, Second Quartile = 2 views, Third Quartile = 10 views. (Range = 0-201)
HHS: First Quartile = 0 views, Second Quartile = 1 views, Third Quartile = 8 views. (Range = 0-143)
On the 15 to 25-year-old platform, engagement across clinics is:
headspace: First Quartile = 0 views, Second Quartile = 2 views, Third Quartile = 9 views. (Range = 0-565)
HHS: First Quartile = 0 views, Second Quartile = 1 views, Third Quartile = 6 views. (Range = 0-241)

Similar patterns of declining engagement on the MOST platform were seen from analysis of total number of social content creations (Figure 7.3.4.1.2), and total number of therapeutic content views (Figure 7.3.4.2.1), across total number of active days that young people engaged with on the platform (Figure 7.3.2.2), and the data from session analyses (Figure 7.3.3.1 and Figure 7.3.3.2).

Levels of social and therapeutic content engagement were also analysed together, maintaining the threshold of a minimum of two views or content creations, to determine whether young people were more

likely to engage with one type of content rather than the other. Overall, young people referred from either headspace or Queensland Health services showed strong similarities in the way they engaged with content. See Figure 7.3.4.2.2 below.

Figure 7.3.4.2.2: Therapeutic and social engagement for those onboarded to MOST by 3 March 2024 by referring service.



The threshold for engagement with therapeutic content requires a minimum of 2 views of therapeutic content.
The threshold for engagement with social content requires a minimum of 2 content creations on any social parameter.
Only includes young people onboarded for a minimum of 30 days.

7.3.4.2.1 Qualitative data on therapeutic content

Some clinicians and young people considered MOST a source of reliable information, and clinicians were pleased that they could refer young people to content that didn't need to be verified or cross referenced with the clinicians themselves during appointments. Others highlighted that there are many sources of information available to young people online, and that young people are very accomplished at searching for and making judgments about the quality of information that is available. The delivery of the therapeutic content on MOST, in the form of written words and comic strips was also mentioned by some, who thought that more youth friendly content in the form of videos would help MOST compare favourably to other online mental health content aimed at younger consumers.

> *I think, as well, a lot of the information, it was all written information, and young people don't want that, they want videos, or GIFs, TikTok's or whatever they use. The written stuff, they didn't want to read all of that. … I think young people are a little bit sick of it. They get told through school, feeling anxious, do this, feeling depressed, do this. Everyone's talking about mental health a lot more these days and that's really fantastic, but I do think that young people are a little bit saturated by it and I think that the MOST platform didn't offer anything revolutionary and so there was no incentive to go and check it out when, say, you could just google it or you could just look on YouTube.*
>
> *C03 headspace access and engagement officer – South East Qld*

Additional qualitative data for this section is available in Appendix A, page 120.

7.3.5 MOST Clinician Engagement

Online engagement with MOST clinicians, peer workers, and vocational advisors are a feature of engagement with the platform, however, young people can choose to engage in a self-directed manner, and only engage with social and therapeutic content. If young people do request clinical support, a welcome call is arranged with their allocated MOST clinician, to explain the help that is available and assist them with navigating the platform. For the 12 to 14-year-old cohort the MOST clinical team may also invite parents or carers to participate in the welcome call. During these welcome calls young people are also offered the opportunity to speak with their allocated MOST clinician without their parents or carers present. Young people can engage with clinicians, vocational advisors, and/or peer workers, by sending and receiving direct messages on the MOST platform, with SMS messages to and from their smart devices, or by scheduling a phone call.

Initially, Orygen Digital provided data on the numbers of direct messages sent between the clinical team and young people on the MOST platform. However, this method of measuring engagement did not include telephone calls and SMS messages used to communicate with onboarded young people. From 19 July 2023 to 3 April 2024[9] Orygen Digital gathered data on contacts made by Allocation Clinicians, Duty Clinicians, and Peer Workers that included all communication with young people. The contact data summarises the time spent preparing for and participating in contact with young people onboarded to MOST, and who chose to engage with the clinical team. Further information was included in the contact data such as the purpose of the contact and is outlined in Appendix B.

Table 7.3.5.1 summarises the time that Orygen Digital staff spend on communication with young people. During the 37-week period that contact log data is available for, 3,022 separate contacts were made regarding 417 young people. Of those 3,022 contacts, 88.9% were directed to a young person, 8.4% to a family member or carer, 1.5% to an Orygen Digital staff member, and 1.2% were to a referring service. Of these contacts, Allocation Clinicians made 2,035 contacts associated with 322 individuals, Duty Clinicians made 197 contacts associated with 108 individuals, and Peer Workers made 790 contacts associated with 140 individuals. All clinicians and peer workers combined, spent a median time of 23.1 hours preparing for, and making contacts related to young people who were part of the Q-MOST pilot each week (ranging from 7.5 to 33.4 hours). Each week an average of 55 individuals were engaged by clinicians (ranging from 20 to 81 individuals). Some individuals were contacted during several different weeks.

Young people participating in the Q-MOST pilot may be contacted by Orygen Digital staff who are not based in Queensland. Similarly, staff based in Queensland also interact with young people interstate. The number of Orygen Digital staff supporting the Q-MOST pilot has varied during the lifecycle of the project, in response to the initial growth of the pilot, postponed recruitment of some team members due to project delays, recruitment challenges, and lower than expected numbers of young people on the platform (Orygen Digital, 2022a, 2022b).

The Q-MOST Pilot Project Progression Update Report 1 (Orygen Digital, 2022c), identified a total 8.3 full time equivalent (FTE) staff at the end of January 2022. This grew to 23.1 FTE at 30 June 2023, and of those, 9.3 FTE were allocated to the clinical and allied moderation team (Orygen Digital, 2023). By 31 December 2023 16.7 FTE supported the Q-MOST pilot, and of those 6.5 FTE were allocated to the clinical and allied moderation team (Orygen Digital, 2024b).

[9] The last date for contact data in Orygen Digital's data set is 3 April 2024.

Of all the young people included in the contact log data, 78.9% had a clinician allocation while 21.1% were young people who were using MOST in a self-directed manner. Considering both categories together, the primary modes of contact were direct message (DM) (76.4%) followed by SMS (12.3%), followed by Phone (11.2%). The total times spent on communication with each young person over the 37-week period ranges from 3 minutes to 13.7 hours. The total time spent on each young person per month ranged from 3 minutes to 5.8 hours, with a median time of 38 minutes. In summary, 25% of young people had a total of 35 minutes or less devoted to their contacts, 50% of young people had a total of 85 minutes or less devoted to their contacts, and 75% of young people had 855 minutes (2.6 hours) or less devoted to their contacts.

When young people were the primary participants in a contact, the four main reasons for contact were: scheduled contact (32.0%); follow-up (14.8%); welcome call (14.8%); and final contact (13.9%). When family members or carers were the primary participant in a contact, the main reasons for contact were welcome call (53.7%), and administrative (23.1%). When Orygen Digital staff were the primary participants, the main reasons for contact were duty work (55.6%), and team consultation (15.6%). When Referring clinics were the primary participants, the main reasons for contact were risk management (52.8%), and care coordination (3.6%).

Table 7.3.5.1: Contact log data 19 July 2023 to 3 April 2024.

Role Type	Contact time		Numbers of young people contacted		Average time	Range
	(hrs)	(%)	(n)	(%) [b]	(hrs/person)	(hrs/person)
Allocation Clinician	580	71.4	322	77.2 [b]	1.8	0.08 – 11.3
Duty Clinician	63	7.8	108	25.9 [b]	0.6	0.05 – 3.0
Peer Worker	169	20.8	140	33.6 [b]	1.2	0.08 – 10.8
Total	**812**		**570 [a]**		**3.7 [c]**	**0.05 – 13.7 [c]**

[a] Some clinicians and workers have both contacted the same young person which is why the total of young people contacted is 570, a higher number than the total of 417 young people included in this data set.
[b] The percentage of young people contacted is calculated by dividing the number of young people contacted by each type of clinician, by the total of 417 young people included in the contact log data, and multiplying by 100.
[c] Calculated using the totals in the contact log data without dividing by role type.

7.4 Summary

It is clear that accepting a referral to MOST did not guarantee an individual would engage with the platform. Orygen Digital refined the sign-up process as the pilot progressed, and this increased the numbers of young people who successfully set-up a MOST account. From MOST go live dates to 2 April 2024, 48.1% of young people who accepted a referral from headspace centres progressed to complete onboarding (Table 7.1.1). From MOST go live dates to 2 April 2024, 48.9% of young people who accepted a referral from HHS progressed to complete onboarding (Table 7.1.2). Clinicians explained that some young people accepted a referral without intending to sign-up or engage with MOST because they did not want to be perceived as turning down help that is offered to them.

No statistically significant differences were found between those who had signed-up to the platform and completed onboarding, and those who had signed-up to the platform but had not onboarded. This was consistent across the 12 to 14-year-old platform and the 15 to 25-year-old platform.

Available variables of age, pronoun and Indigenous status were analysed, but comparable data regarding those cohorts was not available for population level datasets from headspace National and CIMHA. This made it impossible to determine whether the proportions of young people who aligned to those variables and accepted a referral, signed-up, and onboarded. It was also not possible to determine if they reflected the proportions of young people who presented to headspace centres and HHS mental health services.

A higher proportion of young people at headspace centres accepted a referral to MOST while on a waiting list. Those who accepted a referral from Queensland Health mental health services were more evenly distributed across treatment stages.

On the 15 to 25-year-old platform, HHS services tended to refer significantly higher numbers of young people in the younger ages to MOST than headspace, and significantly lower numbers of young people in the older bracket than headspace. Some clinicians thought that the platform's content was more appropriate for younger age ranges. Adult mental health service clinicians did not see a strong connection between the Q-MOST pilot and the needs of their consumers.

The Q-MOST pilot was not widely adopted by Queensland Health adult mental health services, and that contributed to the pronounced drop off in accepted MOST referrals by HHS consumers in the 18 years and over category. Only a small proportion of Queensland Health's adult mental health services' consumers were found to fall into the 18 to 25-year-old age range, and clinicians reported that some would be considered unsuitable for MOST referral because of acuity of symptoms and other confounding factors.

The launch of a MOST app was identified by many interviewees as a crucial development. Engagement with the website-based platform was a frustrating experience for young people who were used to the functionality and convenience of mobile apps on their smartphones. Some thought that not launching the Q-MOST pilot with an app-based platform had impacted young people's willingness to engage with MOST. When an app was launched in April 2023, a year after the Q-MOST pilot's launch, it was only available for the 15 to 25-year-old platform and was not made available for the 12 to 14-year-old platform before the end of the Q-MOST pilot. Functionality that young people expected such as push notifications was not available on the MOST app.

Once onboarded, the data showed that young peoples' levels of engagement varied widely. A small proportion of young people demonstrated comparatively higher engagement levels than the majority. Sharp declines from onboarding were evident in all measures of engagement that were analysed: active days; session times; social engagement; and therapeutic content. This was consistent across the entire cohort that adopts MOST, regardless of referral from HHS or headspace.

When individuals' session times were analysed, on the 12 to 14-year-old platform the median time for a young person's engagement with the MOST platform was 26 minutes. On the 15 to 25-year-old platform, the median time for a young person's engagement with the MOST platform was 18 minutes.

There were strong similarities between the patterns of engagement and the type of MOST content young people engaged with, regardless of whether they received a referral from headspace or Queensland Health.

Orygen Digital began collecting data on the time clinicians spent preparing for, and communicating with, young people on 19 July 2023. During the 37-week period that contact log data was collected, contacts regarding a total of 417 young people were made, and 3022 separate contacts were made. Modes of contact were direct message (DM) (76%) followed by SMS (12%), followed by Phone (11%). 89% of

contacts were directed to the young person, 8% were to a family member or carer, 1.5% were to an Orygen Digital staff member, and 1.2% were to the referring service.

7.5 Findings

Accepting a referral to MOST did not guarantee subsequent engagement with the platform.
48.1% of young people who accepted a referral from headspace centres progressed to complete onboarding and access MOST's content.
48.9% of young people who accepted a referral from HHS progressed to complete onboarding and access MOST's content.
headspace centres primarily used MOST as a referral option for young people on a waiting list for face-to-face engagement. Queensland Health's accepted referrals were more evenly distributed across those on waiting lists, those receiving face-to-face care, and those approaching discharge. Subthreshold discharges accounted for 26% of referrals accepted by HHS consumers.
Young people who accepted a referral from headspace centres were more likely to fall into the 12 to 14-year-old categories. Those who accepted a referral from Queensland Health mental health services were more evenly spread across the 12 to 17-year-old age range.
The Q-MOST pilot was not widely adopted by Queensland Health adult mental health services, and that is one of the reasons for the pronounced decline in MOST referrals to HHS consumers in the 18+ category.
Sharp declines were evident in all measures of engagement that were analysed, across the entire cohort that adopted MOST.
A small proportion of young people achieved comparatively higher engagement levels than the majority.
When individuals' session times were analysed, on the 12 to 14-year-old platform the median time for a young person's entire engagement with the MOST platform was 26 minutes. On the 15 to 25-year-old platform, the median time for a young person's entire engagement with the MOST platform was 18 minutes.
There were strong similarities between the patterns of engagement and the type of MOST content young people engaged with regardless of whether they received a referral from headspace or Queensland Health.
During the 37-week period that contact log data was collected, contacts regarding 417 young people were made by the MOST clinical team.

8 MOST effectiveness for young people

Proving the effectiveness of Digital Mental Health Interventions (DMHI) is complex. Over recent years, the landscape of digital technology has evolved at such a rate, digital interventions that are validated in randomised controlled trials are sometimes rendered obsolete by the time they are published (Mohr et al., 2015). It is advantageous to employ study designs that can run continuously, adapt to changing service environments, integrate emerging technologies and save implementation costs. However, it is important to capture data accurately so that the efficacy of various components of a DMHI can be measured, bias can be evaluated, and comparisons across subgroups such as non-starters or non-adherers can be made.

8.1 Mental Health Outcomes

Young people who onboarded to the MOST platform were invited to complete health questionnaires shortly after completing the sign-up process (baseline), and at regular six-week intervals[10]. QCMHR analysed the change in these scores over six and 12 weeks, and detailed results are available in the Appendices. Changes in questionnaire scores at the group level were not found to be clinically significant, on either platform, over any time period. Several factors impacting assessment of MOST effectiveness were identified during the analysis of mental health outcomes and are discussed in the following sections.

