



Wait time measures for mental health and addiction services

Key performance indicator literature review, November 2022

Literature review (November, 2022) by Te Pou for The Key Performance Indicator (KPI) Programme, Mental Health and Addictions Aotearoa New Zealand.

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Executive summary

Long wait times are a barrier to accessing mental health and addiction services. Timely access to mental health and addiction support is important for all tāngata whai ora (people seeking wellness). *He Ara Oranga* (Government Inquiry into Mental Health and Addiction, 2018), the Ministry of Health (2012), and the Health Quality and Safety Commission (2021) have identified reducing wait times as a priority to increase service accessibility for all people experiencing mental health challenges and problematic substance use.

The Key Performance Indicator Framework for New Zealand Mental Health and Addiction Service Programme (KPI Programme) has historically included a wait times indicator in the child and youth (under 20 years old) stream. In 2017, a review of the KPI Programme recommended adding a wait time indicator to the adult stream.

This review summarises evidence on the rationale for wait times indicators and looks at measures used internationally. It specifically looks at the impact of wait times, strategies to reduce wait times, and wait time measures and data across populations in Aotearoa New Zealand and other International Initiative for Mental Health Leadership (IIMHL) countries.

Findings are drawn from journal publications, national data websites, and grey literature identified via database searches.

Key findings

Longer wait times are associated with negative impacts to people's wellbeing and service experiences, such as:

- decreasing people's wellbeing
- reducing motivation to access services and the likelihood of attending appointments
- reducing opportunities to build rapport and therapeutic relationships
- reducing satisfaction with services.

Strategies suggested or adopted in mental health and broader health settings to reduce wait times include:

- offering interim activities or e-mental health support
- providing walk-in services and open access scheduling
- triaging and Choice and Partnership Approach (CAPA)
- using technology to streamline administrative work and free up staff time
- using integrated primary and secondary mental health approaches.

Data provided by the KPI Programme shows around 80 percent of tāngata whai ora are seen by mental health and addiction services within 3 weeks, leaving around 2 in 10 tāngata whai ora waiting more than 3 weeks to be seen by services. Children and young people aged under 20 years old experience longer wait times compared to adults and all tāngata

whai ora, with around 3 in 10 waiting longer than 3 weeks. There are no large apparent differences in wait times between Māori, Pasifika, and Asian peoples.

Wait time measures, policies, and rates were found for most IIMHL countries. Aotearoa New Zealand's indicators are largely consistent with those used internationally in measuring wait times. This includes measuring the length of time between referral and first appointment or start of treatment, having targets that aim to see a specific proportion of people within a certain timeframe, and tracking wait times for children and young people separately from adults. Aotearoa New Zealand differs from most other IIMHL countries in setting global wait time targets that do not depend on the type of mental health need or programme. Aotearoa New Zealand is also unique in tracking wait times for mental health and addiction services separately.

Conclusion

There is no universally accepted standard for wait time targets. Aotearoa New Zealand and international wait time targets appear to be supported by evidence indicating wait times can contribute to negative outcomes for people. Further exploration of the impact of wait times on people's wellbeing and service outcomes is recommended.

Key recommendations for the KPI Programme are outlined below.

- Keep the current wait time indicator for the child and youth stream as it is consistent with evidence and international practices.
- Add a wait time indicator for the adult stream, in line with the 2017 KPI Programme review and international evidence.
- Further examine the utility of the 'third face-to-face contact' indicator given the lack of studies measuring wait times to contacts past the first.

Background

He Ara Oranga (Government Inquiry into Mental Health and Addiction, 2018) recommends increasing access and choice of services for people experiencing mental health challenges and problematic substance use. The Inquiry heard the struggles tāngata whai ora (people seeking wellness) and whānau experience when accessing services, such as access to timely assessments and support, limited services available in regional areas, and high thresholds for entry into services. To increase service accessibility, both the Inquiry and earlier Manatū Hauora Ministry of Health plans identify the need to reduce wait times for all people accessing services (Ministry of Health, 2012).

Demand for mental health and addiction services is increasing. Over the last 5 years, the number of people accessing secondary mental health and addiction services has increased by 10 percent (Manatū Hauora Ministry of Health, 2021b). In 2020/21, over 183,000 people accessed secondary mental health and addiction services. Of those, 52,000 were Māori (around 28 percent), and 51,000 were under the age of 20 (around 28 percent). According to Manatū Hauora Ministry of Health (2021b), about 4 percent of the Aotearoa New Zealand population access secondary mental health and addiction services. The increasing demand for services reflects the growing numbers of people showing signs of distress. The New Zealand Health Survey shows that distress has increased significantly over the last 10 years for Māori and for most age groups, particularly younger people aged 15 to 24 (Ministry of Health, 2021a). Due to the significant number of people accessing services and the difficulties in gaining access, it is essential that the experience is effective and positive for tāngata whai ora.

Concerningly, New Zealand continues to have one of the highest youth suicide rates in the world (UNICEF Innocenti, 2020). Approximately two-thirds of mental health conditions onset before age 25 (half before age 18 and one-third before age 14) (Solmi et al., 2021). *He Ara Oranga* (2018) acknowledges a range of factors contributing to the distress experienced by young people, including poverty, student debt, exposure to alcohol and other drugs, and concerns over not having the knowledge and skills to flourish in life. Trauma, including intergenerational trauma, are common factors in why people experience mental distress and related issues such as problematic substance use. Timely access to mental health and addiction services is essential to responding to people's distress, particularly for groups who experience disproportionate rates of mental health challenges such as Māori, Pasifika, and children and young people (Government Inquiry into Mental Health and Addiction, 2018; Oakley-Browne et al., 2006). It is important to achieve equity of outcomes for different population groups.

KPI Programme

The Key Performance Indicator Programme for Mental Health and Addictions, Aotearoa New Zealand (KPI Programme) is a mental health and addiction sector owned and led initiative. The programme facilitates continuous service quality and improvement across services and

non-government organisation (NGO) partners through collective data analysis, benchmarking, learning, and problem-solving. The programme aims to improve and sustain service provision to tāngata whai ora and their whānau. Data is sourced from the Programme for the Integration of Mental Health Data (PRIMHD) database.

The wait times indicator reflects the time taken from referral to first and third contact with secondary mental health and addiction services.¹ Tāngata whai ora may be referred via several pathways including primary care, through crisis, or emergency department admission. It may take several contacts with secondary services before any therapeutic relationship begins. Therefore, time to third face-to-face contact has been chosen as the point at which a therapeutic relationship is mostly likely to occur, and a salient marker for measurement. [Appendix A](#) contains full wait time indicator technical notes.

Aims and objectives

This rapid review aims to update our understanding of the rationale for the wait time indicators in the KPI Programme and to inform the KPI Programme in reviewing this indicator. The findings will inform the KPI Programme around two main questions.

- What is the rationale for including wait time indicators for adults and young people in the KPI Programme?
- How can international wait time measures and policies inform the KPI Programme's wait time indicator?

Specific objectives are to:

- summarise evidence on the impact of wait times on tāngata whai ora and their outcomes
- describe good practice strategies used to reduce wait times
- summarise current wait time indicators used in Aotearoa New Zealand and International Initiative for Mental Health Leadership (IIMHL) countries
- make recommendations for consideration by the KPI Programme.

Method

A rapid literature review was undertaken using Google, Google Scholar, and EBSCOHost (Academic Search Complete, CINAHL Complete, MEDLINE Complete, Psychology and Behavioral Sciences Collection). Literature published until September 2022 were included. Searches were based on the following search terms:

- wait/waiting times
- key performance indicator, effective performance indicators, quality measures

¹ Until July 2021, the wait times indicator was used only in the child and youth stream (under 20 years old). The indicator previously measured wait times for urgent and non-urgent referrals separately. Through sector consultation, the indicator now measures wait times for all population groups across the mental health and addiction sector, and for all referrals.

- mental health, addiction
- service, access, outcomes.

The searches included journal publications, grey literature, and national data websites published in the last 10 years. Where possible, international reviews were drawn upon. Most articles found were single studies, reports, and government data sources. Time and capacity restrictions limited the number of studies identified and appraisal of study quality. The quality and findings of individuals studies may vary (due to differences in sampling, methods, and analyses) but are included to provide information that broader sources may not otherwise cover. Wait time measures, policies, and rates are reported for each IIMHL country where available. See Tables 2, 3, and 4 in [Appendix B](#) for a summary of articles identified in the literature searches.

Wait time data for Aotearoa New Zealand was collated from the KPI Programme wait time indicator data dashboard in July 2022.

Findings are presented for adults, and children and young people separately. The KPI programme currently defines children as aged under 20 years of age. Given definitions used elsewhere, this report extends the age range of rangatahi to include those aged up to 24 years of age in some places.

Results

This section presents key findings from the literature searches in the following subsections:

- impact of wait times on tāngata whai ora
- strategies to reduce wait times
- wait times in Aotearoa New Zealand
- wait time measures and data in other IIMHL countries.

Impact of wait times

Wait times are a key determinant of the experiences of tāngata whai ora in mental health and addiction services. Longer wait times are associated with a reduced likelihood of accessing mental healthcare (Anderson et al., 2017; Chartier-Otis et al., 2010; Paton et al., 2021; Peterson et al., 2014; Stalker et al., 2016; Town et al., 2022). In a scoping literature review which looked at barriers to accessing child and adolescent mental health services (CAMHS), long wait times was the most commonly cited barrier among people accessing services, healthcare professionals, and service managers (Anderson et al., 2017). The review reported that long wait times can have negative impacts on families' engagement with services including decreased likelihood of attending appointments, seeking help elsewhere, and referral to another specialist which, in turn, further increased wait times. Another review of studies identified consequences of longer wait times including negative effects on health outcomes, decreased satisfaction among people accessing services and the public, and inequitable access in that people who have fewer social connections or are

from lower socio-economic backgrounds wait longer than people who have friends, family, or resources which allow them to “work the system” (Peterson et al., 2014).