Summary tables for numbers of young people who improved, deteriorated, or had no change over 6 and 12-week periods for each questionnaire are listed below. Except for CHU-9D, SWEMWBS, and CFI-9, the totals, and percentages in each of the 'Improved', 'Deteriorated' and 'No change' columns are given at the clinically significant level (See Appendix C for further information)

Table 8.1.1: Child Health Utility 9 Dimension Instrument (CHU-9D)

Quality of Life
(Ratcliffe, Stevens, et al., 2012)

	Timepoint	Improved n (%)	No change n (%)	Deteriorated n (%)
12 to 14-year-old platform	Week 6	51 (60.7%)	0 (0.0%)	33 (39.3%)
	Week 12	38 (59.4%)	1 (1.6%)	25 (39.1%)
15 to 25-year-old platform	Week 6	76 (50.7%)	2 (1.3%)	72 (48.0%)
	Week 12	65 (52.4%)	2 (1.6%)	57 (46.0%)

[10] The Career Futures Inventory (CFI-9) is asked only at baseline and week 24 (Appendix K: The Career Futures Inventory (CFI-9))

Table 8.1.2: Patient Health Questionnaire 4 (PHQ-4)

Anxiety and Depression
(Kroenke et al., 2009)

	Timepoint	Improved n (%)	No change n (%)	Deteriorated n (%)
12 to 14-year-old platform	Week 6	13 (15.5%)	68 (81.0%)	3 (3.6%)
	Week 12	10 (15.4%)	54 (83.1%)	1 (1.5%)
15 to 25-year-old platform	Week 6	33 (18.3%)	140 (77.8%)	7 (3.9%)
	Week 12	31 (21.8%)	101 (71.1%)	10 (7.0%)

Table 8.1.3: Mini Social Phobia Inventory (Mini-SPIN)

Social Phobia, Social Anxiety
(Connor et al., 2001; Davidson, 2021)

	Timepoint	Improved n (%)	No change n (%)	Deteriorated n (%)
12 to 14-year-old platform	Week 6	7 (8.3%)	70 (83.3%)	7 (8.3%)
	Week 12	11 (16.9%)	50 (76.9%)	4 (6.2%)
15 to 25-year-old platform	Week 6	24 (13.3%)	139 (77.2%)	17 (9.4%)
	Week 12	16 (11.3%)	118 (83.1%)	8 (5.6%)

Table 8.1.4: Kessler Psychological Distress Scale (K-10)

Non-specific psychological distress
(Andrews & Slade, 2001; Kessler et al., 2002)

	Timepoint	Improved n (%)	No change n (%)	Deteriorated n (%)
12 to 14-year-old platform	Week 6	14 (16.7%)	64 (76.2%)	6 (7.1%)
	Week 12	14 (20.9%)	50 (74.6%)	3 (4.5%)
15 to 25-year-old platform	Week 6	36 (19.7%)	138 (75.4%)	9 (4.9%)
	Week 12	29 (19.9%)	101 (69.2%)	16 (11.0%)

Table 8.1.5: Perceived Stress Scale (PSS-4)

Perceived Stress
(Cohen, Kamarck, & Mermelstein, 1983)

	Timepoint	Improved n (%)	No change n (%)	Deteriorated n (%)
12 to 14-year-old platform	Week 6	4 (18.2%)	16 (72.7%)	2 (9.1%)
	Week 12	4 (23.5%)	11 (64.7%)	2 (11.8%)
15 to 25-year-old platform	Week 6	33 (18.3%)	134 (74.4%)	13 (7.2%)
	Week 12	34 (23.8%)	98 (68.5%)	11 (7.7%)

Table 8.1.6: University of California, LA, Loneliness Scale (UCLA-3)

Loneliness, Social Phobia
(Hughes et al., 2004)

	Timepoint	Improved n (%)	No change n (%)	Deteriorated n (%)
12 to 14-year-old platform	Week 6	20 (23.8%)	53 (63.1%)	11 (13.1%)
	Week 12	13 (20.3%)	40 (62.5%)	11 (17.2%)
15 to 25-year-old platform	Week 6	29 (16.1%)	128 (17.1%)	23 (12.8%)
	Week 12	28 (19.7%)	96 (67.6%)	18 (12.7%)

Table 8.1.7: Short Warwick Edinburgh Mental Wellbeing Survey (SWEMWBS)

Mental Health Wellbeing
(Taggart, Stewart-Brown, & Parkinson, 2016)

	Timepoint	Improved n (%)	No change n (%)	Deteriorated n (%)
12 to 14-year-old platform	Week 6	47 (56.0%)	5 (6.0%)	32 (38.1%)
	Week 12	40 (61.5%)	7 (10.8%)	18 (27.7%)
15 to 25-year-old platform	Week 6	99 (55.0%)	23 (12.8%)	58 (32.2%)
	Week 12	77 (54.2%)	15 (10.6%)	50 (35.2%)

Table 8.1.8: Career Futures Inventory (CFI-9)

Career adaptability, Career optimism, Perceived Knowledge of the work environment
(McIlveen, Burton, & Beccaria, 2013)

	Timepoint	Improved n (%)	No change n (%)	Deteriorated n (%)
15 to 25-year-old platform	Week 24 (CA)	4 (50%)	3 (37.5%)	1 (12.5%)
	Week 24 (CO)	0 (0%)	5 (62.5%)	3 (37.5%)
	Week 24 (PK)	3 (37.5%)	2 (25.0%)	3 (37.5%)

8.1.1 Correlation versus causation

The Q-MOST pilot was not a randomised controlled trial, therefore it was not possible to identify through this evaluation whether other factors in mental health care, such as ongoing engagement with a mental health clinician at headspace or Queensland Health, were also impacting young people's outcomes. The natural course of young people's mental health or other changes in people's lives, could also have caused or contributed to the resolution or progression of mental health symptoms reflected in the health questionnaires that Orygen Digital administered.

Without a control group it becomes increasingly challenging to draw definitive conclusions about the effectiveness of a treatment or program. The main advantage of including a control group is to demonstrate causality. Without a control group, it is not possible to compare the outcomes of participants with a group that did not receive the same intervention. Therefore, it is not possible to ascertain whether

the intervention caused the observed change because there may be other variables that influence the participants' outcomes, that have not been accounted for.

Some research on transdiagnostic DMHI have assigned individuals on a waiting list for face-to-face engagement as a comparison group to investigate the effectiveness of the intervention in isolation, compared with engagement under clinical supervision (Newby et al., 2013). However, because individuals that onboarded to MOST only had their treatment stage (waiting list, receiving face-to-face care, approaching discharge, subthreshold discharge) recorded at point of referral, and the timepoint at which they transitioned between treatment stages was unknown, it was not possible to compare those on a waiting list with those receiving face-to-face care.

Additional qualitative data for this section is available in Appendix A, page 121.

8.1.2 Sampling bias

Depending on the health questionnaire, and age group platform, responses are available for between 22 and 183 young people at six weeks, and between 17 and 146 young people at 12 weeks. There were 267 young people who had data at both baseline, and either week 6 and/or week 12. However, it is important to understand that this is not a representative sample of everyone who onboarded to the MOST platform. The results that are available apply to the individuals who participated in the health questionnaires and cannot be accurately generalised to the entire cohort of young people who engaged with the MOST platform.

The health questionnaires, and Orygen Digital's customer satisfaction surveys, were not administered through the MOST platform itself, but through the Research Electronic Data Capture (REDCap) system, a secure web-based application widely used in the health industry, to design and manage online surveys. Orygen Digital sends links to REDCap surveys to young people who have onboarded to the MOST platform (via email or SMS).

Of all young people who were onboarded to MOST for at least eight weeks[11], 16.3% completed both baseline and at least one of the six-week questionnaires. At 14 weeks, 13.4% completed both baseline and at least one of the 12-week questionnaires. Young people who completed at least one questionnaire except at baseline (12 to 14-years: n = 154, 15 to 25-years: n = 315), were compared with those who; a) did not complete subsequent questionnaires, and b) had been onboarded for at least 24 weeks (12 to 14-years: n = 261, 15 to 25-years: n = 714). This analysis was conducted with a Two-sample Chi-squared test for demographic variables, and the Wilcoxon's rank sum test for engagement variables.

Young people who completed questionnaires were not significantly different from those who did not in terms of categorical variables[12], except Pronoun. On the 12 to 14-year-old platform, those who identified as 'Gender diverse' were 1.9 times more likely to be among those who completed questionnaires when compared with those who did not (χ^2: 4.41, $p < 0.05$, df = 1, 95% CI: 1.1-3.4). On the 15 to 25-year-old platform, those who identified as 'Gender diverse' were 1.8 times as likely to be observed among those who completed questionnaires when compared with those who did not (χ^2: 9.28, $p < 0.01$, df = 1, 95% CI: 1.2-2.6).

[11] As of 1 June 2023, young people have a maximum of 14 days to complete questionnaires from when the access link is sent.
[12] There are additional variables such as 'sexuality' and 'highest educational level' collected for those who complete questionnaires, but these are not available for those who do not. Also, a large proportion of young people who completed health questionnaires, onboarded prior to the collection of Indigenous status on the platform, therefore it was not possible to investigate differences for this variable.

Young people who completed health questionnaires were more engaged with the MOST platform than those who did not. This was apparent for all measures of engagement including active days, session numbers, session times, therapy views, and social interactions. For example, on the 12 to 14-year-old platform, the median number of active days for those who were measured was estimated to be 3 days higher than those who were not measured (W: 14,138, $p < 0.001$, 95%CI: 2-5). On the 15 to 25-year-old platform, the median number of Active days of those who were measured by health questionnaires was greater than those who were not by 5 days (W: 59,361, $p < 0.001$, 95%CI: 4-6). Therefore, the group who were completing REDCap surveys were more highly engaged with the MOST platform than those who were not.

This data does not suggest that young people who engage more with MOST experience greater improvements in their mental health outcomes. To establish this, a representative sample of everyone who engaged with MOST would need to complete health questionnaires.

Observational cohort studies are prone to high levels of attrition, and this has consequences for interpreting the observed outcomes. Attrition in observational studies often leads to an overestimate of effect, and the true effect when executed outside the research environment is likely to be smaller (Greenland, 2017). This effect is commonly attributed to the phenomenon whereby those who are measured at the end of a study are likely to participate in studies to improve health, adhere more to the treatment, and have higher functional status (Shrank, Patrick, & Alan Brookhart, 2011).

8.1.3 Measurement Error

The precise amount of engagement accrued by a young person at the time they complete a questionnaire is uncertain. Although young people's de-identified health questionnaire results could be matched to their de-identified MOST engagement data, it was not possible to isolate an accurate measurement of platform engagement at the precise date that health questionnaires were completed. For some young people engagements listed at baseline, 6, and 12 weeks were the same. Because of this, it was not possible to investigate changes in health questionnaire results alongside engagement with the MOST platform. Attempting to match an individual's level of platform engagement with health questionnaire results would have incurred unacceptable measurement error.

The data received from Orygen Digital identified a young person's treatment stage at referral to MOST, but it was not possible to identify when young people transitioned between those stages or discharged from referring services. Therefore, QCMHR could not match the results of individuals' health questionnaires to their treatment stage over time.

8.1.4 Conclusions for mental health outcomes

The results of the questionnaires do not provide conclusive evidence for the effectiveness of the MOST platform. Those who completed questionnaires were a small proportion of all young people who onboarded to MOST as part of the Q-MOST pilot and were characteristically different to those who did not complete questionnaires. The results of the questionnaire cannot be generalised to the entire cohort of young people who onboarded to MOST or those referred to MOST.

The findings provide weak evidence that enrolment to the MOST platform was associated with a change in mental health outcomes for young people who shared their data for the evaluation of the Q-MOST pilot, due to:

- estimates of overall change in self-reported health questionnaires falling below the thresholds of clinical significance,

- evidence of sample bias within the cohort who completed health questionnaires leading to an overestimate of effect for overall efficacy, and
- the absence of a comparison group.

8.2 Highly engaged users

Analysis of data in this evaluation (section 7.3) showed that a large proportion of young people who onboard to MOST recorded a limited level of engagement.

Previous studies have shown that low engagement with digital mental health platforms can be attributed to irrelevant material, lack of motivation, and poor user experience (Garrido et al., 2019). Young people who do not achieve a sustained engagement with MOST may not experience benefits from their interaction with the platform and/or have no ongoing need for continuing engagement. However, the small proportion of highly engaged users who do progress to ongoing interaction with the platform likely derive benefits from their prolonged use.

Many clinicians discussed how a certain type of presentation in young people was more likely to predict engagement with the MOST platform. Interviews with clinicians, and young people who were highly engaged with MOST, revealed that this cohort are likely to already be, or become, engaged with their referring services. These young people appear to be proactive about understanding their mental health and possess a level of motivation that drives them to seize opportunities that are offered to help them to understand and manage their condition. Clinicians explained that young people who struggle with self-efficacy and motivation are less likely to derive benefits from an online platform of this type.

I have got one young person who has engaged really well with it and given me good feedback about it. But they're really motivated to get help for themselves. … That was a young person who I was seeing who was 17 or 18 at the time. Saw them for quite a lot of regular sessions. But they were really motivated. So it's like we're preaching to the converted.

C16 headspace clinical psychologist – South East Qld

My overall impression is there are like a small cohort of young people who use it really well for the intended purpose and have actually gotten a lot of benefit out of it. … So I definitely think it's about what people's motivations are, helps how skilled they are to navigate and get their needs met on the platform, and I don't think everyone has that particular skillset.

Orygen Digital Employee 3

I think that the people who engage with it [MOST] are more therapeutically minded and would engage with case management or would engage in regularly sessions up at headspace or something. So, like people that want that support and want that information. They would probably be more likely to engage with our service or another service.

C44 Qld Health CYMHS team leader –Regional Qld

Additional qualitative data for this section is available in Appendix A, page 121.

8.3 Summary

Determining the effectiveness of the MOST platform is problematic. The Q-MOST pilot was not a randomised controlled trial, and the collection of survey data for mental health outcomes was limited to a sample of young people who did not represent everyone that engaged with the platform. It is reasonable to assume that highly engaged users do derive benefits from their interactions with MOST, but interviews with clinicians and young people indicated that this cohort are engaged, or the type of people most likely to become engaged, with their referring services. Highly engaged users also exhibit strong motivation to understand and self-manage their mental health symptoms. Some clinicians also explained that young

people with a contrasting presentation will struggle with the energy and commitment required to sign-up and onboard to MOST, and engage with the self-directed nature of the platform's content.

8.4 Findings

The absence of a control group means that any changes in mental health outcomes for young people who participated in the Q-MOST pilot cannot be attributed to their engagement with the MOST platform.
Only a small proportion of young people who participated in the Q-MOST pilot completed mental health questionnaires. The results reported for changes in mental health outcomes cannot be generalised to the entire cohort who took part.
Some referring clinicians thought that the small proportion of young people who were highly engaged with the MOST platform displayed characteristics such as motivation and self-efficacy, that are also present in young people who become highly engaged with mental health services.

9 Summary of Findings

Q-MOST pilot implementation

- The Q-MOST pilot experienced delays, and then took time to adapt to the Queensland context. These challenges frustrated some referring services and impacted their confidence and cooperation with the pilot project.
- The Q-MOST pilot continued to evolve over time, but disseminating information about implementation adaptations and MOST platform updates to clinicians was problematic, especially with a busy workforce in referring services who were managing many competing priorities.
- Some initiatives introduced at the start of the Q-MOST pilot, such as implementation group meetings and MOST champions, achieved limited success.

Service level adoption

- Service level adoption of the Q-MOST pilot was crucial to success. Several barriers to successful service level adoption were identified by the evaluation.
    - Staffing issues placed pressure on referring services, which impacted adoption of the pilot.
    - Clinicians balance competing demands during their engagement with young people, sometimes a MOST referral was not prioritised.
    - Private practitioners in headspace centres did not make time available for MOST orientation and training.
    - Changing established working practices is hard, thus impacting MOST referral and adoption.
    - Clinicians' attitudes towards MOST were diverse, the Q-MOST pilot was not universally supported among referring services.
    - Young people's negative responses to offers of referral, and limited engagement with the platform, discouraged some clinicians from offering referrals on an ongoing basis.
    - The availability of other digital mental health options, particularly a headspace online account, meant that MOST did not have a monopoly on referrals from headspace centres or Queensland Health services.
    - A lack of support for the Q-MOST pilot from headspace National and some senior management and team leaders in Queensland Health HHS and mental health services impacted the adoption of the pilot.
- Some referring clinicians embraced the effectiveness of the Q-MOST pilot from referring services points of view.
    - Orygen Digital's management of risk protocols for young people who engaged with the MOST platform was lauded.
    - MOST's resources were seen to be beneficial for young people who chose to engage with the platform, especially if they were on waiting lists.
    - Referring services were relieved to be able to offer young people some support and oversight while they were on a waiting list or approaching discharge.
- Referral to MOST was not viewed by clinicians or young people as blended or collaborative care, MOST engagement was generally seen as compartmentalised and separate to therapy received from referring services.

- Interviewees identified the value of making it possible for general practitioners, school guidance councillors, and youth groups to refer to MOST when interacting with young people who could benefit from early mental health intervention and support.
- The autonomy afforded to mental health services across Queensland allowed modification of service offerings to meet local needs. The Q-MOST pilot was not prioritised equally by all services, and those decisions impacted referral rates to the platform.
- There were inconsistencies in the points of the care pathway where referring services chose to introduce young people to the MOST platform.
- The availability of alternative mental health and youth services in different locations statewide contributed to the prioritisation of the MOST platform at individual headspace centres and HHS clinics.
- Longer waiting lists increased offers of MOST referrals to young people.

Referrals

- The proportion of accepted referrals to MOST for young people from headspace centres was 18.2%.
- The proportion of accepted referrals to MOST for young people from HHS Services was 5.8%.
- No data are available for those that rejected the offer of a referral to MOST, but qualitative interviews with clinicians highlighted that the proportion of refusals is likely to be high.
- Various barriers to MOST referral were reported including:
    - Young people's preferences for face-to-face engagement with mental health clinicians.
    - The digital divide, which was exacerbated for disadvantaged groups.
    - Poor levels of literacy among some young people who engaged with participating mental health services.
    - Parental consent for the 12 to 14-year-old cohort.
    - Introducing MOST to young people during intake assessments was often not conducive to accepting a referral.

Young people's MOST adoption

- Accepting a referral to MOST did not guarantee subsequent engagement with the platform.
- 48.1% of young people who accepted a referral from headspace centres progressed to complete onboarding and access MOST's content.
- 48.9% of young people who accepted a referral from HHS progressed to complete onboarding and access MOST's content.
- headspace centres primarily used MOST as a referral option for young people on a waiting list for face-to-face engagement. Queensland Health's accepted referrals were more evenly distributed across those on waiting lists, those receiving face-to-face care, and those approaching discharge. Subthreshold discharges accounted for 26.1% of referrals accepted by HHS consumers.
- Young people who accepted a referral from headspace centres were more likely to fall into the 12 to 14-year-old categories. Those who accepted a referral from Queensland Health mental health services were more evenly spread across the 12 to 17-year-old age range.
- The Q-MOST pilot was not widely adopted by Queensland Health adult mental health services, and that is one of the reasons for the pronounced decline in MOST referrals to HHS consumers in the 18+ category.
- Sharp declines were evident in all measures of engagement that were analysed, across the entire cohort that adopted MOST.

- A small proportion of young people achieved comparatively higher engagement levels than the majority.
- When individuals' session times were analysed, on the 12 to 14-year-old platform the median time for a young person's entire engagement with the MOST platform was 26 minutes. On the 15 to 25-year-old platform, the median time for a young person's entire engagement with the MOST platform was 18 minutes.
- There were strong similarities between the patterns of engagement and the type of MOST content young people engaged with regardless of whether they received a referral from headspace or Queensland Health.
- During the 37-week period that contact log data was collected, contacts regarding 417 young people were made by the MOST clinical team.

Effectiveness

- The absence of a control group means that any changes in mental health outcomes for young people who participated in the Q-MOST pilot cannot be attributed to their engagement with the MOST platform.
- Only a small proportion of young people who participated in the Q-MOST pilot completed mental health questionnaires. The results reported for changes in mental health outcomes cannot be generalised to the entire cohort who took part.
- Some referring clinicians thought that the small proportion of young people who were highly engaged with the MOST platform displayed characteristics such as motivation and self-efficacy, that are also present in young people who become highly engaged with mental health services.

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Appendices

Appendix A: Additional qualitative data

3.1 Launching the pilot

The initial pilot being run in Victoria during lockdown means even at the time that this started to be rolled out it was like, you cannot possibly extrapolate a successful result from lockdown Victoria into non-lockdown Queensland. It's not even close. Very ambitious attempt.

C22 headspace Manager – Regional Qld

When Orygen digital branched to Queensland, it was based on a Victorian model that was still, they were still in lockdown, and in Victoria Orygen ran all, if not most of the headspaces in Victoria. So they already had that kind of reputation. They had those partnerships. Then, when they branched out to Queensland, it was a whole new ball game. We're so remote and we're so regional, and we have a completely different way of working. I think that transition was really tricky, and I think the facilitators and clinical implementation lead did such an amazing job of trying to sell a product that even they were still learning, and we were still learning on the go. Orygen and the MOST platform was still learning. It was still developing, so I think that kind of phase and the rollout phase was really tricky.

Orygen Digital Employee 7

I think what's worked well has been how responsive MOST have been to feedback that we've given them throughout the pilot.

C35 headspace clinical manager – Regional Qld

Some HHS were a lot easier to deal with, and then others, obviously it was a lot longer to get the communication flowing. But just in general, just with the HHS, one HHS might have how many eligible different referring services, so there's a lot more people to coordinate. There was a lot more trying to fit MOST into existing procedures and models of care, and trying to figure out how it all meshed into like their intake procedures and then into CIMHA and in different parts. So there was just a lot more thinking that needed to be done in terms of being able to make it fit because it was strangely not just like a referral to other services. … and Queensland Health has just got lots of slow-moving parts, so we just had to go at their pace really.

Orygen Digital Employee 3

I think it's really about the leadership team and the people that you have on the ground in terms of where they are on that early adopter or digital spectrum. How invested the leadership are. … I think being more conscious of that and whether it's readiness or the contextual situation that's happening within services and then working with services to understand or work on a timeline of like, okay based on what we know about your service and what you've told us, these are the things we need to do to, have that run in to implementation or run in to them having MOST live in the service. The longer my general sense of why we hadn't operated like that in the past, is really the funding realities in terms of, usually my experience with government funding at least, is they want things done yesterday.

Orygen Digital Employee 8

I'll say with the whole implementation it was a bit stressful for our centre. I remember the PHN came to us in, I want to say August of when it was supposed to commence, and we were effectively told, you're going to do this pilot. It was told to, you're going to do this pilot, they're going to give you money, you need to be ready to do that in three weeks. It was August and they wanted it by September 1. … We tried to scramble and scramble … and to understand the platform and understand what it was we were being asked to do. Then there was a huge delay in actually rolling out anything, so it was yet another kind of governmental hurry up and wait situation, where we were told we didn't have a choice, that we must do this, we must be ready by September and then we got dicked around for, like, five months before anything actually happened. There was real resentment at that point. It didn't help that we were about to go into the headspace Model Integrity Framework audit at that exact moment, so we already had our own pressures on the centre at the time.

C22 headspace Manager – Regional Qld

By the time it came, it was rushed around how it was going to be implemented here. What our role is, it wasn't explained properly and then, of course, well, I shouldn't say of course, but [OD employee] didn't really have any understanding around how it's going to be implemented. … I think if you're going to do something, you need to be able to let the key people know how it's running, how it can benefit our service, and also the kids there. There was nothing around that.

C45 Qld Health senior mental health clinician –Regional Qld

3.2 Implementation group meetings

Often, when we don't give feedback, it'll be because we perceive the thing that we're griping about as being an immovable force within the structure and the way that it's set up, you know, in terms of is there much point in giving the feedback to anyone but you [the QCMHR evaluation team] for example? Hey Orygen, we don't actually think that young people want this as a platform, overwhelmingly. You know, what's the point in airing that grievance? It isn't helpful, it doesn't achieve anything, and it's quite disheartening, obviously, for Orygen staff to hear that from us when we should just be all giving it a go. So, we've given it a go, you know?

C22 headspace Manager – Regional Qld

Like every pilot they're very sort of, they already have a set way of doing things. They already have a way to collect their data and already a process in terms of this is how you refer, and then you go from there.

C21 headspace centre manager – Regional Qld

3.3 MOST champions

Some MOST champions are very, very driven and, you know, focused. There's one particular not in a service that I look after, that is from a sales background. She just loves having numbers and targets and all that sort of stuff. Whereas other champs, it's really busy. They're a super part-timer, so they've actually got wall to wall like brief intervention appointments all day, and even trying to get a time in their calendar is incredibly difficult.

Orygen Digital Employee 1

It comes up all the time. I think because our MOST champion is a great MOST champion. She brings it up every two minutes of the day.

C11 headspace intake clinician - South East Qld

A couple of the clients that I've referred, I know one said they didn't really engage, and the second one said they've used it occasionally, but that's about it … that was probably the next part of the champion role, it needed to be sitting down and having a proper analysis of it, separate to what you've been asked to do. But we're not, we don't have time, we don't have capacity to do it.

C25 headspace centre MOST champion & senior access and engagement officer – Regional Qld

Whether they were valuable in headspace, that again, is not unique to Queensland, it's something that we have struggled with and that really, we've gone, okay, actually we think that's not useful, or not useful in most settings. We think that it's better to focus on more of what we call, early adopters. So, spend our time focused on early adopters and the senior leaders, rather than relying, there was a bit of reliance, sometimes we had a reliance on a MOST champion as the key point of contact, which was the intention, but that it's too reliant on one person, and if you've got a bad MOST champion, or they leave, we were too reliant there.

Orygen Digital Employee 6

3.4 MOST training

We were given like an overview of the platform, but we were also given like stats and some data, and kind of I guess a lot of information from what was happening in Victoria, because obviously it was new in Queensland. … The general I guess feeling that I've gotten from the team is that that first training was not effective. Us all being shoved into one Teams meeting and just kind of chucked all this information at us was not helpful. … I think it wasn't really delivered in a very effective way, the training at the beginning.

C01 headspace centre MOST champion & access and engagement officer – South East Qld

I think one of the Q-MOST people came in and did education via video conference. But I think that wasn't enough and it wasn't explicit or explained properly.

C45 Qld Health senior mental health clinician –Regional Qld

It's changed a lot and it changes all the time. What changes is the content, really. So the nitty gritty of how things work or what, like some of the eligibility criteria has changed. Some of the onboarding processes for young people has changed. So it's keeping all of that up to date all the time in the training … Initially I think I approached it more as requesting an hour from services but finding that that was quite difficult for Queensland Health to give staff that much time. Then the blend as well. It's always different if we get the opportunity to do it face-to-face than if we're doing it online.

Orygen Digital Employee 2

Those things that come in over time and we just learn and at least I would like to think we are constantly changing things, which can make it challenging to explain these changes. … We try and balance that out where we are like, okay, we can't be going and training clinicians every day on what new things are.

Orygen Digital Employee 6

3.5 Orygen Digital Clinical Implementation Facilitators

Fabulous, she's very enthusiastic and I think that's where I got my enthusiasm from. I think she explained it beautifully, it was very understandable and it made sense. That was the first time that it all really fell into place for me. I think as soon as I really understood the platform more, I then felt more comfortable and confident talking to young people about it. Prior to that it just seemed like no one was really sure, we weren't quite understanding exactly what it was going to do, what it looked like, anything like that.

C37 Qld Health psychiatrist – Regional Qld

She did her own session for me, just because I was late into the game … I just liaised with her, and she did her own individual training session, which was really, really helpful and good, yeah and showed me some videos and I got on with the profile and had a look around.

C39 Qld Health intake clinician – South East Qld

4.1.1 Staff turnover

I think we had a lot of issues in this service at that time, so it wasn't really high on our agenda because like we had lots of staffing issues, and there were so many other things. Then people were pushing, make sure you're doing Q-MOST. Make sure you're doing Q-MOST. Then it was almost like just another box to tick at that time. But once we got a handle on things, I think that we found it really helpful because if we're seeing some in the emergency department, it's something we can set up then and there for them. I thought that that was really good. But yeah, it took a while for us to get in the swing of doing the referrals. … I'm the only person that's been here for longer than six months. … I really don't think that the adult team refers to MOST at all because the acute care team has, I think, one permanent staff member. I think they just change staff so quickly the information just doesn't get passed on. So, I just don't think they are referring to the service.

C44 Qld Health CYMHS team leader –Regional Qld

I think for a centre like headspace and probably similar to Queensland Health, the transient nature of staff as well, that doesn't help.

C21 headspace centre manager – Regional Qld

Definite staff turnover or just short staffed. I know that a lot of the sites up there just had prolonged unfilled vacancies. So yeah, that just makes it hard.

Orygen Digital Employee 3

4.1.2 Time management and familiarity with referral

If I'm being honest, it did kind of slip off my radar as time progressed. I think that's just to do with, like I said, I have a caseload of 50. My first line of treatment is in-person therapy. I'm covering a whole range of different things, and it's just one of those, another thing to remember to tap on at the end of the session which depending on time might not always happen.

C33 headspace general registered psychologist – Regional Qld

Then as we got towards discharge, I was thinking, I actually don't know if we can link them in at this point, you know, if they have to have a concurrent other mental health service supporting them. There'd be things like that where it was just that potentially they told us in the training, and I had just forgotten that little key piece of information.

C49 Qld Health mental health clinician – Regional Qld

4.1.4 Established working practices

I think because I've been here before MOST came I was already used to a process and now change, it's very hard to adapt and we have a lot of changes in headspace. I think now that MOST was introduced, I just forget.

C11 headspace intake clinician - South East Qld

I think they're [HHS services] so set in their ways of when they see a young person, whether it's intake, they send them home with a list of, this is where you could go and get support. Unless they put Orygen Digital in that list then it's not going to, or the young person has too many options, and they're like, well I don't know, and they get overwhelmed because they're obviously struggling themselves.

Orygen Digital Employee 7

4.1.5 Individual clinicians' attitudes to MOST

We have one clinician here who just loved it and she just worked, anybody that would come through the door she would talk to them. So, she had a lot of referrals. She's now down in [location removed], so their referrals have probably gone through the roof. She was really good at it. For [second location removed], it is really that they just didn't take it on. It was, hard to say because it's an operational thing, but they just didn't really warm to it as much as they probably should.

C25 headspace centre MOST champion & senior access and engagement officer – Regional Qld

I would say part of it for me personally is a bit of resistance to the platform, because I'm going to be 100 per cent honest, I don't absolutely believe in the platform.

C01 headspace centre MOST champion & access and engagement officer – South East Qld

The reason why there may not be as many referrals for me, personally, is just because I haven't really thought about it, to be honest. It hasn't been something that's been, oh, yeah, the MOST thing. It's kind of been like another thing to think about, so I haven't given it any thought.

C19 headspace care coordinator – Regional Qld

There definitely are clinicians that don't see the value in MOST and don't refer people. They just say, ah, that's just another thing and they don't, and the way they've always done things is the way that it's done and they're not, maybe not early adaptors or open to change. I think that's definitely some people's attitude and it's probably across the board in centres too. We do have people who are pretty firmly just against and won't refer and I know that they don't want to be a part of this evaluation either. I think that's probably important to feedback as well.

C36 headspace clinical lead – Regional Qld

I think the biggest problem is how to make it a priority. Look, maybe if it was this whiz-bang thing that people were just like, whoa, maybe then everyone would remember it, talk about it, want to get in there and use it. I'm not sure. I'm just trying to think here now about, I'm trying to be fair. Maybe it is offering stuff. But there's some reason that the staff haven't, it's partly time and us pushing them. But yeah maybe it's also not like this amazing fandangled solution to a problem.

C05 headspace MOST champion & intake team leader - South East Qld

I just feel like that there are other services out there that I would prefer to refer young people to. I've been on the MOST platform and I think in theory it looks cool and it looks great. The content, there's not a lot of information. I feel like there's not a lot of resources on MOST. I think it's cool that they can get paired up with a clinician, I guess that's an extra set of eyes on a young person but the resources I feel like you could get from Google to be honest. … There's nothing special about it. I know that sounds bad but there's nothing special about the platform.