The literature indicates that longer wait times are associated with pre-treatment attrition, defined as people dropping out of planned treatment before it begins. Chawdhary and colleagues (2007) found people seeking treatment for cocaine use were more likely to drop out of treatment before it began when they had to wait longer for treatment. This may have impacted people’s readiness to change. A rural child and adolescent community mental health centre also found wait time was a strong predictor of attendance, where the likelihood of the young person attending decreased by 1.4 percent for each additional day they had to wait for an appointment (Sherman et al., 2009). These findings indicate that long wait times may discourage people from engaging with services, which may in turn leave mental health challenges or problematic substance use untreated.

There is evidence that people may turn to more extreme measures to access treatment quicker. This can occur when people feel their needs are too difficult to cope with on their own, but services do not consider the impact on their lives severe enough to be seen sooner (Action Station, 2017). For example, two studies with young people in rural communities show people may intentionally self-harm or pose a danger to others to access services quicker (Aisbett et al., 2007; Boydell et al., 2006). Another study with people who use substances suggests that being placed on wait lists can cause people to continue problematic substance use, lose motivation to seek treatment, and deliberately overdose in severe cases to be admitted into addiction services sooner (Redko et al., 2006).

Long wait times can lead to other negative outcomes for people accessing services. Evidence suggests that long wait times are associated with exacerbated symptoms (Punton et al., 2022; Reichert & Jacobs, 2018; Town et al., 2022), reduced treatment retention (Westin et al., 2014), and lower satisfaction with services (Ansell et al., 2017; Stalker et al., 2016). Among people experiencing psychosis, early and timely intervention is imperative in preventing adverse long-term outcomes (Penttilä et al., 2014). A study exploring health outcomes among people accessing early intervention in psychosis services in England indicates that waiting longer than 3 months is associated with clinically significant deterioration in people’s health (Reichert & Jacobs, 2018). This study demonstrates significant differences between wait time intervals: people who waited between 2 weeks to 3 months, 3 to 6 months, and 6 to 12 months reported higher levels of challenges in health and social functioning (measured using Health of the Nation Outcome Scales – HoNOS) than those who waited less than 2 weeks. Overall, a 1 percent longer waiting time translated into an increase or worsening of HoNOS scores.

Reducing wait times

The literature outlines strategies that can be adopted to reduce wait times in mental health and broader health settings. In addition to increasing service capacity to meet demand, this includes strategies to:

- increase service efficiency to enable services to review and accept referrals more quickly
- provide initial treatment or support options to keep people engaged
- provide suitable alternatives for people with low acuity
- increase links with community supports in an integrated way.

It is important to note that reducing wait times should not come at the cost of quality or the experience of support people deserve (Edbrooke-Childs & Deighton, 2020).

Interim activities

Interim activities—activities that people can do while waiting for an appointment—are a way to offset the potential risk of a longer wait time while still providing some support. Activities can include group programs, phone check-ins, peer support activities, online therapy and e-courses, community services and programmes, and providing self-help information and resources (Headspace, 2019). These can reduce perceptions of wait times by providing support while people wait for appointments. Offering such activities provides people with continuous support, improves engagement, offers soft entries into mental health services, reduces barriers to accessing services, and provides vital handover information to services. More broadly, interim activities can improve overall accessibility, increase continuity between services, and make handover processes more efficient (Edbrooke-Childs & Deighton, 2020; Headspace, 2019).

E-mental health

E-mental health—using the internet and related technologies—can help improve the delivery, quality, efficiency, and equity of mental health services. E-mental health can provide computerised therapies and treatments without the waiting time associated with conventional services as they are typically always available (Mental Health Commission of Canada, 2014). Other benefits to accessibility and service delivery include freeing up clinician time, providing greater accessibility for people in rural or remote areas where access to services is usually more difficult (Children’s Mental Health Ontario, 2020; Mulraney et al., 2021; Paton et al., 2021; Steinman et al., 2015), bypassing stigma associated with seeking conventional treatment, and giving people choice and control over support options. Manatū Hauora Ministry of Health provides a directory of online tools and resources² to support mental wellbeing including:

- Just A Thought – a website that offers online, evidence-based cognitive behavioural therapy courses for people experiencing anxiety and depression symptoms that have a mild-to-moderate impact on their life
- Small Steps – a digital tool to help maintain wellness, find relief, or get help

² <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-health-advice-public/covid-19-mental-health-and-wellbeing-resources>

- Groov – an app that can be used to monitor, manage, and improve mental wellbeing by setting daily goals and tracking progress.

Digital tools designed to support children and young people’s wellbeing include:

- HABITs Messenger – a chatbot messaging app that provides brief support for health and wellbeing
- SPARX – a self-help tool in the form of a fantasy video game which uses cognitive behavioural therapy principles
- Triple P Online – online support designed to help parents support children’s wellbeing and family life.

E-mental health can be offered to people needing mental health support as standalone treatments, alongside in-person treatments, as part of stepped care approaches, or as interim activities while people wait for appointments (Ebert et al., 2017). For example, the developers of SPARX noted the game could be used alongside or within therapy, or as an intervention for adolescents on mental health service waitlists (Fleming et al., 2021). E-mental health approaches tend to be more effective when they are supported by a clinician or other guidance (Te Pou o te Whakaaro Nui, 2018).

Open-access appointments

A recent international review of demand and wait list management approaches highlights the implementation of walk-in sessions as a key strategy to reducing wait times (Thomas et al., 2021). This removes the referral stage of the mental health service journey, allows services to provide support on short notice, and addresses people’s needs as and when they need it. For example, in Canada, several walk-in clinics were opened to support children and young people with mental health challenges. Clinics include Skylark in Toronto (up to 26 years old), ROCK Reach Out Centre for Kids (up to 17 years old), and Etobicoke Children’s Centre (up to 24 years old) in Ontario. In Ontario, opening walk-in clinics and providing brief support services to children and young people experiencing mental health challenges reduced median wait times from 78 to 67 days between 2015/16 and 2019 (Children’s Mental Health Ontario, 2020). However, this left those who needed longer-term support and those with mental health challenges that had a moderate impact on their lives waiting for longer. Other studies indicate that walk-in services reduce wait times, improve mental health outcomes, increase service user satisfaction, clear backlogs, reduce no-show rates, and improve staff morale (Kinnan et al., 2019; Stalker et al., 2016; Williams, 2012).

Some services allow people to schedule their own appointments. This strategy accommodates the needs and preferences of multiple population groups, which aligns with adopting people-centred approaches in mental health services (Chen et al., 2013; Government Inquiry into Mental Health and Addiction, 2018; Heath, 2018; Rocks et al., 2020). A review of wait time reduction strategies in primary health services indicates that open-access scheduling is a common approach used to reduce wait times (Ansell et al., 2017). In this review, studies that assessed open-access scheduling observed significantly reduced wait times. Additionally, the of use telephone calls for follow-up consultations in

conjunction with open-access scheduling has been shown to eliminate the need for in-person appointments for some people, which freed up clinician time to see people who did need to attend in-person appointments. However, a caveat identified in Ansell and colleagues' review is that uptake of open-access scheduling was greater in younger populations, while older populations seemed to prefer pre-booked appointments.

Technology

Technology such as mobile and computer applications, data registries, and online portals can be used to improve services' efficiency and manage demand (Department of Health & Department for Children, Schools and Families, 2009). The literature shows that tasks such as scheduling, correspondence, intake and follow-up appointments, and screening can be performed efficiently using technology (Ansell et al., 2017; Kreindler, 2008). For example, in conjunction with open-access appointments outlined above, services can use digital appointment scheduling where people can set their own appointments when it is convenient to them (Ansell et al., 2017). This has been shown to reduce the likelihood of non-attendance.

Other examples of incorporating technology include group texting. One study at a children's hospital highlights the potential for a group texting application (GroupMe) to increase communication between providers and reduce wait times for children and adolescents referred to mental health services (van den Berk-Clark et al., 2018). Instant messaging applications can reduce wait times by facilitating communication between services. Another study at a medical centre incorporated an eVisit program—an online portal that allows registered users to self-complete a detailed questionnaire about their health needs (Williams, 2012). This portal eliminated the need for people to visit a physician's office which in turn reduced wait times and freed up staff time to see other people. People accessing services in this study appreciated the convenience of eVisits and the reduced wait times for in-office appointments that resulted from implementing the tool.

Some caveats to consider when implementing new technology into service workflow include bottlenecks that can still occur due to a lack of capacity even if referral processes are made more efficient (van den Berk-Clark et al., 2018). For e-mental health approaches, services need to consider accessibility for people who do not have consistent internet access, who are not familiar with using internet or devices, or have difficulties such as learning or vision impairments (Clough et al., 2019; Meurk et al., 2016). Staff also need sufficient training to use, manage, and facilitate new technologies so that workflow is enhanced, not inhibited (Kreindler, 2008).

Triaging

Triaging assists with service efficiency and capacity. Triaging involves prioritising treatment based on the urgency of people's needs. This allows resources and staff to be streamlined towards those who need it most urgently and allows services to direct people with less urgent needs to other community services and resources. Converging evidence shows the

impact of triaging on reduced wait times: from 9 days to 6 days in a university counselling centre (Hardy et al., 2011), from 46 days to 27 days across child and adolescent mental health services (CAMHS) in Calgary, Canada (Melathopolous & Cawthorpe, 2019), and from 7 to 2 days for urgent appointments in the same catchment area. However, broader literature is mixed as some sources suggest that working through wait lists without reprioritising people is more effective in that people with significant but 'less urgent' needs are not left waiting for longer (Kreindler, 2008; NHS Improving Quality, 2014). Ultimately, mental health and addiction services need to assess whether triaging or sequentially working through wait lists is more appropriate given their services' capacity, resources, and communities' needs.