C11 headspace intake clinician - South East Qld

There's a salesmanship required in that conversation that is alien to headspace staff. Alien and uncomfortable, and they resent it because if they don't 100 per cent buy the thing they're trying to sell. If they do they'll sell it with whole talents and it will sell itself, you know, by virtue of the kid will see that the clinician believes in it and it's a genuine solution for them. If they just think, oh it's part of my process, I have to offer this thing, that I probably don't know as much about it as I should, I don't think is a viable alternative to face-to-face counselling, it's going to be a half-arsed salesmanship job.

C22 headspace Manager – Regional Qld

I think that 'this is the way we've always done things' maybe does sit with the older generation of therapists. There's a little bit of arrogance, maybe. Maybe being untrusting again of something new. I definitely think maybe the younger generation coming through are probably more open to this, using online platforms being a safe space. Probably a lot more inclined to refer and take this stuff onboard. I hate to say that, but I think there probably is an element of age and how long they've been practicing.

C36 headspace clinical lead – Regional Qld

We have seen, for example, typically younger clinicians and this is where I think there can be some differences, at least anecdotally within headspace versus more specialist services is typically, maybe a younger more inexperienced workforce in headspace that may be a bit more open to digital as compared to specialist services.

Orygen Digital Employee 6

4.1.6 Negative responses to referral

If we were hearing more positive stories about the use of the platform from young people that we've referred, I certainly think that would prompt quite a few, most of us, to continue talking about MOST and continue to promote it as well.

C21 headspace centre manager – Regional Qld

I didn't refer lots of people. As of yesterday, I've referred three. Before yesterday, two. Those two didn't really engage with it from my understanding.

C38 Qld Health senior mental health clinician – South East Qld

I think I've just had a number of young people not be too keen on it, even after they've tried it for a little bit, and so I've wondered was this something that young people actually want or is this something that I want for young people.

C58 Qld Health psychologist – South East Qld

Then there was a lot who were those sort of clinicians were like, look, we're getting feedback from the young people that there's a lot of words on the platform, there's a high level of literacy that's required. The onboarding process is very long. It's very lengthy. There's too many questions involved in it. Consistently they were telling us that it was turning people away, so they actually never jumped through. So I do think that that fed into clinicians not offering it to some people who they knew would probably struggle with that in the first place. So I think there's a bit more discernment around that. So yes, it was just a lot more thinking about that it's maybe not appropriate for some people, and then yeah, more declining.

Orygen Digital Employee 3

4.1.7 eheadspace, headspace online, and other DMHI

Sometimes we do those things in session and I'll suggest, for instance, an app called Smiling Mind, which is like free guided stuff. They seem to really respond to that because it's I guess just even more sort of instructional.

C06 headspace brief interventions clinician – South East Qld

There's one called Calm Harm so that's just around managing self-harming, or I think one's called Sober so again managing self-harm, like any sort of unhealthy coping behaviours. So more sort of specific to certain presenting issues.

C13 headspace MOST champion and clinical lead – South East Qld

I have had a list, I probably haven't had it out and used it for a while, just a summary of, I can't think what was on there, there was Smiling Mind and maybe the Beyond Blue and, a few different ones that are all kind of the nice, reputable free apps that we can share with young people, just to give them some starting points.

C47 Qld Health CYMHS mental health clinician – Regional Qld

4.1.8 Support for the Q-MOST pilot from referring services

I think if MOST is going to have a presence, you need that engagement from the team leaders.

Orygen Digital Employee 4

One team leader in a South East Queensland adult mental health service explained how constant change management, the autonomy of case managers, and finding time to understand and explain the potential benefits of MOST engagement contributed to a lack of engagement from that service.

We are change fatigued. We are, the new Mental Health Act came out in 2016. I know that seems like a long time ago but it really kind of rolled out in 2018 properly. Then we're still getting our head around Forensic Order Disabilities and these sorts of things. NDIS is a big change for us. It's a massive, and there's all these other changes. So people who are out here, there's so much change going on … As a manager, I think there's a limited amount of priority my voice has to have, if I talk all the time it has no value, and I need to choose what I spend time telling my team they need to implement. … I would have a real hard time selling it [MOST] to them and I don't think the branch has sold it to us. I know that, and look, to be fair to the senior managers here, it gets brought up all the time. They have wanted us to do that, but I can see when I talk to case managers, the blank looks come over their faces. They can't see where the value is and I'm the wrong person to sell it to them because I struggle to see it myself. … Q-MOST is hard for me to sell [to team members}. I'll be honest with you I don't know if I'm the best salesperson for Q-MOST. That probably is where branch and stuff probably could, but it's hard to find time for meetings and all that sort of stuff too when there is so much happening. So I think it, it's not just that Mental Health branch didn't do it, they probably did do it and we didn't turn up or something.

C52 Qld Health adult community care team leader –South East Qld

I think in terms of headspace and in terms of CYMHS, I don't know what they're doing to promote and advertise. I feel like headspace could do better with that for sure. Advocating for it could be better from our perspective. … I think more so just talking about our headspace here, I feel like our team has just done the bare minimum.

C18 headspace community and youth engagement officer – Regional Qld

I think if this is to become something that is commonly used, I think it really helps to have that drive from headspace national, from team leaders, from management.

C30 headspace clinical lead – Regional Qld

I think this is something that from an HHS perspective, and this is also different state by state, and there's a whole bunch of nuance to this as well, is we do really think, even within a service and then also at a system level, what we're seeing over and over again is where we've had the most success is where there is senior level buy in and it's not necessarily mandated or whatever, but there is senior level support for it … to get adoption to cross at least the majority of service, you need some of that top down piece, or maybe linked to KPIs, or this is part of the standard offering that we need to have.

Orygen Digital Employee 6

4.2 MOST effectiveness for referring services

I really like the efficiency of the referral form. I don't find it onerous at all.

C53 Qld Health clinical nurse consultant – South East Qld

Rather than going to a GP, doing a GP mental health care plan, finding a psychologist and being on their waitlist, it takes away all those steps. I don't know the effectiveness, because I'm not with that young person. But in terms of actually being able to get something quickly, that's been quite helpful.

C59 Qld Health psychology registrar -South East Qld

It's definitely cut down, for me, the amount of time that I am spending outside of sessions responding to crisis phone call, where it's not crisis but it's more, I'm in distress and I'd like to talk about this.

C40 Qld Health senior psychologist – South East Qld

So to be able to offer a moderated, safe, online space for connection has been really beneficial. That's probably the biggest thing I wanted to get out of the program.

C35 headspace clinical manager – Regional Qld

The overall positive thing that I wanted to just reiterate, so for the record is there is a group of young people for whom this is a fantastic option, and for those young people it works beautifully. I would not like to see those young people lose their access to such a thing. However, like in all things the gap between expectations and reality is where disappointment lives. … I think that Orygen expects this to be more effective for a bigger range of young people that it ever will, and that isn't because you've done it wrong, it's because it never will fit for anyone but the group of young people for whom it fits perfectly. If Orygen continue, if they push and push and try and make it fit, this square thing fit the round hole, that's where disappointment will come. I say hone it down to be the best thing possible for that group of kids for whom it is perfect and target them. Target them only and target them well, but don't shove it everywhere and expect it to actually fit, it won't.

C22 headspace Manager – Regional Qld

4.2.1 Risk events

What I have seen work really well is escalation of concerns, MOST identified concerns about young people into the centre clinicians. I think that's really well done. Swiftly and well.

C22 headspace Manager – Regional Qld

I got contacted by somebody on the platform saying look this person has been on, we've noticed this was picked up, some issues around risk of whatever else. But they've exited our service, they may want to, or they've indicated they might want to reengage, so that was good that we got a message back from MOST to say this person is exhibiting signs of risk. We've reached out, they've suggested they'd like to reengage, so that link didn't get broken straight away.

C25 headspace centre MOST champion & senior access and engagement officer – Regional Qld

4.2.2 MOST supporting referring services

To have another set of eyes on this young person between sessions, because that is something that the headspace model does not offer.

C07 headspace clinical manager – South East Qld

The bold-faced truth of what I want out of it is for young people to be receiving some sort of support while we can't deliver it to them yet. It isn't even necessarily that I think that it will take some of them away from needing face-to-face support or anything. It's simply, I think it's unethical to make young people wait a second longer than they have to, to receive help.

C22 headspace Manager – Regional Qld

We just don't have the resources to provide enough support to the clients who are on the waitlist. So, anything more is really, really good and particularly because it's moderated as well. I think that's a real strength.

C06 headspace brief interventions clinician – South East Qld

It didn't help bring waitlists down. What it did was help keep people engaged while they were on a wait list. For those people that accepted the referral and then were active with their referral. So, it didn't directly bring waitlists down, it just meant that we were able to manage that and offer some support to people while they were waiting. Providing they accepted that offer, so it's a bit of a circle.

C25 headspace centre MOST champion & senior access and engagement officer – Regional Qld

Once they've been allocated to a clinician, we don't really need MOST to follow up.

C63 Qld Health clinical nurse – South East Qld

I think, how we pitch it as well, it's a little bit of a way to soften the blow. Because we let them know what stream we have allocated them to in headspace and then we explain the waitlist again, but then, we soften that by then introducing MOST so the young person does feel as though, okay, well I'm not going to be seeing my face-to-face therapist for a little while, but I've got something that I can access in the meantime, and that's how we pitch it to them as well.

C29 headspace intake clinician – South East Qld

4.2.3 Compartmentalised care

You refer and it's kind of a bit of a handover almost and you don't really, it goes into the ether and we never really hear what happened to that referral, if it was accepted or not.

C69 Qld Health mental health clinician – South East Qld

I think a lot of clinicians like the fact that they can refer and not have to worry about it because they know sort of someone's looking after it.

C04 headspace clinical lead – South East Qld

We don't use it alongside what we do. I probably don't really even know which ones are finding it helpful.

C50 Qld Health mental health clinician –Regional Qld

I think a lot of the time it becomes, in HHSs it becomes a refer and forget process, which I think is a capacity thing. We believe this is reassuring to offer them something, and this is our capacity. We'll refer and we'll wish them all the best and often that comes down to the referral profile as well. A lot of CYMHS do refer at that subthreshold discharge stage.

Orygen Digital Employee 4

I definitely do think they're separate with what I go to each of them about. I think that has to do with what I'm looking, what kind of support I'm looking for from MOST which is mainly to do with work and study. There are some social skills content and stuff like that but in terms of actually unpacking all sorts of issues in my life, it's really headspace and the face-to-face that I really do that, where I just talk a lot about my experience and family and friends and those kinds of concerns.

YP3 – 22-year-old - South East Qld

I think the difference is the treatment that I receive in-person I think it's more personal and because they have known me for longer it's just a bit more personal. Whereas online it's not as intense or personal. It's more just like, this is a small check-in and here's some activities that might help.

YP7 – 17-year-old - South East Qld

4.3 Alternative referral services

So we've lost a lot of clientele to move to MOST, because GPs can't refer to MOST. ... we've had a few guidance counsellors and school nurses who have said I've got this person who I'm just worried about. I don't know who to refer to. If they had the capacity to refer to MOST, that might actually help reduce the referrals we get from schools.

C63 Qld Health clinical nurse – South East Qld

I think particularly in schools, there's probably a lot of young people who would benefit from something like a MOST platform that the guidance officers could potentially refer and have value in it.

C35 headspace clinical manager – Regional Qld

I think the school would have been a great, definitely the school community and then of course some of the youth services ... if you think about the number of young people in the school environment, they would often be really good at identifying who those young people would be able to utilise a platform like MOST.

C21 headspace centre manager – Regional Qld

Probably more helpful if they were aware of it prior to an acute presentation. So if guidance officers or school-based nurses were informed, it would have more weight I'd be thinking.

C46 Qld Health Acute Response Team clinical nurse consultant – South East Qld

Schools and GPs should be able to be referrers to MOST, because that is where, they're just referring to headspace and the young people are on wait lists or it feels too big and too heavy or young people are, oh, a referral to headspace feels too big because then I have to talk to my parents, that sort of thing. I think that if we wanted to see numbers and engagement and we are going to meet the needs of young people, and really sort of support the overwhelmed mental health system, schools and GPs are a really good place, and unis obviously.

Orygen Digital Employee 5

The 12 to 16-year-olds we have in town are the ones I teach at the school and there is only three of them. They do Western Alliance. They do School of the Air, so if you reached out to places like Western Alliance, that's 12 to 15-year-olds in high school, who are rural and remote, and they'd all have internet access because they're doing home school.

YP11 21-year-old - Remote Qld

6.3 Accepting a referral to MOST

I've had a slightly higher uptake than 50 per cent

C61 Qld Health Clinical Nurse Consultant - South East Qld

In terms of how many people accept or turn down a referral to MOST, it's probably around 50/50.

C02 headspace centre manager and clinical lead – South East Qld

I've found probably about 60 per cent of my triage or intake clients have actually said, yeah, we'll give it a try.

C63 Qld Health clinical nurse – South East Qld

Maybe 35 to 45 per cent-ish will accept at least a referral to it.

C31 headspace care coordinator – Regional Qld

It's not every single time there's an assessment. It's probably a third of the people we assess might get a referral, or a quarter.

C05 headspace MOST champion & intake team leader - South East Qld

So, if we were to statistically look at how many young people do come through our doors, and how many do get referred to MOST, it's probably very, very low, to that kind of standard.

C32 headspace clinical psychologist – Regional Qld

6.4.1 The digital divide

I think still a lot of it is done on paper with us. We're using the Suicide Prevention Pathway Plans, handwritten. My recovery plans are handwritten. Care plans. I mean a lot of them are typed here but not sent to the consumer, even though there is a section for them to sign. … I find the digital health space really hard because I don't feel like I'm resourced properly for it. We are disempowered to email clients because of concerns around privacy and stuff like that. We aren't allowed to email GPs, we have to fax and all that sort of stuff.

C52 Qld Health adult community care team leader –South East Qld

That is something that does come back, I would say, at different times from all the services about young people not having access to reception, data or a phone. So I think often, in 2022 we think oh, everyone has a phone. Everyone has data. But not everyone does. So it's definitely an issue.

Orygen Digital Employee 2

I'm a middle-class white person, everyone I know and go to socially has a nice house with internet and then they have 4G, or internet on their phones when they leave there. You go to caravan parks, we were at a place, and it had like a tent city yesterday.

C52 Qld Health adult community care team leader –South East Qld

I know that the regional sites had all, put up more concerns about young people don't have access to data and devices, the internet's patchy where they are. There was just a lot more physical barriers for young people. So yeah, I think there was a little bit more resistance to thinking about using a digital mental health service.

Orygen Digital Employee 3

I think regional and remote, particularly some of the, like the Mount Isas, Rockhampton, I think digitally it's really tricky with data, with having access to phones, that kind of thing.

Orygen Digital Employee 7

Well, some of the clients don't have access to internet or don't have a phone. Parents don't have a phone as well because they can't afford it. So that's an instant barrier to being able to access it.

C42 Qld Health provisional psychologist – Regional Qld

I'd say the issue would more be young people saying oh my parents won't let me use my phone or my phone's been confiscated, I'm not allowed to use it in bed or I'm not allowed to be on like any sort of social platforms. So I think that would probably be the biggest barrier. ... if they've had their phone sort of taken off them or get it taken off at night, then they don't have a device to actually use it.