Choice and Partnership Approach (CAPA)

CAPA is a collaborative service improvement model that allows young people and their whānau to have increased choice and participation in the mental health services they access (Werry Workforce Whāraurau, 2018). It is widely used in CAMHS in Aotearoa New Zealand and across providers in UK, Canada, and Australia. CAPA offers a 'choice appointment' wherein the person and their whānau discuss with clinicians what they need support with. They mutually agree on whether further appointments are necessary and thereby enter a therapeutic relationship (Appleby & Phillips, 2013). Clinicians shift from being seen as an 'expert with power' to a 'facilitator with expertise' and actively work with young people and their whānau in each stage of their treatment journey. CAPA facilitates quick service access, efficient utilisation of resources, and goal-oriented episodes of care (Naughton et al., 2015). Its main aims are to enhance the effectiveness of services and increase satisfaction among people accessing services.

Evidence indicates that using CAPA results in significantly reduced wait times. For example, a Canadian study in a major paediatric hospital and trauma centre indicates that implementation of CAPA reduced average wait times (from referral to first and second appointment) from 225 days to 93 days (Clark et al., 2018). Another study set in an Australian regional CAMHS shows use of CAPA reduced wait times (to first face-to-face contact) from 63.9 days to 10.7 days (Naughton et al., 2015). Other studies indicate significantly improved clinical outcomes measured by HoNOS for children and adolescents; Depression, Anxiety and Stress Scale-21; and Clinical Global Impressions scale (Thomas et al., 2021).

Integrated support

Integrated support can reduce wait times for people. Integrated support refers to the interface between primary, secondary, and community mental health services (Lester et al., 2004) and involves enhancing communication, establishing and strengthening partnerships between areas of services, and adopting a person-centred focus. There are two main benefits of integrated support. First, better coordination across services can enhance continuity. This reduces wait times through efficient referral processes, improved communication across services and clinicians, and shared information (Bywood et al., 2015).

Integrated services help ensure people accessing services are supported while transitioning between any stage of their mental health journey. This is particularly important for people accessing services that have weeks-long wait times; offering people community-based support can reduce the likelihood of the waiting period negatively impacting their wellbeing. Second, secondary services often operate at, or more than, capacity due to high demand and insufficient resources (Kinnan et al., 2019; University of Otago, 2015; Williams, 2012). Services can work across primary and community-based services to offset workload, manage demand, and use resources and staff time more efficiently, particularly when supporting people with less urgent needs (Carswell & Pashkov, 2018; Souza et al., 2015).

Primary health plays an important role in people's mental health and in supporting people with mental health challenges that are emerging or have a mild impact on their lives (Souza et al., 2015), provide more accessible support for people discharged from inpatient mental health services (Norton et al., 2011), and can efficiently streamline transfers and referrals across services by having access to people's information (Carswell & Pashkov, 2018). Community-based services also provide critical support given evidence showing the positive effects of psychosocial support on people's mental wellbeing, recovery, and likelihood of readmission (Carswell & Pashkov, 2018; Lester et al., 2004). One of the key aims of the integrated primary mental health and addiction services being implemented in Aotearoa New Zealand is increasing access to support and reducing wait times for people experiencing mental health challenges and problematic substance use (Te Pou, n.d.).

Wait time measures

Wait time measures for mental health and addiction services vary across different countries and settings. This section summarises wait time measures and data in Aotearoa New Zealand then presents those of other IIMHL countries.

Aotearoa New Zealand

In Aotearoa New Zealand, services measure wait times as the number of days between when tāngata whai ora are referred to a mental health or addiction service and when they are first seen by services (KPI Programme, 2022).

Health Quality & Safety Commission

In 2021, Manatū Hauora Ministry of Health established the Health System Indicators Framework—a framework to measure how well Aotearoa New Zealand's health and disability system services serve tāngata whai ora (Manatū Hauora Ministry of Health, 2021). The framework replaced health targets, which were national performance measures designed to improve the performance of health services in seven domains, marking a national move towards a continuous model of service quality improvement. The new framework includes two indicators relevant to wait times for mental health services.

- Percentage of young people aged under 25 accessing mental health services within 3 weeks of referral.

- Access to primary mental health and addiction services.³

The Health Quality & Safety Commission provides an online dashboard which reports on the framework’s indicators (Health Quality & Safety Commission, 2021). The dashboard reports that in the year to December 2021, around 73 percent of young people aged under 25 were able to access specialist mental health services within 3 weeks of referral.

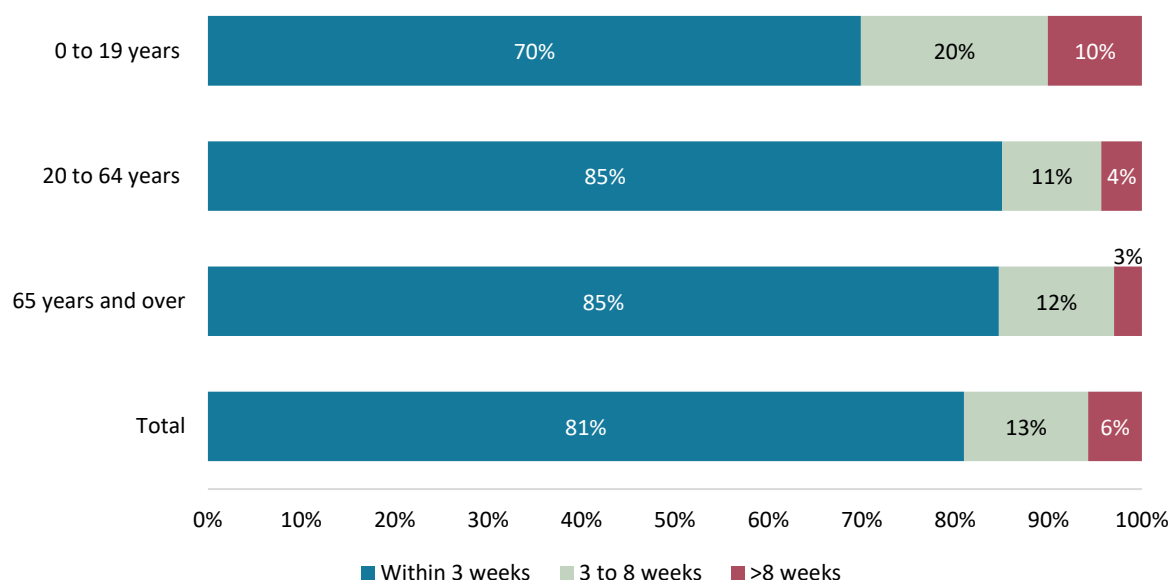
KPI Programme

The KPI Programme includes a wait time indicator which measures the number of days between referral and first and third contact with mental health and addiction services (see Appendix A for full technical notes for the wait time indicator). Wait times are measured for all age and ethnic groups, and across all regions in Aotearoa New Zealand.

The KPI Programme website provides an online dashboard of wait times for mental health and addiction services (KPI Programme, 2022). The dashboard presents the proportion of tāngata whai ora who are seen with 3 and 8 weeks from referral. Wait time data is sourced from PRIMHD.

Figure 1 shows wait times to first contact with mental health and addiction services in Aotearoa New Zealand by age group in 2021 (KPI Programme, 2022).

Figure 1. Proportion of tāngata whai ora seen by mental health and addiction services within 3 and 8 weeks in 2021 by age group



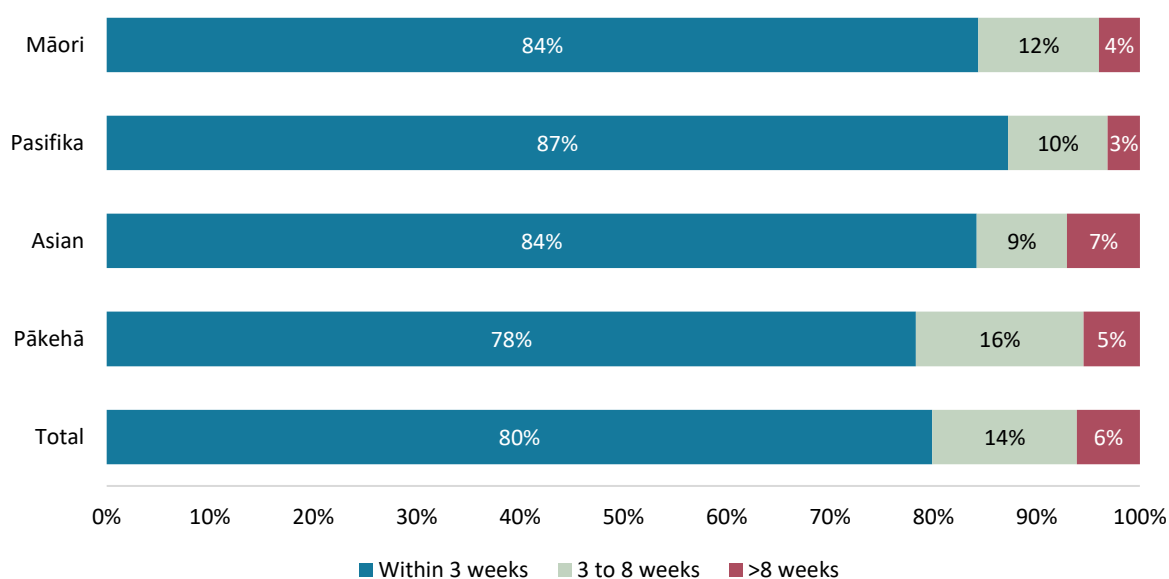
Source. KPI Programme Wait Times data dashboard (accessed July 2022).

³ At the time of writing, this indicator is in development. No data is available for this indicator in the online dashboard.

Four out of five people (81 percent) were seen within 3 weeks and nearly all (94 percent) within 8 weeks. There was a markedly lower proportion of children and young people (0 to 19 years old) who were seen within 3 weeks (70 percent) compared to adults and older adults (85 percent). The proportion of children and young people seen within 8 weeks (90 percent) was also lower compared to adults (96 percent) and older adults (98 percent). Concerningly, around 1 in 10 children and young people waited more than 8 weeks to be seen by a mental health or addiction service in 2021.