C13 headspace MOST champion and clinical lead – South East Qld

I'll admit when he cut himself up really bad, I don't know whether I went into shock or something but I got angry at him when the ambulance got him, I said you just lost your whole PC. ... When he come home, he had no PC or phone or anything. He said please can I have it back and all that and I said righto. I'll give it back to you when I'm ready but on the condition you do anything like you did to me again, I come home from work and you did that to me, I said you will never ever get it back again.

P3 parent of 15-year-old

A lot of young people out here, if they have a mobile phone they're not going to waste their data mucking around on a website that's going to chew up their data that they're not that interested in in the first place. So that's another thing, is they don't have access to a phone or a device to access it.

C41 Qld Health CYMHS team leader – Regional Qld

We do get a lot of young people that say oh, sorry, I didn't have credit. So there must be a majority of them that don't have access to Wi-Fi.

C18 headspace community and youth engagement officer – Regional Qld

We hardly have any mobile connection when you go deeper into the station. You have it when you are at the house sometimes, but you don't actually have mobile. You have Wi-Fi. But it's taken us a long time to actually get a proper Wi-Fi connection. ... But like it would still run out, or it would get slow towards the end of the month ... once you get up to kind of like my age, you've got the majority of them are ringers. Ringers, they work on cattle stations and stuff if they are out here. The majority of them deal with their problems by smoking and drinking. Which is not the way to do it, but because they are out on stations and a lot of them don't have internet, I don't know how you'd get to them.

YP11 21-year-old - Remote Qld

It's accessible for me now. But when I used to live with my Mum, for example, we didn't have internet and I'd have 100 megabytes of data for a week. I definitely had to space it out, what I used on the internet.

YP15 17-year-old – South East Qld

You probably go further out and I think maybe 50 to 100 kilometres, not even that, probably 20, 30 kilometres, and you can't get broadband or anything like that, it's satellites. You need satellite internet.

C31 headspace care coordinator – Regional Qld

You only have to go 10 minutes and you're kind of out of town and there are some internet issues out in that area.

C34 headspace care coordinator – Regional Qld

There used to be a compulsory welcome call for young people but for one of my services, their young people do not have good access to phone reception so it was actually just a real barrier. Really, the only time they had access to phone reception as when they were at school and they can't really be on the phone talking to a clinician when they're at school.

Orygen Digital Employee 2

I'm driving from Brisbane to Hervey Bay today. I'll be at Hervey Bay somewhere around 11:30 and then when I step inside the building I am unlikely to have more than a single bar of service. There are black patches all over the Fraser Coast in which you can't anticipate having and keeping a connection to the internet or to the phone. It's well, you know, the nbn routinely goes down.

C22 headspace Manager – Regional Qld

6.4.2 Literacy

I think the evidence suggests that generally in CYMHS about 80 per cent of young people have a communication disorder. Some sort of language disorder, whether that's an explicit language, a receptive language disorder, expressive language disorder, a social language disorder. Whatever it is, it has significant impact on their ability to understand language, be that written or spoken language. The research suggests that in Evolve, so kids in care, it can be up to 90 per cent. … even in our DBTA group, with the adolescent version, we've actually had to change more recently a lot of the content from written format to even video clips and those sorts of things. Because you just lose the kids so quickly when they see the written content, they just blank out.

C37 Qld Health psychiatrist – Regional Qld

There's also a lot of kids not going to school, a lot of kids just dropping out.

C51 Qld Health generalist health worker – Regional Qld

Other times, particularly in this community, everyone's literacy levels aren't to the same. They might be in Year 10, but that literacy is Year 7, so they can't really meet that.

C42 Qld Health provisional psychologist – Regional Qld

6.4.3 Disadvantaged groups

I think particularly with our First Nations young people, there's definitely a lot of not having phones, not being contactable. There's a lot again complexity with their presentations and this is not to say all of our First Nations young people can't afford a phone but it's more that sometimes they don't have a phone or they have a phone for a couple of days and then they don't have a phone anymore. So, even in contacting them for appointments, we also do home visits for that. So, it's I guess a definite barrier. Sometimes it's credit as well, some young people have a phone but they don't have credit. I don't actually know how that works but I hear a lot of the time when I call or I leave a voicemail for someone to call back. … Some young people might live in very, very busy households and they might have a phone, put it on a charger and it's gone. There's also a lot of relaxed ideas about ownership I would say. … so sometimes someone might have a phone, they leave it on the charger, a cousin comes through and just grabs the phone and that's it. They might see it again, they might not, who knows? So, that does happen quite a bit.

C17 headspace care coordinator – Regional Qld

But when you have many young people, say Indigenous young people who have a lot of challenges in their lives, out here a promotional activity is not going to cut it. We've got to be able to be willing to offer different types of service, whether that be in the community or where they're at or groups. You think about different ways that you could engage; the MOST platform doesn't really do that.

C21 headspace centre manager – Regional Qld

A lot of our Indigenous youth probably don't know how to read and write so a lot of it we're helping them understand. So whether that referral process in terms of the onboarding needs to happen with a staff member to get them but at the same time, do they have a phone? Do they have internet? So I think the Indigenous youth here have a lot more barriers than the non-Indigenous youth. In terms of addressing those, it will be hard because we can only control what we can.

C18 headspace community and youth engagement officer – Regional Qld

Well, if you look already, we have an issue around phones. I know we've said it before, but we already have an issue of trying to – you get a phone number at the referral and then two days later you contact, it's not the same one, so you're constantly having to chase and some of the things that we do then as a service is to – you've got to go back to the referrer. You've got to figure out who else knows this family, who's involved in this young person's life and if it's the school you go back that way. There's constantly you're doing all this work in the background just to get to one appointment.

C21 headspace centre manager – Regional Qld

A lot of Aboriginal people don't have phones and that is just quite normal, quite common. They just don't have phones or they just don't want to give you their number. They may have phones. I would say that they do, they just don't want to give you their number. Or they'll have multiple numbers to contact them on, so it's kind of hard.

C19 headspace care coordinator – Regional Qld

The biggest difference there is their capacity for like English language and written language and things like that, and I think a lot of the time it seems like they're not really interested in a service like that where they have to sit and read. I think they'd much rather be talking to someone, or talking to their cousins or their friends, or things like that.

I think a lot of the time, the people that we were getting here that are Aboriginal or Torres Strait Islander, really struggle with their English and again, more of the time they don't have phones. They're the main demographic that just doesn't really have access to a permanent phone or a permanent phone number that they can use. I think that they're just not really that interested in it. I think they're just not interested in it because it just, probably it seems like they just wouldn't find it helpful or relevant, and they'd much rather just talk to a family member. I think. …

Like the young people that we refer too, that are Aboriginal and Torres Strait Islander, they tend to just say no more than non-Indigenous populations. They just say no, we're just not interested. Or like that's shame. I don't want to look at that, kind of thing.

C44 Qld Health CYMHS team leader – Regional Qld

In Aboriginal communities, for example, you need to put the time in, you need to put face time in. You need to be present in order to build trust and that takes sometimes years in order to build trust in First Nations communities. I think that's true in regional communities as well, if slightly lesser, but – yeah, and so – we want - in an ideal world, we want to build relationships on the island so that then we could move those individual kids to telehealth, but even if we did that, they don't have internet, they don't have phone credit, you know. … First Nations communities have an entirely different orientation to things and to family than non-First Nations communities. Complete values misalignment between contemporary Global North society

C22 headspace Manager – Regional Qld

6.4.4 Parental consent to access MOST

But I do also get parents saying to me, oh, I'm not sure that they'd be into that. So they've declined that referral.

C67 Qld Health mental health clinician – South East Qld

I would say one of the barriers in terms of, we might talk about MOST, share information with them about MOST, and we might be waiting to hear back from a parent to give consent. We don't have capacity to continuously follow up with that parent to see where the consent's at. That follow up kind of stops when we put them on the wait list for the other team basically.

C01 headspace centre MOST champion & access and engagement officer – South East Qld

I've generally had pretty positive feedback and parents are often very willing to provide consent for the young person to have access to further support. There has only really been very, very few instances where a parent has wanted to take the information away and has said, I'll look at this and let you know, and we haven't really received any response from them. But for the most part it has been mostly quite positive.

C23 headspace access and intake worker – Regional Qld

6.4.5 A preference for face-to-face engagement

Smaller communities react a lot better when it's community engagement. Face-to-face programs. Hands-on stuff. Like get-together sort of things more so than jumping onto an app.

C18 headspace community and youth engagement officer – Regional Qld

I think they like the face-to-face because it just seems like a solid hour of them being the attention and like the focus being on them, which they might not be getting in those other spaces.

C27 headspace early career program social worker – Regional Qld

I think it is that they just prefer the face-to-face. Because whatever we do in session, there's a rapport there, there's like a trust. They know that we're specifically designing something to meet their needs. ... They have an option for telehealth and almost all of them choose face-to-face, and I think they just like that environment. It feels really personal.

C06 headspace brief interventions clinician – South East Qld

They just need that face-to-face element or else it's too hard for them. If it's their first time in therapy they're not going to engage if it's over the phone. They need to be able to see the clinician. They need to be able to feel the energy of the other person. ... we've had a lot of 12-year-olds come through and they all want face-to-face. We haven't done a triage over the phone with a 12-year-old in a while. They all want to come face-to-face.

C11 headspace intake clinician - South East Qld

It didn't sound amazing, honestly. I'd really wanted that face-to-face consultation, so it was a little frustrating but once I saw that at least part of what I wanted from headspace I could get from MOST, kind of made it a bit better. But I feel like it is so much better seeing someone face-to-face, there isn't that therapeutic side to MOST, I don't think, that you can get from chatting with a counsellor.

YP3 22-year-old - South East Qld

I do have a bit of a preference to talk to someone face to face, but I think my, what would weigh over that is having more opportunities to talk to someone, because right now, I think it takes two weeks per time that I can talk to somebody. Having maybe, yeah, more opportunities to talk to somebody, if that would make any sense. The only time I would choose online over face to face is if I could see them more often.

YP5 21-year-old - South East Qld

But I don't know, somewhere in here we need to look for what young people are genuinely asking for and if they present to a headspace asking for face-to-face support from a real-life person, then that's what they want.

C22 headspace Manager – Regional Qld

Some of them really like online, but some of them really are old school and like face to face.

C60 Qld Health senior social worker - South East Qld

Most of the teens that I've worked with, they're usually referred to headspace, but I think that's also what they prefer because they want face-to-face,

C51 Qld Health generalist health worker – Regional Qld

Personally, I just didn't think it was necessary for me to be on that app as I'm getting the help I need currently here face to face.

YP8 22-year-old – Regional Qld

6.4.6 Referrals at intake

When they do an intake they've got a consent form, they've got a rights and responsibilities form, they've got to get the information for the headspace assessment for the intake that they do. They've got to then prepare notes, they've got to look out for safety screeners and all those sorts of things, and then we're asking them to put something else in there. So, it's a lot to try and cram into, if it's a phone appointment we'll typically say it's probably going to take 30 minutes. It doesn't, but that's what they allow, that's a lot to cram into a 30-minute timeslot.

C25 headspace centre MOST champion & senior access and engagement officer – Regional Qld

When they come through here, they're doing a pretty big hAPI, which is what we call an eHAP which is about 30 questions. They do a registration form. They do a consent form. We talk rights, responsibilities, we've got a welcome pack that we give them. When we go through the consent form that's when we fill out and ask about the MOST program and, by then, you can see the light die in their eyes. They're like, I've had enough.

C31 headspace care coordinator – Regional Qld

7.1.1 Accepting a referral to please clinicians

I know sometimes there's that impression management. Even though you try everything you can to make them realise this is all voluntary. This is about you. Don't feel pressure. There will still be young people that, despite you saying all that, they'll feel like they have to.

C16 headspace clinical psychologist – South East Qld

So usually, they'll probably say yes at that intake, just to get on, but they don't use it. They don't know how to use it.

C32 headspace clinical psychologist – Regional Qld

I think young people, teenagers, either maybe they're saying sure, when I offer it they might be saying sure, but that's just to move on, get off the phone.

C05 headspace MOST champion & intake team leader - South East Qld

I think there a whole wave of people pleasers in this up and coming generation. There's a lot of, we just automatically say yes and then think about it later and then be like, oh, actually that's not something I want to do.

C33 headspace general registered psychologist – Regional Qld

I think at the moment we're using it a lot for our young people. But based off what I've seen I don't think that heaps of them are actually setting it up, once we do the referral.

C44 Qld Health CYMHS team leader – Regional Qld

7.2.2.1 Qualitative data on age

That decision-making process amongst the team is the older, sort of, above 20, cohort, we don't tend to recommend as much. But the younger cohort we do.

C03 headspace access and engagement officer – South East Qld

It's patronising, or it's invalidating, I think, for a 24 year old.

C08 headspace clinician – South East Qld

I feel like [young people] won't find that as useful if they're over 16. I think it might be for the younger kids.

C11 headspace intake clinician - South East Qld

So when the gap is that huge, it's 10 year difference in issues, in life, in experience. So for me it's am I exposing her to more or am I holding her back from being able to access more content. But in the same breath you're like do you want her to have more content that could be opening up things that she hasn't even been exposed to.

P1 parent of 14-year-old

7.2.2.2 Queensland Adult Mental Health Services

So there's a couple of services, adult services that I've trained that have made no referrals and there's some that have made some referrals. So it's varied. It's difficult ... So one of the services did give feedback when I spoke to them recently and they hadn't made any referrals. The feedback was, we have a much older cohort of consumers here and we just haven't had anyone walk through the door that would be a suitable referral for MOST. So the team leader said they definitely still think about it but they just hadn't had anyone right for the service.

Orygen Digital Employee 2

I think, because it's such a clear cut-off in Queensland. In Victoria, it's obviously different. It's 25. But at 18, it's a clear cut-off and the difference between a CYMHS service and an adult service is chalk and cheese. So I think young people really struggle for that pathway between CYMHS and adult services if they need it.

Orygen Digital Employee 7

7.3.1 Developing a MOST app

YP19: *It was on a browser when I used it. It's kind of, sorry about my language here, but it's kind of a pain in the ass. I don't know. When I used it, I didn't really like having to log into a browser just to use it, especially when it's a social media app on my phone, especially. Because the phone can be quite clunky with browser.*

Interviewer: *Are you aware that it is an app now?*

YP19: *I didn't know that.*

YP19 15-year-old – Regional Qld

So that only really came to my attention that it was an app was with a recent referral where the parent was actually talking to me about the app. I wasn't aware. So there wasn't really, I guess in terms of communication on that transforming specifically to my email, I didn't really know it was transforming in that way.

C23 headspace access and intake worker – Regional Qld

I think that helped. People loved the app coming out. We promoted it, we encouraged them to download it. They're like, oh my God, finally. I think we get a lot of people on the under 15s going, why don't we have an app? So that's, it's

something that even though they don't have access to one, they know that one's out there and they want it. So, they want this app, they want it. ... the next thing we need is notifications. Like an active notification system, because quite often if people aren't getting notifications that they're being contacted or they have, you know, something to draw them back to the platform, they're going to forget about it.

Orygen Digital Employee 5

I've heard that the MOST platform is trying to develop an app, which I feel will probably be much better because sometimes the peer workers will message me but I won't realise that they've messaged me because I don't have a notification. So sometimes it makes it difficult to communicate with them. ... I haven't had that much engagement, to be honest. I think that's mainly because I don't know when they've messaged me unless I check.

YP7 17-year-old – South East Qld

They don't have an app, definitely make an app just so the messages come through a lot quicker, I think that's a big thing.

YP3 22-year-old - South East Qld

young people like technology, so we'll make it online, but then they didn't make it into an app, which is what young people are going to, I believe anyway, what young people would've actually benefited from. Because I don't know many young people, it's a bit, I don't know, they don't tend to go online and look things up and then engage with things. There needs to be apps for people to use.