Figure 2 shows wait times for different ethnic groups in 2021. At least four in five Māori (84 percent), Pasifika (87 percent), and Asian people (84 percent) were seen within 3 weeks. A greater proportion of Māori and Pasifika were seen within 8 weeks (96 to 97 percent) than other ethnic groups. Pākehā appear to experience longer wait times compared to other ethnic groups, with under 4 in 5 (78 percent) seen within 3 weeks and more than 1 in 5 (21 percent) seen after 3 weeks.

Figure 2. Proportion of Māori, Pasifika, and Asian tāngata whai ora seen by mental health and addiction services within 3 and 8 weeks compared to all tāngata whai ora seen (2021)



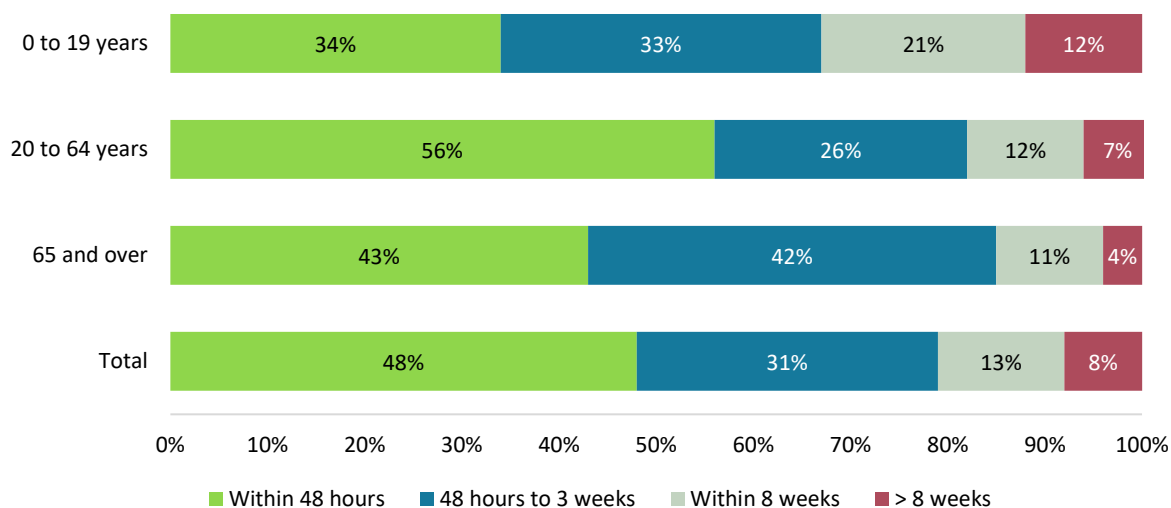
Source: KPI Programme Wait Times data dashboard (accessed July 2022).

Te Hiringa Mahara

In 2022, Te Hiringa Mahara New Zealand Mental Health and Wellbeing Commission published *Te Huringa (2022)*, a mental health and addiction services monitoring report. The report shows the performance of mental health and addiction services between 2016/17 and 2020/21 in multiple domains, including wait times. Wait times are measured as the length of time between when tāngata whai ora are referred to a mental health or addiction service and the day they are first seen by the service.

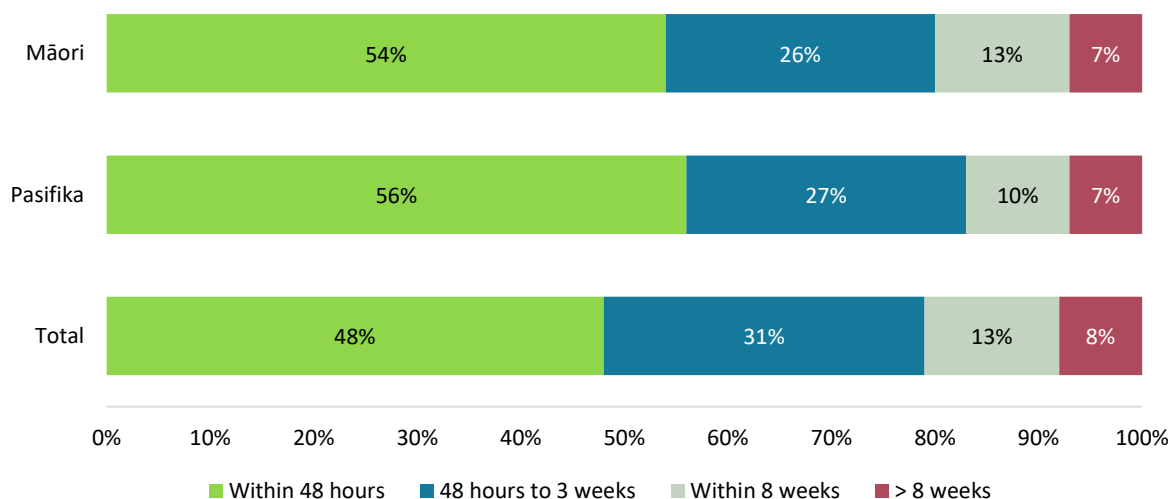
Figures 3 and 4 summarise average wait times for mental health services across age and ethnic groups between 2016/17 and 2020/21.

Figure 3. Average wait times for mental health services across age groups (2016/17 to 2020/21)



Note. Data adapted from *Te Huringa* (2022)

Figure 4. Average wait times for mental health services across ethnic groups (2016/17 to 2020/21)



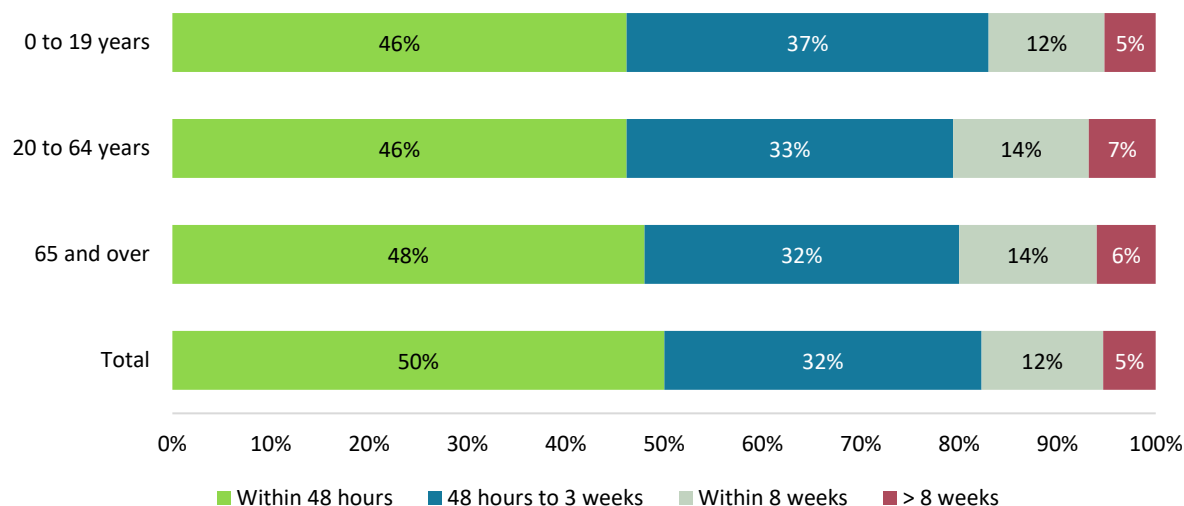
Note. Data adapted from *Te Huringa* (2022)

Between 2016/17 and 2020/21, on average, almost half of tāngata whai ora were seen by mental health services within 48 hours, 4 in 5 within 3 weeks, and over 1 in 10 waited between 3 and 8 weeks. Only around one-third of young people aged under 20 years were seen within 48 hours, while over half of adults aged between 20 and 64 years were seen

within 48 hours. Higher proportions of Māori (54 percent) and Pasifika (56 percent) were seen within 48 hours compared to all tāngata whai ora. The KPI Programme wait times dashboard provides access to current information.

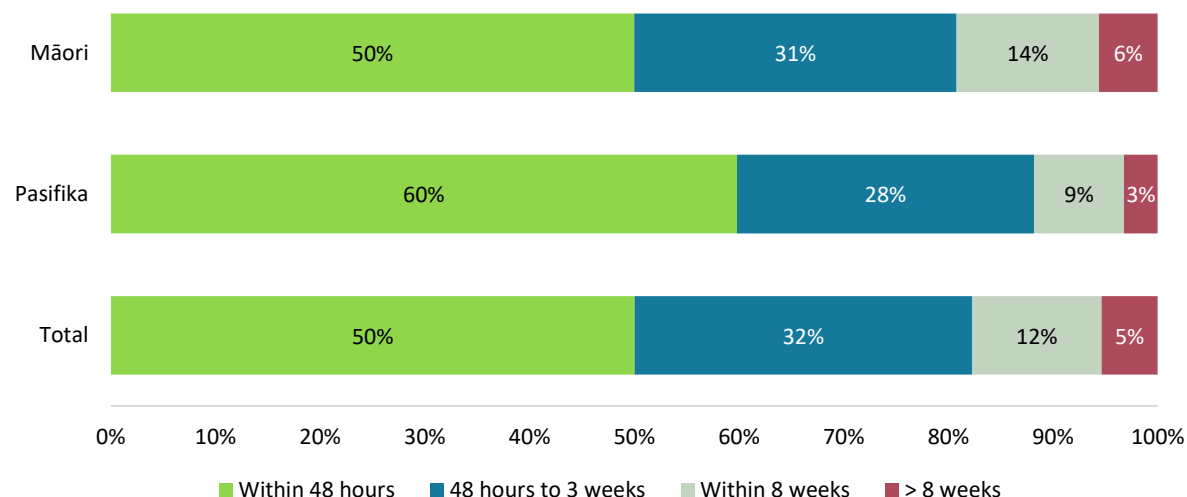
Figures 5 and 6 summarise average wait times for addiction services across age and ethnic groups as reported in *Te Huringa* (2022).