C03 headspace access and engagement officer – South East Qld

A lot of people as well asking like is there going to be an app too, because I guess that's mainly what people, most people would have a smartphone and I guess it would make sense. People wanting like push notifications as well, it's like remind them to do it.

C13 headspace MOST champion and clinical lead – South East Qld

One common feedback I've had from people is the fact that it, because it's not an app as such, they have to remember that it's there and they forget. So it's not like they deliberately don't want to access it, but it's sort of like, particularly as young people these days are so used to having everything on their phone, that that has been, the one common feedback and I'm not saying there's lots of people, but I've been told by a few that it would be good if it was an app. I know one particular young person and they said, I could say this, they said to me, they themselves have commented a few times, it would be good if there was an app.

C16 headspace clinical psychologist – South East Qld

I think one of the big things is that because it's not an app I find that it's a little bit inconvenient that every single time I want to use the platform I have to type in the website and then log in. Whereas as if it was just an app I feel like more people would use it more often because it's just a click and then you're into the app.

YP7 17-year-old – South East Qld

It would be nice if you had a notification just pop up on your phone from an app or something. But this one I'm accessing through Google Chrome.

YP3 22-year-old - South East Qld

7.3.2.1 Qualitative data on declining engagement

But then when I check in with them some of them haven't followed up on it. Some may have initially engaged but then it's dropped.

C16 headspace clinical psychologist – South East Qld

You know, it's like it's an underwhelming endorsement in terms of they don't get on and hate it, but they very rarely get on it and love it so much that they stay very long anyway.

C22 headspace Manager – Regional Qld

I have heard, like a couple of the clients that I've referred, I know one said they didn't really engage, and the second one said they've used it occasionally, but that's about it.

C25 headspace centre MOST champion & senior access and engagement officer – Regional Qld

I think I looked at it a couple times.

YP18 13-year-old - Regional Qld

I think I've just had a number of young people not be too keen on it, even after they've tried it for a little bit, and so I've wondered was this something that young people actually want or is this something that I want for young people

C58 Qld Health psychologist – South East Qld

Because I can jump on and see how often people are engaging, things like that, big gaps. Like you can see someone hasn't been on for three or four months, so it seems that they kind of engage initially if they're interested and then it kind of drops off is what I've seen.

C01 headspace centre MOST champion & access and engagement officer – South East Qld

Not a lot of feedback has been received around whether people still use it, how they're finding it, that kind of thing. … I have seen in some cases where they might have onboarded but they've not actually really engaged. So, as I said, I don't check that all that often because it's up to them if they want to engage with it. But I have noticed when I have checked that there has been some times where the young person hasn't seemed to have progressed too far into things.

C23 headspace access and intake worker – Regional Qld

I have heard, like a couple of the clients that I've referred, I know one said they didn't really engage, and the second one said they've used it occasionally, but that's about it.

C25 headspace centre MOST champion & senior access and engagement officer – Regional Qld

I think there's definitely been one to three who have continued to engage with MOST.

C33 headspace general registered psychologist – Regional Qld

I find most people engage but then they're engagement isn't ongoing with MOST, for whatever reason.

C36 headspace clinical lead – Regional Qld

Some people will just go on maybe once or twice and just have a look through and then not go back to it. Or some people will engage pretty regularly for a few weeks and then drop off, and then very rarely young people will engage for like a month or more than that. … I can only think of maybe two or three that have engaged for that long.

C44 Qld Health CYMHS team leader –Regional Qld

A lot of people would just drop off, because they had to do it themselves and they didn't really feel like it was supporting them. We were kind of just palming them off to another Brief Interventions service.

C14 headspace youth and family intervention clinician – South East Qld

7.3.4.1.1 Qualitative data on social engagement

I didn't make any other interactions because again I'd made the introductory post and I didn't know what to post from then on … It's less dangerous, less daunting than the average social media, but it's just like I couldn't felt like I couldn't do much there, was why I didn't use it past that time.

YP17 18-year-old - Regional Qld

Second is the social aspect, I think that's really wonderful, especially for young people who get bullied or don't have good friendships in face-to-face contact or their life. Having those online connections, that are absolutely supportive of them, is

really important. Also, that shared experience that they have, one person's anxious, another person's anxious, they sort of share those lived experiences. I think that's really helpful for them.

C09 headspace intake clinician – South East Qld

Also for a young person to have a space where they can be anonymous and share things that they probably wouldn't put on their Instagram or their Facebook. Because they have family and friends on there.

C35 headspace clinical manager – Regional Qld

Some young people want to use it just for the social platform, but then when they go onto it and initially they possibly think that it's something like Snapchat and then when they find out it's not a social platform like Snapchat, then they disengage.

C46 Qld Health Acute Response Team clinical nurse consultant – South East Qld

It feels a bit confusing, it's hard to navigate when you have so many people to keep track of and it's, again, you can't really keep track of anyone because you have to focus on their profile specifically if you want to keep track of one person. So, I didn't really know how to do that when I was using the app. … I feel like something like MOST, it's more of a forum type of thing, it moves more slowly than the average social media, comments come in slower and reactions come in slower,

YP17 18-year-old - Regional Qld

7.3.4.2.1 Qualitative data on therapeutic engagement

But we have to be realistic that it is sort of a basic, kids could also Google anxiety or Google loneliness. They're probably going to get a TikTok video or an Instagram post. Something like that is going to teach them something useful about managing difficult relationships or bullying. … is it offering something that Google can't offer you? I don't know.

C05 headspace MOST champion & intake team leader - South East Qld

The resources I feel like you could get from Google to be honest.

C11 headspace intake clinician - South East Qld

I don't think there's anything that particularly stands out about the MOST platform from about 12 other websites I could probably point a young person to in about 10 minutes.

C22 headspace Manager – Regional Qld

I think the therapy content's probably been most helpful for the young person I mentioned. So it seemed to solidify the concepts that we talked about. It was reinforcement of those things that she could access later on. … when I've tried to recommend it for the clients I'm working with, I'm hoping that they can access therapeutic content, more than anything else, that's a bit more credible than TikTok. It can maybe help with some of that diagnosis seeking that we have to combat a lot of.

C64 Qld Health senior psychologist – South East Qld

Parts of it definitely stuff I've heard about on the internet before. I think a big part of it is the fact that it's on MOST where I can trust the information. So, knowing that I'm much more willing to apply that into my every day and really let that change how I see relationships and stuff, rather than if I'm just hearing a random YouTuber talk about it and I'm like what do they know? … I found some of them helpful. Sometimes some of the information and stuff I already know, but that's pretty expected being my age and having dealt through mental health systems for a while, so some of it is repetition.

YP3 22-year-old - South East Qld

8.1.1 Correlation versus causation

There's an elephant in the room in all this which I'm going to bring up now … Across the headspace network there is a perception that the initial trial of MOST, the results were, amongst other things, measured by K10 results and those K10 results were pulled from a cohort of young people who were also being counselled at headspace and so, you know, if MOST is saying, our young people experienced this change while receiving concurrent therapy from headspace face-to-face, it feels a little disingenuous, I guess, to say that the results were a result, you know, as a result of MOST.

C22 headspace Manager – Regional Qld

8.2 Highly engaged users

I think if a young person's at the right point in their journey and/or recovery, it can really help emphasise that agency and that independence and that responsibility, things like that, because they have to actively go on and engage and find what is useful for them. For other young people, particularly young people who are at the beginning of their journey or really experience symptoms, I would say heavy depressive symptoms or things that have really impacted their motivation or that self-esteem or that belief that they can do anything for themselves, I don't know that they would be necessarily getting something from the platform at that point because that energy and that motivation to engage on something that is self-directed is less likely to be there. … When you're talking to someone and they say, I can't even get myself out of bed to go to school most days of the week, or you know, I've just isolated myself from everyone around me, I don't communicate with anyone. I can't engage in any of my usual activities that I would enjoy, telling them about this platform that I know that they have to invest so much time in to actually be able to use, it's yeah, basically feeling like you're going to set someone up to fail because you can imagine how difficult it would be for that young person to actually get to the point of being able to use the platform.

C01 headspace centre MOST champion & access and engagement officer – South East Qld

Definitely, like growth orientated people, for sure. They are sort of ready to take on anything that you provide for them. So, those people are more likely to then get into MOST and continue using it, compared to other young people who are presenting with more depressive symptoms and things like that.

C09 headspace intake clinician – South East Qld

I've heard mixed reviews about the effectiveness of eheadspace, and I think it's similar to MOST. I think that if you have an online platform it's got to be self-driven. Yeah, there's going to be a big correlation between participant motivation and outcomes.

C02 headspace centre manager and clinical lead – South East Qld

I think there are certain presentations for which it's going to be more attractive than others, and then demographic issues as well. So obviously, we were talking today about a perfectionistic client who has been loving MOST, will do all of the activities and more. So that's a presentation, a highly motivated young person who's experiencing difficulty. Obviously, they're going to interact with the platform.

Whereas there are other young people who are in the middle of a crisis, who don't have access to technology, who aren't motivated, who may be in a depressive episode, who aren't motivated to do anything. So I think it comes down to a number of factors in terms of their presentation, their natural temperament, their SES status, how much chaos is going around - going on for them in their life.

C07 headspace clinical manager – South East Qld

People who are feeling really motivated on their recovery journey will take up things that will help them build on that. So I think it becomes a bit of where you're at and how motivated you're feeling towards working on your goals and getting support. So if someone's really proactive, help-seeking, motivated, they're the most likely to take up the opportunity.

C15 headspace intake team leader - South East Qld

I think it just fits a niche. It's even like the kids that identify are kids that even are a little bit on the spectrum. So they're a little bit Aspergery. They've got a bit of Aspergers. They've got a little bit of ASD, they're a little bit cognitively, they're a little bit awkward. They just don't fit into that normal box. They're the ones that are more likely to want to jump on something like that. Or, and a lot of the time because they're, like we've got one kid that's obsessed with researching things. This is a good opportunity for them to research and find out what's going on for them.

C41 Qld Health CYMHS team leader – Regional Qld

I think that a lot of young people that have more insight into what's happening or have engaged in therapy before and are more likely to sign up or aren't severely depressed to the point where they don't have any motivation to get on the platform; they're not going to do that.

C11 headspace intake clinician - South East Qld

A lot of the ones that I did push for were engaged with me through sessions. Willing to work on their issues a little bit further which then the effort of giving them unlimited resources to help was really important, even though you know, offering it to everyone is important too. But you're trying to sell that you're so proactive in your mental health and your therapy and your - what's the word? Recovering from your trauma. This resource can help a little bit more when I'm not available and when I'm not here.

C18 headspace community and youth engagement officer – Regional Qld

I think we have better outcomes with those young people who are probably 16 to 19. I think their level of self-efficacy is much higher than that younger group.

C37 Qld Health psychiatrist – Regional Qld

Without MOST? I'd probably just keep using headspace as I usually do, like coming into my appointments every two to three weeks. I probably wouldn't have gotten the support I have now. I think without MOST, a lot of the, I guess, goals and checkpoints in my life, I wouldn't have reached without it. I know it's dramatic to say but things like getting out of my comfort zone and volunteering and getting a job, I don't think I would have gotten there, this point, without MOST because a lot of that stuff I got from MOST from my career's consultant.

I've gotten a lot of help from her in terms of those topics, and I think I still, I guess, manage everyday life, but MOST just makes it a lot easier, just having all that information there, and having personalised support systems and people who can cater to your specific needs.

YP13 17-year-old – South East Qld

Appendix B: Data dictionary

The table below includes descriptions for a number of variables collected by Orygen Digital that were used in analysis.

Table B.I: Data Dictionary.

Variable [1]	Type	Description	Values
Engagement Data			
Referral Date	Date	The date a sign-up token is created for a young person. Data only available if the young person completes the sign-up process	17 Feb 2022 – 2 Apr 2024
Sign-up date	Date	The date a young person enters their details to create an account	22 Feb 2022 – 2 Apr 2024
Onboarding date	Date	The date a young person completes all questionnaires and has full access to the platform	24 Feb 2022 – 2 Apr 2024
Age	Integer	Young Person's age at sign-up	12-25
Clinic	Categorical	The clinic who referred the young person	'HHS', 'headspace'
Treatment stage	Categorical	The young person's treatment stage at the time of referral	'Subthreshold discharge', 'Waiting face-to-face', 'Receiving treatment', 'Approaching discharge', 'Discharged'
Referral Pathway	Categorical	Groups 'Treatment Stage' into whether the young person was referred while in care, vs out of care	'Out of care' = Subthreshold discharge or waiting face-to-face or discharged. 'In care' = Receiving treatment or approaching discharge
Pronoun	Categorical	The young person's preferred pronoun	'Non-binary', 'She/her', 'He/him', 'Gender Diverse', 'Prefer not to say', 'Something else'
Indigenous Status [2]	Categorical	The young person's indigenous status	'Not Aboriginal and/or Torres Strait Islander', 'Aboriginal', 'Torres Strait Islander', 'Aboriginal and Torres Strait Islander', 'Prefer not to say'
Engaged duration	Integer	The number of days from onboarding to last day active.	0-749
Active days	Integer	The number of unique days that a young person logged onto the MOST platform	1-439
Therapy items	Integer	The number of unique therapy pages viewed by a young person	0-408
Therapy views	Integer	The total number of page visits with therapeutic content	0-565
Reactions	Integer	Young person's total number of reactions on the MOST platform	0-1,805
Comments	Integer	Young person's total number of comments on the MOST platform	0-740

Posts	Integer	Young person's total number of posts on the MOST platform	0-298
Social engagement	Integer	A young person's total social interactions on the MOST platform (Reactions + Comments + Posts)	0-2,230
Session number	Integer	Sessions are counted when unique page visits or interactions on the MOST platform occur no more than 30 minutes apart. Session number is the young person's total number of sessions from after they complete the onboarding process	1-2,058
Session minutes	Numeric	Cumulative total of session times per young person - rounded to nearest minute	0-18,164
Additional variables for those who completed mental health questionnaires			
Education	Categorical	Young person's highest education at time of onboarding	Range from 'Grade 5' to 'Doctorate (Phd)'
Gender	Categorical	The young person's gender identity	'Male', 'Female', 'Trans woman', 'Trans man', 'Gender Fluid', 'Gender Questioning', 'Agender', 'Genderqueer', 'Non-binary', 'Sistergirl', 'Brotherboy', 'Unsure', 'Transgender', 'Gender' 'not listed', 'Prefer not to say'
Sexuality [3]	Categorical	Descriptor of sexual orientation	'Heterosexual/straight', 'Lesbian', 'Gay', 'Bisexual', 'Questioning', 'Queer', 'Pansexual', 'Asexual', 'Sexuality not listed', 'Prefer not to say', 'Sexuality fluid',
Country of Birth	Categorical	The young person's country of birth	116 countries. Recoded to 'Australia', 'Other'
Native language	Categorical	Young person's first language spoken	'English', 'Other'
Indigenous Status [2]	Categorical	The young person's indigenous status	'Not Aboriginal and/or Torres Strait Islander', 'Aboriginal', 'Torres Strait Islander', 'Aboriginal and Torres Strait Islander', 'Prefer not to say'
Contact Data			
Role type	Categorical	Staff responsible for contact	'Allocation clinician', 'Duty clinician', 'Peer worker'
Engagement type	Categorical	Whether the young person has been allocated a clinician, or using MOST in a self-directed way	'Clinician allocation', 'Self-directed use'
Mode	Categorical	Mode of communication	'DM', 'DM, SMS', 'Email', 'Phone', 'SMS', 'Video',
Participant	Categorical	To whom the contact was made	'Family/Parent/Carer', 'Internal team member', 'Referring service', 'Young person',

Purpose	Categorical	Main purpose for the contact	'Administrative', 'Care coordination', 'Consultation 1:1', 'Consultation mini-team', 'Duty work', 'Final contact', 'Follow up', 'PenPal DM', 'Progress call', Risk management', 'Scheduled contact', 'Welcome call',

[1] Additional data on device types that were used in relation to young person's account were also available. A yes/no flag was recorded when a type of device was used, for the devices, computer, smartphone, tablet, unknown device. Young person's may have used multiple devices to access MOST.