Figure 5. Average wait times for addiction services across age groups (2016/17 to 2020/21)



Note. Data adapted from *Te Huringa* (2022).

Figure 6. Average wait times for addiction services across ethnic groups (2016/17 to 2020/21)



Note. Data adapted from *Te Huringa* (2022).

Between 2016/17 and 2020/21, on average, half of tāngata whai ora were seen by addiction services within 48 hours, 4 in 5 within 3 weeks, and over 1 in 10 waited between 3 and 8

weeks. Rates of tāngata whai ora seen within 48 hours were similar across all age groups. Pasifika were seen at higher rates compared to all tāngata whai ora, with 3 in 5 seen within 48 hours. This information is also available on the KPI Programme wait time dashboard.

Other IIMHL countries

Table 1 presents wait time measures, targets, and rates for different age groups across IIMHL countries. Data are drawn from the most recent sources available. Due to lack of information, countries with incomplete data in Table 1 include Australia, Scotland, Sweden, and the Netherlands. Australia is not included due to a lack of national wait time targets and information on wait time data.⁴

Measures

Across IIMHL countries, including Aotearoa New Zealand, it is standard practice to measure wait times as length of time in days or weeks from referral to first appointment or start of treatment (see Table 1). Other measures include the Netherlands assessing time from visiting a service to receiving a referral, Sweden measure time to see a specialist, and the US examine time from request for service to first appointment. Other wait time definitions across different providers, studies, and countries include time between intake and service received (Children’s Mental Health Ontario, 2020) and referral to acceptance into a program (Kirkbride et al., 2017).

This review was unable to identify any countries or providers that specifically measure wait time to third in-scope activity. Some sources measure wait time to second contact, measured as the length of time between the first and second contact (Clark et al., 2018; Harding et al., 2018; Rocks et al., 2020). Clark and colleagues (2018) state that in traditional systems first appointments focus on diagnosis, treatment planning, and intake, then treatment begins in the second. This justifies measurement of wait times to subsequent appointments.

Targets

Most countries aim to see a certain proportion of people within a specified timeframe. Canada is an exception, which sets wait time targets but does not specify any proportion of people who should be seen within a certain timeframe. In addition, Aotearoa New Zealand does not have a target for younger people, opting instead for a continuous model of service quality improvement for mental health and addiction services. Aotearoa New Zealand also

⁴ Some information is available on wait times in Australia: a survey of Headspace centres in 2018 (centres that provide early intervention mental health support to young people aged 12 to 25) reported that average wait times for intake sessions was 10.5 days, average wait for first therapy session was 25.5 days, and average wait for second therapy session was 12.2 days (Headspace, 2019). In emergency departments, a lower proportion of people presenting for mental health conditions (68 percent) were seen compared to non-mental health conditions (73 percent) (Australasian College for Emergency Medicine, 2018).

appears to be unique in routinely tracking wait times for mental health and addiction services separately.

Wait time targets can be either global (the same across all people accessing services) or specific to certain conditions, programmes, or levels of urgency. International targets are generally organised according to specific conditions and programmes, with varying lengths of target wait times depending on the urgency or type of treatment. Wait time targets for general psychological therapies or unspecified mental health appointments are longer than targets for more urgent treatments such as first episode psychosis or eating disorder services. For example, targets for general psychological therapies are 75 percent within 6 weeks and 95 percent within 18 weeks in England, 90 percent within 18 weeks in Scotland, and 75 percent within 12 weeks in Ireland. For first episode psychosis services, wait times are 2 weeks (or 1 week for urgent cases) in Canada and 50 percent within 2 weeks in England. For eating disorder services, wait time targets are 4 weeks (or 1 week for urgent cases) in England. There is no universally accepted standard for length of wait time targets, even when comparing targets for specific types of treatments.

Table 1. Wait time measures, targets, and rates in IIMHL countries

Country	Wait time measure	Targets		Rates		
		Children and young people	Adults	Children and young people	Adults	Other
England	Length of time from referral to start of treatment (in days) (NHS Digital, 2020).	<p>Four weeks (eating disorders).</p> <p>One week (urgent eating disorders).</p> <p>80% within 18 weeks for specialist mental health services (OECD, 2020).</p>	<p><i>Referrals for psychological therapies</i></p> <p>75% within 6 weeks.</p> <p>95% within 18 weeks.</p> <p><i>Referrals for first episode psychosis</i></p> <p>50% within 2 weeks.</p>	<p>Overall, around 80% of children receive access to specialist services within 18 weeks.</p> <p>In January to March 2021, 40.9% of 0 to 17-year-olds received treatment for first episode psychosis within 2 weeks.⁵</p>	<p>Around 90% of adults receive treatment from specialist mental health services within 18 weeks.</p> <p>In January to March 2021, 33.7% of 18 to 34-year-olds received treatment for first episode psychosis within 2 weeks (NHS Digital, 2020).</p>	<p>All age groups</p> <p>In January 2020, 88.1% of referrals waited less than 6 weeks to receive psychological therapy.</p> <p>Between February 2019 to January 2020, the percentage of referrals who waited less than 6 weeks to enter treatment was consistently above target (average 87.7%).</p> <p>In January to March 2021, 31% of people aged 35 and over received treatment for first episode psychosis within 2 weeks (NHS Digital, 2020).</p>
Scotland	Length of time from referral to start of treatment (in days). ⁶	90% within 18 weeks (psychological therapies). ⁶	90% within 18 weeks (psychological therapies) (Public Health Scotland, 2020).	In the quarter ending March 2021, 72.5% of children and young people were seen within 18 weeks which did not meet the national standard. One in two children and young	No available data.	<p><i>Older adults</i></p> <p>Of the 914 people aged 65 years and older who started psychological therapies in the quarter ending March 2021, 85.2% started treatment within</p>

⁵ Data available from https://files.digital.nhs.uk/8A/01DB8B/MHSDS%20AWT_MarF_2021.xlsx

⁶ Data available from <https://www.isdscotland.org/health-topics/waiting-times/waiting-times-statistics/>

Country	Wait time measure	Targets		Rates		
		Children and young people	Adults	Children and young people	Adults	Other
				<p>people started treatment within 9 weeks which increased from 7 weeks in the previous quarter but decreased from 11 weeks in the quarter ending March 2020 (Public Health Scotland, 2021a).</p> <p>In the quarter ending March 2021, 80.4% people started their treatment within 18 weeks with a median wait of 3 weeks. This was comparable to 80% in the previous quarter and increased from 77.6% in the quarter ending March 2020 (Public Health Scotland, 2021a).</p>		<p>18 weeks. This increased from 77.4% in the previous quarter but decreased from 87.2% in the quarter ending March 2020 (Public Health Scotland, 2021b).</p> <p><i>General population</i></p> <p>In the quarter ending March 2021, half of all people seen started treatment within 3 weeks and 80.4% of people started treatment within 18 weeks. This did not meet national targets but increased from 80% in the previous quarter and 77.6% in the quarter ending March 2020 (Public Health Scotland, 2021a).</p>
Canada	Length of time from referral to start of treatment (in days) (Canadian Institute for Health Information, 2021).	No available data.	<p><i>Emergency cases (immediate danger to life, limb, or organ) Within 24 hours.</i></p> <p><i>Urgent cases (unstable situation with the potential to deteriorate quickly and result in an emergency admission)</i></p> <p>One week (first episode psychosis, mania,</p>	<p>In 2019/20, the median wait times for children and young people was 28 days. Boys typically waited longer (34 days) than girls (30 days). Wait times for this age group are longer overall than for adults (Children's Mental Health Ontario, 2020).</p> <p>A survey of nearly 100 child and youth (under 18) mental health centres</p>	<p>In 2019/20, the median wait times for adults was 23 days. Women typically waited longer (27 days) than men (22 days) (Children's Mental Health Ontario, 2020).</p>	<p>In 2019/20, the median wait time for anyone accessing first mental health counselling service was 25 days. Median wait times ranged from 8 days to 62 days. Females typically waited longer (28 days) than males (26 days). One in 10 waited about 4 months or longer (Children's Mental Health Ontario, 2020).</p>

Country	Wait time measure	Targets		Rates		
		Children and young people	Adults	Children and young people	Adults	Other
			<p>postpartum severe mood disorder or psychosis).</p> <p>Two weeks (hypomania, major depression, diagnostic and management consultation).</p> <p><i>Scheduled cases (situation involving minimal pain, dysfunction, or disability)</i></p> <p>Two weeks (first episode psychosis).</p> <p>Four weeks (hypomania, postpartum severe mood disorder or psychosis, major depression, diagnostic and management consultation) (Canadian Psychiatric Association, 2006; Wait Time Alliance, 2014).</p>	<p>across Ontario showed that average wait times were 67 days for counselling and therapy, and 92 days for intensive treatment (Children's Mental Health Ontario, 2020).</p>		
Ireland	Length of time (in weeks) from referral to first appointment (Irish Hospital Consultants Association, 2020).	72% within 12 weeks. Maximum of 12 months.	<p>75% of accepted referrals / re-referrals offered first appointment and seen within 12 weeks by general adult community mental health team.</p> <p>95% of accepted referrals / re-referrals offered first appointment and seen within 12 weeks by</p>	In September 2019, 68.4% of children and adolescents were seen by a CAMHS team within 12 weeks. 36% of children and adolescents referred to a consultant child and adolescent psychiatrist waited longer than 6 months and 11% waited longer than 1 year.	In September 2019, 72% of adults referred/re-referred to mental health services were seen within 12 weeks. The worst performing region reported seeing 58.2% of adults within 12 weeks (Irish Hospital Consultants Association, 2020).	<p><i>Older adults</i></p> <p>In September 2019, 93.7% of older adults referred to mental health services were seen within 12 weeks. The worst performing region reported seeing 59.5% of older adults within 12 weeks.</p>

Country	Wait time measure	Targets		Rates		
		Children and young people	Adults	Children and young people	Adults	Other
			Psychiatry of Later Life Team (Irish Hospital Consultants Association, 2020).	By the end of December 2018, around half of children and young people referred to CAMHS (2,526 people) were waiting under 3 months; 17.5% had been waiting 3 to 6 months; 14.3% had been waiting six to nine months; 10.8% had been waiting nine to 12 months; and 12.4% had been waiting more than 12 months (Irish Hospital Consultants Association, 2020).		
Sweden	Length of time: - initial examination to specialist appointment - referral to treatment.	30 days for an initial specialist appointment. Further 60 days for an assessment or treatment.	90% within 90 days for initial specialist appointment (Swedish Association of Local Authorities and Regions, 2010). Further 90 days to receive treatment. ⁶	66.4% of children and adolescents waited fewer than 30 days for an initial appointment. Regions ranged from 47.4% to 90.7% (Swedish Association of Local Authorities and Regions, 2010).	93.8% of adults waited fewer than 90 days for a psychiatric appointment. Regions ranged from 0 to 21.2% (Swedish Association of Local Authorities and Regions, 2010).	No available data.
Netherlands	Length of time from: - contact to referral - referral to treatment	Time to referral: 4 weeks. Referral to treatment: 10 weeks. Total waiting time: 14 weeks.	Time to referral: 4 weeks. Referral to treatment: 10 weeks. Total waiting time: 14 weeks.	No available data.	No available data.	In 2018, wait times to receive mental healthcare ranged from 10 weeks (for unexplainable pain and fatigue) to 19.5 weeks (personality disorders) (Michas, 2020).

Country	Wait time measure	Targets		Rates		
		Children and young people	Adults	Children and young people	Adults	Other
	- total waiting time (contact to treatment).					
US	<p>Length of time from:</p> <ul style="list-style-type: none"> - request for services to first appointment - request for services to diagnostic and treatment planning evaluation. <p>(Legal Action Network, 2020; Substance Abuse and Mental Health Services Administration, 2020).</p>	No available data.	<p>Seven states have specific wait time targets for mental health and addiction providers ranging from:</p> <ul style="list-style-type: none"> - 6 to 48 hours for emergency and urgent care (Maine, New Hampshire) - 7 days (Colorado) to 2 weeks (Texas) for routine mental health appointments - 30 days to 60 days for comprehensive diagnostic and treatment planning evaluation. <p>Wait time targets also vary between organisations, providers, and states (Legal Action Network, 2020; Substance Abuse and Mental Health Services Administration, 2020).</p>	No available data.	No available data.	No available data.

Discussion

This review summarises evidence for impacts of wait times, strategies to reduce wait times, and the measures, targets, and rates used across Aotearoa New Zealand and other IIMHL countries.

Evidence shows long wait times can have negative impacts on the wellbeing and service experiences of tāngata whai ora (Anderson et al., 2017; Stalker et al., 2016). Given the importance of early intervention for mental health challenges, timely access to services is particularly important for children and young people and those experiencing conditions that have a serious impact on their lives, like psychosis (Reichert & Jacobs, 2018; Solmi et al., 2021). As such, reducing wait times is important to ensuring best outcomes for tāngata whai ora seeking support for mental health challenges and problematic substance use. Several strategies have been used or suggested across mental health and broader health services to reduce wait times (Clark et al., 2018; Kinnan et al., 2019; Kreindler, 2008; Thomas et al., 2021).

In Aotearoa New Zealand, PRIMHD data shows that children and young people experience markedly longer wait times than other age groups and compared to all tāngata whai ora seen by mental health and addiction services; up to one in three people wait longer than 3 weeks. In terms of wait times across ethnic groups, a lower proportion of Pākehā were seen within 3 weeks compared to other ethnic groups, while Māori, Pasifika, and Asian peoples were seen at similar rates. It is important to acknowledge that overall, roughly 1 in 5 tāngata whai ora wait more than 3 weeks to be seen by services. There is a need to better understand reasons for long wait times, particularly for young people, and how services can address them. In line with national strategic priorities to reduce wait times for mental health and addiction services, future work should determine which approaches could reduce wait times, such as CAPA, use of e-mental health, increasing continuity of support through interim activities, or revising how appointments are scheduled.

Aotearoa New Zealand's wait time indicator is largely consistent with those used internationally. It is standard practice to measure wait times as the length of time between referral and first appointment or start of treatment. Setting wait time targets is also a common benchmarking strategy to monitor services' performance in seeing people referred to services in a timely manner. However, Aotearoa New Zealand appears to be unique in no longer using wait time targets and instead opting to use indicators as part of a national shift towards a continuous model of service quality development. International wait time targets do not appear to be linked to specific evidence that a certain amount of time waiting is more likely to result in negative outcomes. The most relevant evidence found was a study demonstrating that waiting time intervals longer than 2 weeks were associated with lower wellbeing in people accessing early intervention in psychosis services (Reichert & Jacobs, 2018). There is little research examining at what point, and to what extent, wait times are linked with negative impacts for tāngata whai ora. A better understanding of the impact of wait times on the wellbeing and service outcomes of tāngata whai ora is therefore required.

Conclusion

It is recommended that the current wait time indicator continues to be used by the KPI Programme in its current form. Measuring the proportion of people seen within specified time frames is in line with international wait time measures. Continuing to use the current indicator will enable comparability over time. Continual monitoring of wait times for different population groups such as age and ethnic groups will allow services to identify whether improvements should be made to achieve equity and better outcomes for certain tāngata whai ora.

The KPI programme should further examine the utility of the 'third face-to-face contact' wait time indicator. No studies examining the wait time to third contact could be found and few identified sources measure wait times to contacts past the first. However, literature does recognise that it often takes more than one contact for a therapeutic relationship to begin (Clark et al., 2018). It is therefore recommended that the KPI programme keep the third contact indicator but undertake research and sector consultation to further understand its utility.

Appendix A: Wait time indicator technical notes

The process of service episode reconstruction is as follows:

1. Exclude any out-of-scope referrals, which are referrals where contact is not necessarily expected. These are any referrals that meet any of these criteria:

- ReferralEndCode is RI, RO or DZ – referral was declined or discharged with no direct contact required
- TeamType is 24 or 26 – Integrated Primary Access and Choice and Intellectual Disability teams
- ReferralEndCode is in (DM, DG, DD, ID) AND there does not exist an in-scope activity on the referral – referral ended in a way that indicates contact may not have been expected, and there was no activity

2. Within each unique combination of tangata whai ora and organisation, combine all overlapping in scope referrals into service episodes. This can be achieved in various ways, but the KPI programme uses a ‘gaps and islands’ approach:

- Sort referrals by Referral Start Date, Referral End Date, Referral ID
- Calculate the Ranked Order for each referral (sorting by Referral Start Date, Referral End Date, and then Referral ID to tiebreak)
- For each referral calculate the Previous End Date, which is the maximum Referral End Date of any referral with a lower Ranked Order (effectively the latest end date of any referral that started before this referral for this tangata whai ora at this organisation)
- For each referral compare Referral Start Date to Previous End Date to determine whether this is an index referral or overlap
 - if referral Start Date \leq Previous End Date this referral overlaps a previous referral and should roll into that service episode; set Index Referral?=0
 - if referral Start Date $>$ Previous End Date this referral starts a new service episode; set Index Referral? =1
- For each referral count the number of index referrals that have previously occurred for this tangata whai ora at this organisation, and append that value to the Organisation ID and HCU to form a globally unique service episode ID. For example the service episode for client ABC1234 at organisation G-0000 would be named G-0000_ABC1234_0; G-0000_ABC1234_1; etc.
- Service Episode Start Date = Referral Start Date of the index referral in each service episode.

3. Within each service episode identify the earliest in scope activity on any referral in the service episode

- a) Exclude all activities where either of these criteria are met:
 - ActivitySetting is one of these
 - WR Written correspondence
 - SM SMS text messaging
 - PH Telephone
 - OM Other social media, e-therapy
 - ActivityType is one of these:
 - T08 Care/liaison coordination contacts
 - T24 Work opportunity/Employment/Vocational
 - T33 Seclusion
 - T35 Did not attend
 - T37 On leave
 - T43 Community support contacts
 - T44 Advocacy
 - T45 Peer support
 - T52 Health coaching contact
 - TCR MOH internal reference
- b) Rank all remaining in scope activities by Activity Start Datetime, Referral ID, Activity ID
- c) Calculate the Ranked Order for each in-scope activity (sorting by Activity Start Datetime, and then Referral ID and Activity ID to tiebreak)
- d) Where Ranked Order = 1, this is the first in scope activity on the service episode
- e) First In Scope Activity Start Datetime = Activity Start Datetime of this first in scope activity
- f) Where Ranked Order = 3, this is the third in scope activity on the service episode
- g) Third In Scope Activity Start Datetime = Activity Start Datetime of this first in scope activity

4. Calculate the wait time for each service episode:

- a) Wait time to first in scope activity = difference in days between Service Episode Start Date and First In Scope Activity Start Datetime
- b) Wait time to third in scope activity = difference in days between Service Episode Start Date and Third In Scope Activity Start Datetime

5. Calculate additional service episode metadata for use in analysis:

- a) Service Episode End Date = maximum Referral End Date of all referrals within the service episode
- b) Service Episode End Code = Referral End Code associated with the referral that has the maximum Referral End Date of all referrals within the service episode
 - i. Where multiple referrals share the maximum Referral End Date, if a DR exist then this is chosen. Otherwise the first alphabetical Referral End Code is chosen
- c) Count Referrals = count referrals included in this service episode