[2] Aboriginal and Torres Strait Islander status was collected for all young people who onboarded to MOST from 22 December 2022.

[3] Sexuality was collected from 1 July 2023 for young people who completed health questionnaires.

Appendix C: Analyses of mental health questionnaires

Paired sample t-tests are reported to describe the change in mental health instrument scores over six and 12 weeks. The overall estimated changes in each instrument score, for each platform are listed in the following tables. The mean and standard deviation (SD) for the baseline scores include everyone who completed a survey at baseline, whereas the mean and SD at each timepoint include only those who also had baseline scores. Changes at 18 and 24 weeks report similar results as those found at 6 and 12 weeks, except with larger margins of error due to fewer people completing surveys at later timepoints. The changes in scores did not indicate overall deterioration. The small values (<0.05) for probability (p) indicate that the changes observed were not likely to be due to chance, but do not necessarily imply that the changes were due to engagement with MOST. For probabilities (p) greater than 0.05 it is concluded that no significant changes in mental health outcomes were observed.

To contextualise the changes in instrument scores, Cohen's d is reported. Cohen's d is a commonly used statistical quantity in research regarding mental health to describe the size of an observed change. Cohen's d values < 0.2 are considered negligible, 0.2 < d <0.5 are small, 0.5 < d <0.8 are moderate, and d > 0.8 are large (Cohen, 1992). It is a particularly useful measure when the change variable exists on a metric that is not widely used, and is compared with other scales which have different minimum and maximum boundaries (Borenstein et al., 2009; Lakens, 2013). The tables listed here include Cohen's d which incorporates the correlation between the baseline and timepoint scores described by Morris and DeShon (2002). The sizes of changes observed range from negligible to small.

Whether these small changes were clinically significant was investigated using the Reliable Change Index (RCI) described by Jacobson and Truax (1991). The RCI describes a threshold at which a change in score is likely to be clinically significant and is reported for each test sample. The calculation of the RCI incorporates the error associated with each instrument, as well as the standard deviation of a population characteristically similar to the one in question, or a standard deviation estimated by the sample in question. The standard deviation of the baseline scores of those who completed questionnaires at each time point were used for the calculation of the RCI. It is important to note that while these additional pieces of information are critical in analysis, small differences in these values would not lead to large changes in the observed results.

Cronbach's α is widely used to account for instrument error in the calculation of the RCI (Blampied, 2022). Cronbach's α describes the internal consistency of the health questionnaire, regarding the extent to which the questions collectively measure the same mental health construct. A range of 0.7 –0.95 is considered acceptable (Streiner, 2003). Higher values of Cronbach's α indicate some instrument questions are redundant (Tavakol & Dennick, 2011). Where possible, values for Cronbach's α were taken from studies that validated the questionnaires on cohorts that were similar to the Q-MOST pilot.

QCMHR investigated the data to analyse whether different variables were associated with positive or negative changes in Mental Health outcomes. To achieve this multi-variate linear regression modelling, with random intercepts for each young person, were performed to ascertain whether individual and group health questionnaire scores changed consistently over time, and whether changes in health outcome scores were significantly different across the available variables. As mentioned in section 8.1.3, the precise amount of engagement accrued by a young person at the time they completed a health questionnaire is unknown. Therefore, it was not possible to consider levels of MOST engagement in this analysis. There was no reportable evidence for correlations between different demographic variables and changes in mental health questionnaire scores.

Appendix D: Child Health Utility 9 Dimension Instrument (CHU-9D)

The Child Health Utility-9 Dimension (CHU-9D)(Ratcliffe, Flynn, et al., 2012; Stevens, 2010), is a 9-item questionnaire designed to measure life quality among young people (Ratcliffe et al., 2016). Participants rate their feelings about each question on a 5-point Likert-type scale. To calculate the final score, each response is weighted using pre-determined weights, and then passed into a country and age specific algorithm. The questionnaire has been validated for use on the Australian adolescent population (Ratcliffe, Stevens, et al., 2012). The final score is designed to fall on a continuous scale between 0 and 1, with 0 referring the lowest life quality, and 1 referring to optimal life quality.[13] For reference, the average CHU-9D score in the Australian general population is approximately 0.8 (Furber & Segal, 2015). The instrument is specifically designed for estimation of Quality adjusted Life-Years (QALY's) (Stevens, 2012), and is intended for economic evaluation of treatments or service programs aimed at young people (Ratcliffe, Flynn, et al., 2012). As such, there are no pre-determined categorisations for the instrument, and evaluators can make judgements about whether derived changes in score warrant investment. The reliability used for calculations is; CHU-9D, $\alpha = 0.781$ (Furber & Segal, 2015).

For those in the 12 to 14-year-old platform who completed CHU-9D questionnaire at baseline and week 6 (n = 84), there was an overall estimated improvement in score of 0.043, that was statistically significant (t = 1.99, p < 0.05, 95%CI: 5.8e-05-0.087). For those who completed at baseline and week 12 (n = 64), there was an overall estimated improvement in score of 0.066, that was statistically significant (t = 2.39, p < 0.05, 95%CI: 0.011-0.12).

For those in the 15 to 25-year-old platform who completed CHU-9D questionnaire at baseline and week 6 (n = 150), there was an overall estimated improvement in score of 0.017, that was not statistically significant (t = 1.14, p = 0.26, 95%CI: -0.013-0.047). For those who completed at baseline and week 12 (n = 124), there was an overall estimated improvement in score of 0.5, that was not statistically significant (t = 0.65, p = 0.52, 95%CI: -0.026-0.05).

Table D.I: CHU-9D t-test summary.

Sample	Mean	SD	Change	95% Confidence Intervals		p	*t* statisic	df	Cohen's *d*
				2.5%	97.5%				
12-14 yrs									
Baseline	0.33	0.23							
Week 6	0.38	0.25	0.043	5.8e-05	0.087	< 0.05	1.99	83	0.18
Week 12	0.38	0.26	0.066	0.011	0.12	< 0.05	2.39	63	0.27
15-25 yrs									
Baseline	0.32	0.21							
Week 6	0.34	0.25	0.017	-0.013	0.047	0.26	1.14	149	0.07
Week 12	0.32	0.24	0.012	-0.026	0.05	0.52	0.65	123	0.05

A positive change score indicates an improvement in mental health.

[13] In some cases where at least 8 items are rated with the most negative responses, small negative values ($-0.11 \leq 0$) may be observed.

Utility instruments are not clinical therefore RCI does not apply.

Appendix E: Patient Health Questionnaire 4 (PHQ-4)

The Patient Health Questionnaire-4 (PHQ-4) (Kroenke et al., 2009) is a 4-item questionnaire that provides an indication of the presence of anxiety and/or a depressive disorder. Participants indicate the frequency of symptoms such as, feeling nervous, anxious, or on edge during the past fortnight, on a 4-point frequency scale. The answers are summed to give a total ranging between 0 and 12, with higher scores indicating higher levels of symptom severity. Overall, severity is categorised as: 0-2 = 'low' or 'none'; 3-5 = 'mild'; 6-8 = 'moderate'; and 9-12 = 'severe'. The PHQ-4 contains two subscales: The Generalised Anxiety Disorder-2 (GAD-2) that screens for the presence of an anxiety disorder (cut-off ≥ 3), and The Patient Health Questionnaire-2 (PHQ-2) that screens for the presence of a depressive disorder (cut-off ≥ 3). The scales are considered acceptable for use among adolescents and young people (Khubchandani et al., 2016; Watson et al., 2020). Each subscale's scores range from 0-6 and their questions come from larger parent versions (GAD-7 and PHQ-9). While the PHQ-4 measures overall symptom burden, and elevated scores are not explicitly diagnostic for a specific disorder, the subscales have good sensitivity and specificity for their respective domains. Löwe et al. (2010) describe PHQ-4 scores ≥ 6 as 'yellow flags', and scores ≥ 9 as 'red flags' for the presence of either a depressive or anxiety disorder to inform further inquiry, and agree with the thresholds given by Kroenke et al. (2009). The reliability scores used for calculations are PHQ-4, α = 0.84, (Kroenke et al., 2009), GAD-2, α = 0.75, PHQ-2, α = 0.78, (Löwe et al., 2010).

For those in the 12 to 14-year-old platform who completed PHQ-4 questionnaire at baseline and week 6 (n = 84), there was an overall estimated improvement in score of 0.83, that was statistically significant, but not clinically significant (t = 2.81, p < 0.01, 95%CI: 0.24-1.4, RCI = 3.27). For those who completed at baseline and week 12 (n = 65), there was an overall estimated improvement in score of 1.9, that was statistically significant, but not clinically significant (t = 3.75, p < 0.001, 95%CI: 0.57-1.9, RCI = 3.32).

For those in the 15 to 25-year-old platform who completed PHQ-4 questionnaire at baseline and week 6 (n = 180), there was an overall estimated improvement in score of 1.2, that was statistically significant, but not clinically significant (t = 5.84, p < 0.001, 95%CI: 0.78-1.6, RCI = 3.21). For those who completed at baseline and week 12 (n = 142), there was an overall estimated improvement in score of 1.1, that was statistically significant, but not clinically significant (t = 4.11, p < 0.001, 95%CI: 0.56-1.6, RCI = 3.12).

Table E.I: PHQ-4 t-test summary.

Sample	Mean	SD	Change	95% Confidence Intervals		p	*t* statistic	df	Cohen's *d*	RCI
				2.5%	97.5%					
12-14 yrs										
Baseline	7.22	2.99								
Week 6	6.4	2.97	-0.83	-1.4	-0.24	< 0.01	-2.81	83	0.29	-3.27
Week 12	5.77	3.01	-1.2	-1.9	-0.57	< 0.001	-3.75	64	0.42	-3.32
15-25 yrs										
Baseline	7.97	2.77								
Week 6	6.77	3.07	-1.2	-1.6	-0.78	< 0.001	-5.84	179	0.4	-3.21
Week 12	7	3.19	-1.1	-1.6	-0.56	< 0.001	-4.11	141	0.36	-3.12

A negative change score indicates an improvement in mental health.

For those in the 12 to 14-year-old platform who completed GAD-2 questionnaire at baseline and week 6 (n = 84), there was an overall estimated improvement in score of 0.44, that was statistically significant, but not clinically significant (t = 2.61, p < 0.05, 95%CI: 0.1-0.8, RCI = 2.22). For those who completed at baseline and week 12 (n = 66), there was an overall estimated improvement in score of 0.64, that was statistically significant, but not clinically significant (t = 3.3, p < 0.05, 95%CI: 0.25-0.1, RCI = 2.16).

For those in the 15 to 25-year-old platform who completed GAD-2 questionnaire at baseline and week 6 (n = 180), there was an overall estimated improvement in score of 0.64, that was statistically significant, but not clinically significant (t = 5.54, p < 0.001, 95%CI: 0.42-0.87, RCI = 2.29). For those who completed at baseline and week 12 (n = 143), there was an overall estimated improvement in score of 0.58, that was statistically significant, but not clinically significant (t = 3.89, p < 0.001, 95%CI: 0.29-0.88, RCI = 2.25).

Table E.II: GAD-2 t-test summary.

Sample	Mean	SD	Change	95% Confidence Intervals		p	*t* statistic	df	Cohen's *d*	RCI
				2.5%	97.5%					
12-14 yrs										
Baseline	3.71	1.67								
Week 6	3.26	1.67	-0.44	-0.8	-0.1	< 0.05	-2.61	83	0.27	-2.22
Week 12	2.92	1.66	-0.64	-1.0	-0.25	< 0.01	-3.3	65	0.39	-2.16
15-25 yrs										
Baseline	4.05	1.62								
Week 6	3.4	1.71	-0.64	-0.87	-0.42	< 0.001	-5.54	179	0.38	-2.29
Week 12	3.5	1.74	-0.58	-0.88	-0.29	< 0.001	-3.89	142	0.35	-2.25

A negative change score indicates an improvement in mental health.

For those in the 12 to 14-year-old platform who completed PHQ-2 questionnaire at baseline and week 6 (n = 84), there was an overall estimated improvement in score of 0.39, that was statistically significant, but not clinically significant (t = 2.17, p < 0.05, 95%CI: 0.033-0.8, RCI = 2.11). For those who completed at baseline and week 12 (n = 65), there was an overall estimated improvement in score of 0.57, that was statistically significant, but not clinically significant (t = 3.04, p < 0.01, 95%CI: 0.2-0.9, RCI = 2.26).

For those in the 15 to 25-year-old platform who completed PHQ-2 questionnaire at baseline and week 6 (n = 180), there was an overall estimated improvement in score of 0.53, that was statistically significant, but not clinically significant (t = 3.31, p < 0.01, 95%CI: 0.29-0.76, RCI = 2.12). For those who completed at baseline and week 12 (n = 142), there was an overall estimated improvement in score of 0.5, that was statistically significant, but not clinically significant (t = 3.31, p < 0.01, 95%CI: 0.2-0.8, RCI = 2.09).

Table E.III: PHQ-2 t-test summary.

Sample	Mean	SD	Change	95% Confidence Intervals		p	*t* statistic	df	Cohen's *d*	RCI
				2.5%	97.5%					
12-14 yrs										
Baseline	3.51	1.74								

Week 6	3.14	1.64	-0.39	-0.8	-0.033	< 0.05	-2.17	83	0.24	-2.11
Week 12	2.88	1.83	-0.57	-0.9	-0.2	< 0.01	-3.04	64	0.32	-2.26
15-25 yrs										
Baseline	3.92	1.61								
Week 6	3.37	1.74	-0.53	-0.76	-0.29	< 0.001	-4.39	179	0.31	-2.12
Week 12	3.5	1.78	-0.5	-0.8	-0.2	< 0.01	-3.31	141	0.29	-2.09

A negative change score indicates an improvement in mental health.

Appendix F: Mini Social Phobia Inventory (Mini-SPIN)

The Mini Social Phobia Inventory (Mini-SPIN) (Connor et al., 2001; Davidson, 2021) is a 3-item questionnaire designed to measure social phobia (SP), as well as social anxiety disorder (SAD). Derived from the 17-item Social Phobia Inventory (SPIN), the instrument invites participants to rank three statements regarding the domains fear, avoidance, and physiological symptoms, during the previous week using a 5-point Likert-type scale. Answers are summed to give a total score between 0 and 12, with higher scores indicating higher levels of symptom severity. Generally, participants scoring 6 or above are considered likely to be diagnosed with SP or SAD (Seeley-Wait, Abbott, & Rapee, 2009). The questionnaire is valid for use with adolescents (Ranta et al., 2012).The reliability used in calculations is Mini-SPIN, α = 0.8 (Fogliati et al., 2016).

For those in the 12 to 14-year-old platform who completed Mini-SPIN questionnaire at baseline and week 6 (n = 84), there was an overall estimated improvement in score of 0.23, that was not statistically significant or clinically significant (t = 0.73, p = 0.46, 95%CI: -0.39-0.8, RCI = 3.74). For those who completed at baseline and week 12 (n = 65), there was an overall estimated improvement in score of 0.57, that was not statistically significant or clinically significant (t = 1.72, p = 0.09, 95%CI: -0.092-1.2, RCI = 3.74).