- d) Count Team Types = count of team types included in this service episode
- e) Initial Team Type = Team Type of the index referral
- f) Age at Service Episode Start = age in years on the Service Episode Start Date
- g) In Scope Activity 365 Days Prior – Same Org? = if there exists an in-scope activity for this tangata whai ora at this organisation in the 365 days before Service Episode Start Date, then 1 else 0
- h) In Scope Activity 365 Day Prior – Any Org? = if there exist an in-scope activity for this tangata wha ora at any organisation in the 365 days before Service Episode Start Date, then 1 else 0
- i) Client Type =
 - i. If In Scope Activity 365 Days Prior – Same org? = then “Recurring – same organisation” else
 - ii. If In Scope Activity 365 Days Prior – Any org? = 1 then “Recurring – another organisation” else
 - iii. “New”

6. Calculate additional activity flags for analysis:

- a) Details of the first in scope activity based on its ActivityType
 - i. FirstInScopeActivityIsInpatient? = 1 if ActivityType in (T02, T03, T04)
 - ii. FirstInScopeActivityIsCommunityCrisis? = 1 if ActivityType in (T01, To5)
 - iii. FirstInScopeActivityIsCommunityNonCrisis? = 1 if ActivityType not in (T01, T02, T03, To4, T05)
 - iv. FirstInScopeActivityIsCommunityResidentail? = 1 if ActivityType in (T25, T26, T27, T28, T29, T30, T48)
 - v. FirstInScopeActivityIsCrisisorInpatient? = 1 if ActivityType in (T01, T02, T03, T04, T05)
- b) Count out of scope activities before first in scope activity = count of all activities on a service episode where Activity Start Datetime < First In-Scope Activity Start Datetime and where the activity is not in scope (per the standard ActivityType definition)

Additional notes

An overlap is established by comparing referral start and end dates, not datetimes. For example, if Referral A ends at 09:30 on 01/01/2020 and Referral B begins at 23:30 on 01/01/2020, this is an overlap and these referrals will be combined. On the other hand, if Referral A ends at 23:30 on 01/01/2020 and Referral B begins at 00:30 on 02/01/2020, this is not an overlap and these referrals will be in separate service episodes (assuming there are no other referrals for this tangata whai ora)

When combining referrals, be careful not to simply sort referrals by start date and check for an overlap with the previous referral; tangata whai ora may have a single ongoing referral that overlaps multiple other brief referrals and forms a single service episode even though none of the brief referrals overlap one another.

Open referrals (Referral End Date = null) are included at step (1) regardless of whether an in-scope activity exists on that referral. This is to ensure that we reconstruct accurate service episodes, rather than discard pieces of a service journey.

The wait time is calculated using calendar days, not 24-hour periods. For example, a service episode starting at 09:00 on 01/01/2020 with the first in-scope activity at 23:30 on 01/01/2020 would have a wait-time of 0 days. A service episode starting at 23:30 on 01/01/2020 with first in-scope activity at 00:30 on 02/01/2020 would have a wait-time of 1 day.

There is no mechanism to categorise a service episode as urgent.

When identifying the Third in-scope activity, there is no correction for duplicate activities, and activities that occur on the same day are all considered individually. This is how a single service episode can have 0 days to both first and third in-scope activity, when three separate activities occur on the day of service episode start.

When allocating a service episode to a reporting period, we use the Service Episode Start Date.

Appendix B: Studies related to wait times

Table 2. Studies on the impact of wait times

Article	Age groups	Wait time measure	Aim	Main findings
Understanding barriers to mental health service utilization for adolescents in rural Australia Aisbett et al. (2007)	15 to 17	N/A	To understand the barriers to mental health service utilisation for young people in rural communities.	Barriers identified by participants included lack of reliable transport to and from the mental health service, lack of qualified professionals in their region specialising in child and adolescent mental health, long waiting lists, lack of after-hours services. One participant shared her experiences of deliberate self-harm to gain access.
Interventions to reduce wait times for primary care appointments: a systematic review Ansell et al. (2017)	N/A	N/A (systematic review including 11 studies measuring wait times to primary care appointments).	To systematically review literature to identify interventions to reduce wait times for primary care appointments. Secondary objectives were to assess patient satisfaction and reduction of no-show rates.	Open-access scheduling was identified as the most common strategy to reduce wait times. Dedicated phone calls for follow-up consultation, presence of nurse practitioners on staff, nurse and general practitioner triage, and email consultations were effective at reducing wait times.
Family perspectives on pathways to mental health care for children and youth	3 to 17	N/A	To examine issues of access to mental health care for children and youth in rural communities from the family perspective.	Families identified three thematic areas describing the main barriers and facilitators to care: personal, systemic, and environmental. Long wait times were cited as a pervasive barrier in rural communities. Wait times

Article	Age groups	Wait time measure	Aim	Main findings
in rural communities Boydell et al. (2006)				ranged from a few months to 1 to 2 years. Some participants were able to access mental health care more readily under certain conditions, such as times of crisis. Some children deliberately posed a danger to themselves or others to be admitted sooner.
Moderators of delay tolerance in treatment-seeking cocaine users Chawdhary et al. (2007)	18 to 60	Initial telephone contact to first clinic visit.	To identify factors underlying pre-treatment attrition among treatment-seeking cocaine users.	Each increment in delay to first visit was associated with increased likelihood of pre-treatment attrition by an average of 6%. Alcohol use in the prior 7 days and self-reported depression were also associated with increased likelihood of pre-treatment attrition. Cocaine use in the prior 7 days was associated with reduced likelihood of pre-treatment attrition.
MEMO: An evidence-based wait time threshold Evidence-based synthesis program (2014)	N/A	N/A	Review studies of the effects of long wait times or of wait time targets in primary care and primary mental health care.	Consequences of longer wait times include: <ul style="list-style-type: none"> • negative effects on health outcomes • equal access to care – people with fewer social connections or of lower socio-economic status wait longer. Waiting lists may favour people who know how to “work the system” or have friend and family who can advocate for them • negative effects on public or patient satisfaction.

Article	Age groups	Wait time measure	Aim	Main findings
<p>'You're on the waiting list': An interpretive phenomenological analysis of young adults' experiences of waiting lists within mental health services in the UK</p> <p>Punton et al. (2022)</p>	19 to 22	Referral to start of treatment	To explore young adults' experiences of waiting lists in mental healthcare in the UK	<p>Three themes around the impact of wait times were generated:</p> <ul style="list-style-type: none"> reliance on alternative methods of support – participants expressed a need for additional support while waiting. Some developed adaptive or maladaptive coping behaviours while waiting. Some turned to friends, family, and others for social support. inability to function sufficiently – delays in receiving mental health support interfered with day-to-day life. Delays in treatment exacerbated existing symptoms of mental health challenges and impacted their lifestyle and obligations. emergence of negative beliefs, emotions, and thoughts. <p>Participants reported a variety of negative psychological and behavioural consequences associated with waiting lists for mental health services, as well as exacerbated existing physical and psychological health issues. Waiting lists are considered to be barriers to mental health support and intervention.</p>
Waiting time as a barrier to treatment	Over 18	Contact to appointment and treatment.	To understand how substance users react to waiting time itself and in relation to other	More than half of the participants (53.8%) cited waiting time as a significant barrier to treatment entry. Most participants expressed negative perceptions about

Article	Age groups	Wait time measure	Aim	Main findings
entry: Perceptions of substance users Redko et al. (2006)			barriers when accessing treatment services.	waiting time. Comments about waiting times were broadly consistent across people who used different types of drugs.
The impact of waiting time on patient outcomes: Evidence from early intervention in psychosis services in England Reichert & Jacobs, (2018)	Mean age = 24.9	Acceptance onto early intervention in psychosis (EIP) services to start of treatment (in days and grouped by 0.5 to 3 months, 3 to 6 months, and 6 to 12 months).	To explore the impact of waiting times on patient outcomes in the context of EIP services in England between April 2012 to March 2015.	Median wait time was 20 days with a mean of 50 days. Longer wait times was significantly associated with negative patient outcomes (HoNOS) 12 months after acceptance for treatment for patients still in EIP care – a 1% longer wait time corresponds to an increase (worsening) in HoNOS scores by 0.20 to 0.27 points. People who waited between 0.5 and 3 months had a 0.34 higher HoNOS score than those who waited less than 0.5 months. People who were not in EIP services for the 12-month study period were not significantly affected by length of waiting. Effects were strongest (small to moderate effect sizes) for those who waited longer than 3 months.
Clinical intake of child and adolescent consumers in a rural community mental health center: Does	2 to 17	Initial contact to intake appointment.	To examine wait time as a predictor of intake attendance in a rural community mental health centre serving children and adolescents.	Longer wait times were associated with a lower likelihood of attending intake appointments, with the odds of attending decreasing 1.4% for each additional day of wait time. Children and adolescents who were mandated to services by a legal authority

Article	Age groups	Wait time measure	Aim	Main findings
wait-time predict attendance? Sherman et al. (2009)				were around 24% less likely to attend their appointments than those who were self- or family-referred.

Table 3. Studies on long wait times as a barrier to service access

Article	Age groups	Wait time measure	Aim	Main findings
People's mental health report: A crowdfunded, crowdsourced story-based report Action Station, (2017)	N/A	N/A	To share the stories of New Zealanders who have had experience with the mental health system.	93% of the 500 stories collected focused on the problems and challenges people faced when using mental health services. Main themes include: <ul style="list-style-type: none"> • long wait times and needing to be in crisis to gain quicker access • strain on workers and under-resourced workforce • trauma as a cause of mental distress • mental distress during childhood and adolescence • suicide • lack of respect, dignity, choice, and control in accessing services • medication – negative side of psychiatric drugs, lack of choice for other treatment options • economic, social, and cultural factors that affect mental health and wellbeing including work stress, housing problems, discrimination, and bullying

Article	Age groups	Wait time measure	Aim	Main findings
				<ul style="list-style-type: none"> the cost of accessing services as a barrier.
<p>A scoping literature review of service-level barriers for access and engagement with mental health services for children and young people</p> <p>Anderson et al., (2017)</p>	0 to 25	N/A	To report results of a scoping a literature review of barriers children, young people, and their families encounter when accessing and engaging with CAMHS, and effective strategies to overcome them.	<p>The review identified several service-level barriers to access and engagement with mental health services.</p> <p>21 studies reported long wait times to be the major barrier for accessing and engaging with mental health services. Long waiting times were most commonly cited by people accessing services, healthcare professionals, and service managers.</p> <p>Long waiting times have negative impacts on families' engagement with services including decreased likelihood of attending, seeking help elsewhere within one month of waiting, and being referred onto another specialist and waiting even longer.</p> <p>Strategies to improve access and engagement with mental health services include:</p> <ul style="list-style-type: none"> providing mental health services at easily accessible locations such as schools, primary care clinics, and community walk-in clinics using care assessment and prioritisation based on severity adopting CAPA.
Determinants of barriers to treatment for anxiety disorders	All ages	N/A	To evaluate perceived unmet need for mental healthcare, determinants of unmet need, and barriers to care in	Perceived unmet need was correlated with variables related to the severity of the disorder such as comorbid depression, avoidance, duration of worry, interference with functioning, and time elapsed between the appearance of first

Article	Age groups	Wait time measure	Aim	Main findings
Chartier-Otis, Perreault, & Bélanger (2010)			individuals with social anxiety or panic disorder with agoraphobia.	symptoms and first consultation. Depression and avoidance emerged as predictors for perceived unmet need in the regression analysis. The most common barriers to treatment reported were concern about the cost of services (63.9%), not knowing where to go to get help (63.2%), lack of health insurance coverage (52.4%), and appointment wait times (52.1%).
Parental perceptions of barriers to mental health services for young people Iskra et al., (2018)	14 to 18 Mean age = 15.2	"I thought the wait to get professional help was too long" (rating question).	To explore a range of barriers that parents encounter when accessing mental health services for their children attending initial clinical assessment at a CAMHS.	Parents completed a questionnaire containing 10 statements reflecting barriers to accessing mental health care for children. The most highly endorsed barriers were cost ("help being too expensive") and wait time ("wait time being too long"). Specific issues regarding wait times included multiple referral steps ('the service had to refer my child to another service'), the child's health ('felt my child was so unwell that they needed to be seen sooner'), and uncertain wait times ('family/work schedules had interfered with booking in sessions').
Clinicians' perceptions of the Australian Paediatric Mental Health Service System: Problems and solutions Paton et al., 2021	N/A		To determine perspectives of Australian clinicians including child and adolescent psychiatrists, paediatricians, psychologists and general practitioners, on barriers and enablers within the current system and	Access to services is restricted by degree of severity and complexity of the condition, age ranges for specific services, fragmentation of services with no roadmap to navigate, out-of-pocket costs and lengthy waiting times. Although long waiting times were perceived to be more likely to occur in public settings, clinicians perceived that private services also had long

Article	Age groups	Wait time measure	Aim	Main findings
			components of an optimal system.	waiting lists in all professions. This was reflected as impacting both referral to other service providers and waiting times for clinicians' own practices. This varied according to location and was reported to be worse in rural and low socioeconomic areas where provision of specialist services is limited.
Duration of untreated psychosis as predictor of long-term outcome in schizophrenia: Systematic review and meta-analysis Penttilä et al. (2017)	N/A	Duration of untreated psychosis (in weeks).	To analyse the associations between duration of untreated psychosis (DUP) and long-term outcomes of schizophrenia through systematic review and meta-analysis.	Long DUP was significantly associated with more severe positive and negative symptoms, reduced likelihood of remission, poor social functioning, and poorer global outcomes. Long DUP was not associated with employment, quality of life, or hospital treatment.
A comparison of walk-in counselling and the wait list model for delivering counselling services Stalker et al. (2016)	16+	Wait list – first contact to treatment (in days or weeks).	To compare changes in psychological distress among clients receiving services from two models of service delivery – walk-in counselling and traditional counselling by wait list.	Participants' experiences with both models of service delivery were characterised around four major themes: accessibility, meaning of service, readiness for service, and system failure. Accessibility was the most salient factor in understanding the difference between the two models. Being able to access services quickly and easily was most important to participants. Qualitative findings showed that some participants (and their families) would have benefitted from counselling when they needed help; when too much time

Article	Age groups	Wait time measure	Aim	Main findings
				passes, they either changed their minds about getting help or did not need it anymore.
The effect of waiting time on youth engagement to evidence based treatments Westin et al. (2014)	9 to 19	Referral to consent (accept or refuse treatment) (in days).	To examine the relationship between waiting time and treatment engagement among youth referred to an evidence-based treatment (EBT).	<p>Young people and their families were less likely to start treatment (refuse) if they waited for longer periods of time (OR = 0.98).</p> <p>African American (OR = 1.85), Hispanic (OR = 3.10), and Other racial/ethnic groups (OR = 2.89) were more likely to end treatment prematurely than Caucasian youth.</p> <p>Only among families receiving Functional Family Therapy, there was a significant association between waiting time premature treatment termination (OR = 1.01).</p>

Table 4. Studies and reports on rates of wait times across IIMHL countries

Article	Age groups	Wait time measure	Aim	Main findings
2020 report on wait lists and wait times for child and youth mental health care in Ontario Children's Mental Health Ontario (2020)	0 to 18	Time of intake until time of service received (days).	<p>To provide new data and analysis about the challenges of accessing community child and youth mental health services.</p> <p>To provide insights and evidence in which to better respond to the needs of families in accessing mental health supports.</p>	<p>Average wait times for counselling and therapy is 67 days, and for intensive treatment the average is 92 days. The longest wait time recorded in the study period (2019) was 919 days (2.5 years).</p> <p>There has been a significant increase in the number of youth and caregivers identifying a need for professional help over the last 30 years, but funding to child and youth mental</p>

Article	Age groups	Wait time measure	Aim	Main findings
				<p>health centres has decreased by almost 50% in the last 25 years.</p> <p>Funding is also based on historical allocations rather than being needs-based; this means areas where populations of children and youth have risen have longer wait times, and intensive programs are not closely available to rural communities.</p>
<p>Access to child and adolescent mental health services in 2019</p> <p>Crenna-Jennings and Hutchinson (2020)</p>		<p>Referral to start of treatment (days).</p>	<p>To report on indicators of specialist service quality in child and adolescent mental health providers.</p>	<p>In 2017/18, the median waiting time to treatment was 56 days, decreasing by 11 days since 2015. Wait times varied across regions, with London showing the longest median wait times (65 days) and Midlands and East region showing the shortest (49 days).</p>
<p>Social inequalities in the demand, supply and utilisation of psychological treatment</p> <p>Delgado, Farnfield, and North (2018)</p>	<p>N/A</p>	<p>Referral to start of Improving Access to Psychological Therapies (IAPT) treatment (days).</p>	<p>To understand the variability in rates of access to psychological care in different geographical areas.</p>	<p>Wait times ranged from 3.97 to 111.77 days (mean = 24.37, median = 18.88).</p> <p>Access gap (ration between cases that did not access treatment and total cases referred for treatment) was associated with longer wait times.</p> <p>Socio-economic deprivation was associated with psychological service utilisation particularly when contrasting the poorest and most affluent areas.</p>

Article	Age groups	Wait time measure	Aim	Main findings
<p>Problem severity and waiting times for young people accessing mental health services</p> <p>Edbrooke-Childs and Deighton (2020)</p>	Children and youth up to 25 years	Referral to first event or contact (e.g. initial assessment).	To examine whether young people with more severe problems have shorter waiting times for mental health services.	<p>There were large variations in waiting times, ranging from 0 to 1,629 days, with a mean of 50.65 days.</p> <p>Young people with more severe problems including self-harm, psychosis, or eating disorders were less likely to experience longer waiting times.</p> <p>Referrals from primary care sources were more likely to have longer waiting times than other sources.</p>
<p>Waiting time variation in early intervention psychosis services: Longitudinal evidence from the SEPEA naturalistic cohort study</p> <p>Kirkbride et al., (2017)</p>	16 to 35	Referral to acceptance by Early Intervention Psychosis (EIP) services.	To estimate waiting times to EIP services in an epidemiological cohort in England and investigate reasons for variation.	<p>Median waiting time was 15 days. Wait times increased over the study period (3.5 years) by an average of 4.3 days.</p> <p>Longer wait times were associated with organic presentation (+9.1 days), absence of psychotic disorder (+1.8 days), and insidious onset (+1.8 days). Waiting times did not vary by demographic or neighbourhood-level factors.</p>
<p>Patterns of referral and waiting times for specialist child and adolescent mental health services</p>	1 to 18	Referral to start of treatment (in weeks).	To examine associations between referral source, reason for referral, and sociodemographic characteristics on rejection and waiting times.	The mean waiting time for 'accepted' referrals was 17.9 weeks. Being male or being referred for hyperactivity/inattention resulted in significantly longer wait times.

Article	Age groups	Wait time measure	Aim	Main findings
Smith et al. (2018)				<p>Referrals for adolescents or for self-harm and eating disorders waited significantly less time.</p> <p>Children and youth from the least deprived areas waited less time than those from the most deprived area (though not statistically significant).</p>
<p>How long do adolescents wait for psychiatry appointments?</p> <p>Steinman et al. (2015)</p>	14 (hypothetical)	<p>First contact (call) to psychiatrist appointment (in days).</p> <p>For providers that only accepted new appointments from in-house primary care providers, wait time was from primary care appointment to psychiatrist appointment (in days).</p>	To systematically examine how long a new adolescent client waits for a psychiatry appointment for routine medication management.	<p>Researchers could only find appointments with a psychiatrist at 18% of offices listed in Medicaid provider directories and 25% of offices listed in private insurer directories. The most common reasons for failure to obtain appointments included offices not offering services to children (26%) and not offering psychiatry services (24%).</p> <p>The median wait time was 50 days, ranging from 1 to 345 days. Insurance and region were associated with contrasting wait times: adolescents with Medicaid waited longer than those with private insurance, and rural wait times were significantly longer than metropolitan regions.</p>

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