For those in the 15 to 25-year-old platform who completed Mini-SPIN questionnaire at baseline and week 6 (n = 180), there was an overall estimated improvement in score of 0.22, that was not statistically significant or clinically significant (t = 0.97, p = 0.33, 95%CI: -0.22-0.66, RCI = 3.83). For those who completed at baseline and week 12 (n = 142), there was an overall estimated improvement in score of 0.66, that was statistically significant, but not clinically significant (t = 2.53, p < 0.05, 95%CI: 0.15-1.2, RCI = 3.89).

Table F.I: Mini-SPIN t-test summary.

Sample	Mean	SD	Change	95% Confidence Intervals		p	*t* statistic	df	Cohen's *d*	RCI
				2.5%	97.5%					
12-14 yrs										
Baseline	8.17	3.31								
Week 6	7.88	3.28	-0.23	-0.8	0.39	0.46	-0.73	83	0.07	-3.74
Week 12	7.66	3.35	-0.57	-1.2	0.092	0.09	-1.72	64	0.18	-3.53
15-25 yrs										
Baseline	8.5	3.23								
Week 6	8.31	3	-0.22	-0.66	0.22	0.33	-0.97	179	0.07	-3.83
Week 12	7.83	3.35	-0.66	-1.2	-0.15	< 0.05	-2.53	141	0.2	-3.89

A negative change score indicates an improvement in mental health.

Appendix G: Kessler Psychological Distress Scale (K-10)

The Kessler Psychological Distress Scale-10 (K-10) (Kessler et al., 2002) is a 10-item questionnaire designed to measure overall non-specific psychological distress. Participants answer questions about how they felt over the last 30 days, encompassing domains that include depression, anxiety, worry, suicidal ideation, and physical causes of stress. Answer categories are ranked on a 5-point Likert-type scale. The answers are summed to give a score between 10 and 50, with higher scores indicating higher levels of symptom severity. Overall, scores referring to psychological distress are categorised as 'low' = 10-15, 'moderate' = 16-21, 'high' = 22-29, and 'very high' = 30-50 (Sunderland et al., 2011). Among adults, increasing score categories have been correlated with higher likelihood of suicidal ideation (Chamberlain et al., 2009), and scores above 40 indicate high probabilities (>90%) of any ICD-10 diagnosis or DSM-IV disorder in the 12 months preceding test completion (Andrews & Slade, 2001). Among Australian youth the K-10 is considered acceptable for overall psychological distress, but is not able to predict specific domains of distress (Smout, 2019). The reliability used in calculations is K-10, α = 0.88 (Fogliati et al., 2016).

For those in the 12 to 14-year-old platform who completed K-10 questionnaire at baseline and week 6 (n = 84), there was an overall estimated improvement in score of 2.1, that was statistically significant, but not clinically significant (t = 2.93, p < 0.01, 95%CI: 0.66-3.5, RCI = 7.73). For those who completed at baseline and week 12 (n = 67), there was an overall estimated improvement in score of 2.1, that was statistically significant, but not clinically significant (t = 2.39, p < 0.05, 95%CI: 0.35-3.9, RCI = 7.07).

For those in the 15 to 25-year-old platform who completed K-10 questionnaire at baseline and week 6 (n = 183), there was an overall estimated improvement in score of 2.2, that was statistically significant, but not clinically significant (t = 4.54, p < 0.001, 95%CI: 1.2-3.1, RCI = 7.44). For those who completed at baseline and week 12 (n = 146), there was an overall estimated improvement in score of 2, that was statistically significant, but not clinically significant (t = 3.03, p < 0.01, 95%CI: 0.7-3.4, RCI = 7.31).

Table G.I: K-10 t-test summary.

Sample	Mean	SD	Change	95% Confidence Intervals		p	*t* statistic	df	Cohen's *d*	RCI
				2.5%	97.5%					
12-14 yrs										
Baseline	33.57	8.69								
Week 6	31.48	8.5	-2.1	-3.5	-0.66	< 0.01	-2.93	83	0.24	-7.73
Week 12	30.58	9.89	-2.1	-3.9	-0.35	< 0.05	-2.39	66	0.23	-7.07
15-25 yrs										
Baseline	35.55	8.01								
Week 6	33.28	8.79	-2.2	-3.1	-1.2	< 0.001	-4.54	182	0.26	-7.44
Week 12	33.25	9.56	-2	-3.4	-0.7	< 0.01	-3.03	145	0.23	-7.31

A negative change score indicates an improvement in mental health.

Appendix H: PSS Perceived Stress Scale (PSS-4)

The Perceived Stress Scale-4 (PSS-4) is a 4-item questionnaire, derived from a 14 item survey (PSS-14), which describes how much individuals perceive situations in their life as stressful or unmanageable (Cohen, Kamarck, & Mermelstein, 1983). Participants are asked to rate how they thought or felt during the last month on a 5-point Likert-type scale. Answer categories are summed to give a total score ranging between 1 and 16, with 16 indicating higher stress (Townsend & Medvedev, 2022). No thresholds have been found in the literature to indicate discrete levels of perceived psychological stress. The longer PSS instruments have been found to be acceptable among Australian adults (Ribeiro Santiago et al., 2020) and young people with mental illness (Warttig et al., 2013). The reliability used in calculations is PSS-4, α = 0.82 (Mitchell, Crane, & Kim, 2008).

For those on the 12 to 14-year-old platform who completed PSS-4 questionnaire at baseline and week 6 (n = 22), there was an overall estimated improvement in score of 0.73, that was not statistically significant or clinically significant (t = 1.17, p = 0.25, 95%CI: -0.56-2, RCI = 3.08). For those who completed at baseline and week 12 (n = 17), there was an overall estimated improvement in score of 0.53, that was not statistically significant or clinically significant (t = 0.73, p = 0.48, 95%CI: -1-2.1, RCI = 2.98).

For those in the 15 to 25-year-old platform who completed PSS-4 questionnaire at baseline and week 6 (n = 180), there was an overall estimated improvement in score of 0.56, that was statistically significant, but not clinically significant (t = 2.97, p < 0.01, 95%CI: 0.19-0.93, RCI = 2.89). For those who completed at baseline and week 12 (n = 143), there was an overall estimated improvement in score of 0.86, that was statistically significant, but not clinically significant (t = 3.91, p < 0.001, 95%CI: 0.43-1.3, RCI = 2.85).

Table H.I: PSS-4 t-test summary.

Sample	Mean	SD	Change	95% Confidence Intervals		p	*t* statistic	df	Cohen's *d*	RCI
				2.5%	97.5%					
12-14 yrs										
Baseline	9.24	2.4								
Week 6	8.36	2.92	-0.73	-2.0	0.56	0.25	-1.17	21	0.26	-3.08
Week 12	8.65	3.5	-0.53	-2.1	1	0.48	-0.73	16	0.17	-2.98
15-25 yrs										
Baseline	10.36	2.43								
Week 6	9.83	2.55	-0.56	-0.93	-0.19	< 0.01	-2.97	179	0.22	-2.89
Week 12	9.43	2.58	-0.86	-1.3	-0.43	< 0.001	-3.91	142	0.34	-2.85

A negative change score indicates an improvement in mental health.

Appendix I: University of California, LA-Loneliness Scale (UCLA-3)

The University of California, Los Angeles Loneliness Scale-3 (UCLA-3) (Hughes et al., 2004)) is a 3-item self-complete questionnaire derived from longer versions (UCLA-20, UCLA-25), which all assess loneliness and perceptions of social isolation, and are deemed appropriate for adolescents (Russell, Peplau, & Ferguson, 1978; Russell, 1996). Participants rate questions on a 3-point frequency scale. The answer categories are summed to give a total score between 3 and 9, with higher scores indicating greater loneliness. While loneliness isn't a clinical diagnosis, and there is no guidance on a specific cut-off, a threshold of total score indicating problematic severity can be estimated by study specific data (Matthews et al., 2022; Steptoe et al., 2013). The reliability used in calculations is UCLA-3, α = 0.84 (Elphinstone, 2018).

For those in the 12 to 14-year-old platform who completed UCLA-3 questionnaire at both baseline and week 6 (n = 84), there was an overall estimated improvement in score of 0.37, that was not statistically significant or clinically significant (t = 1.96, p = 0.05, 95%CI: -0.0057-0.7, RCI = 1.71). For those who completed at baseline and week 12 (n = 64), there was an overall estimated improvement in score of 0.12, that was not statistically significant or clinically significant (t = 0.54, p = 0.59, 95%CI: -0.33-0.6, RCI = 1.74).

For those in the 15 to 25-year-old platform who completed UCLA-3 questionnaire at both baseline and week 6 (n = 180), there was an overall estimated improvement in score of 0.19, that was not statistically significant or clinically significant (t = 1.69, p = 0.09, 95%CI: -0.033-0.42, RCI = 1.88). For those who completed at baseline and week 12 (n = 142), there was an overall estimated improvement in score of 0.2, that was not statistically significant or clinically significant (t = 1.27, p = 0.21, 95%CI: -0.11-0.5, RCI = 1.87).

Table I.I: UCLA-3 t-test summary.

Sample	Mean	SD	Change	95% Confidence Intervals		p	*t* statistic	df	Cohen's *d*	RCI
				2.5%	97.5%					
12-14 yrs										
Baseline	6.69	1.59								
Week 6	6.43	1.69	-0.37	-0.7	0.0057	0.05	-1.96	83	0.23	-1.71
Week 12	6.45	1.82	-0.12	-0.6	0.33	0.59	-0.54	63	0.07	-1.74
15-25 yrs										
Baseline	7.1	1.6								
Week 6	6.84	1.85	-0.19	-0.42	0.033	0.09	-1.69	179	0.11	-1.88
Week 12	6.87	1.82	-0.2	-0.5	0.11	0.21	-1.27	141	0.11	-1.87

A negative change score indicates an improvement in mental health.

Appendix J: Short Warwick and Edinburgh Mental Wellbeing Survey (SWEMWBS)

Short Warwick & Edinburgh Mental Wellbeing Survey (SWEMWBS) (Taggart, Stewart-Brown, & Parkinson, 2016) is a 7-item self-complete questionnaire designed to estimate mental well-being and psychological functioning, derived from the 14-item, Warwick and Edinburgh Mental Wellbeing Survey (WEMWBS). Participants are asked to reflect on the preceding two weeks and rate their frequency of thinking and feeling, on a 5-point Likert type scale. The answer categories are summed and transformed using a conversion table, to give a metric score between 7 and 35, with higher scores indicating higher mental well-being. While the instrument has correlation with mental health disorders (Shah et al., 2021), the concept of 'well-being' is not a clinical diagnosis, therefore clinical significance would not apply. Neither was the instrument designed for screening purposes. The reliability used in calculations is SWEMWBS, α = 0.87, which was derived among Australian youth (Hunter, Houghton, & Wood, 2015).

For those in the 12 to 14-year-old platform who completed SWEMWBS questionnaire at both baseline and week 6 (n = 84), there was an overall estimated improvement in score of 0.54, that was not statistically significant (t = 1.3, p = 0.2, 95%CI: -0.3-1.4). For those who completed at baseline and week 12 (n = 65), there was an overall estimated improvement in score of 1.6, that was statistically significant (t = 2.75, p < 0.01, 95%CI: 0.4-2.8).

For those in the 15 to 25-year-old platform who completed SWEMWBS questionnaire at both baseline and week 6 (n = 180), there was an overall estimated improvement in score of 1.1, that was statistically significant (t = 3.67, p < 0.001, 95%CI: 0.49-1.6). For those who completed at baseline and week 12 (n = 142), there was an overall estimated improvement in score of 0.73, that was not statistically significant (t = 1.72, p = 0.09, 95%CI: -0.11-1.6).

Table J.I: SWEMWBS t-test summary.

Sample	Mean	SD	Change	95% Confidence Intervals		p	*t* statistic	df	Cohen's *d*
				2.5%	97.5%				
12-14 yrs									
Baseline	17.2	2.99							
Week 6	17.79	3.06	0.54	-0.3	1.4	0.2	1.3	83	0.18
Week 12	18.95	4.78	1.6	0.4	2.8	< 0.01	2.75	64	0.39
15-25 yrs									
Baseline	17.24	3.47							
Week 6	17.89	4.03	1.1	0.49	1.6	< 0.001	3.67	179	0.28
Week 12	17.93	4.56	0.73	-0.11	1.6	0.09	1.72	141	0.18

A positive change score indicates an improvement in mental health.
Mental wellbeing is not considered clinical therefore RCI does not apply.

Appendix K: The Career Futures Inventory (CFI-9)

The Career Futures Inventory-9 (CFI-9) (McIlveen, Burton, & Beccaria, 2013)) is a 9-item self-complete questionnaire aimed at measuring an individual's career adaptability and dispositional optimism, derived from a 25 item parent survey – Career Futures Inventory (CFI) (Rottinghaus, Day, & Borgen, 2005). Participants indicate how well they agree that statements addressing the domains of Career Adaptability (CA), Career Optimism (CO), and Perceived Knowledge of the World of Work (PK) apply to them, on a 5-point Likert-type scale. Response categories are summed within each domain, with higher scores demonstrating higher aptitude in each respective subscale. The instrument should not be used as an overall measure (P. McIlveen, personal communication, February 21, 2024). The instrument is not designed to measure a clinical domain nor have agreed acceptable thresholds been determined. Questionnaire reliabilities used in calculations are; CFI-9, α = 0.84 (CA), α = 0.82 (CO), α = 0.86 (PK) (McIlveen, Burton, & Beccaria, 2013). This questionnaire is only administered for young people on the 15 to 25-year-old platform at baseline and week 24, if the young person has requested or received support for career guidance.

Young people who onboarded to the 15 to 25-year-old platform before 30 June 2023 completed the CFI-9 instrument at baseline and at 24 weeks. For those who onboarded after 1 July 2023, the CFI-9 was only administered at baseline. As of 2 April 2024, CFI-9 information was available for 242 young people at baseline, and 15 at week 24. Of those 15 young people, eight had complete CFI-9 values for each of the domains measured by the instrument: Career Adaptability; Career Optimism; and Perceived Knowledge. Paired t-tests were not performed on this data because of the small sample who were completed subsequent questionnaires, however, the data is summarised below. Of the 242 young people who completed the instrument at baseline the Mean (SD) was 9.8 (2.2) for Career Adaptability, 9.9 (3.4) for Career Optimism, and 8.7 (1.6) for Perceived Knowledge. Of the 15 young people who completed the instrument at week 24, the Mean (SD) was 10.9 (2.0) for Career Adaptability, 11.2 (3.2) for Career Optimism, and 8.9 (1.6) for Perceived Knowledge. A summary of the eight young people who completed at both baseline and week 24 are included in the table below. It is not possible to interpret whether engagement with MOST was associated with changes in vocational outcomes from this data, and no conclusions were made.

Table K.I: CFI-9 summary.

Young Person	Clinic	Career Adaptability			Career Optimism			Perceived Knowledge		
		Baseline	Week 24	Change	Baseline	Week 24	Change	Baseline	Week 24	Change
1	headspace	7	12	5	12	10	-2	9	10	1
2	headspace	9	9	0	11	9	-2	9	9	0
3	headspace	15	15	0	15	15	0	12	11	-1
4	headspace	8	10	2	6	6	0	7	6	-1
5	headspace	11	11	0	15	15	0	9	11	2
6	headspace	10	9	-1	12	12	0	9	9	0
7	HHS	9	12	3	6	6	0	8	6	-2
8	HHS	8	10	2	14	12	-2	8	9	1

Positive changes indicate a positive improvement in career outlook.

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