The European Journal of Psychiatry 37 (2023) 36—43

THE EUROPEAN JOURNAL OF PSYCHIATRY

www.elsevier.es/ejpsy

ORIGINAL ARTICLE

Digital mental health and employment - Lessons from the Australian experience

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Received 12 May 2022; accepted 8 August 2022
Available online 27 September 2022

KEYWORDS
Mental health;
Employment;
Digital mental health care

Abstract
Background and objectives: This paper reviews Australia's take-up of digital mental health interventions, including some specific reference to their application in relation to employment. Use of these interventions in Australia was already significant. Under COVID-19 they have exploded. The Australian experience offers useful lessons for European and other countries, and these are summarised.
Methods: This paper presents a narrative review of key texts, resources, policies and reports, from government and other sources. It also presents data reflecting the take-up of digital mental health services and the employment of people with a mental illness in Australia.
Results: We present data showing the explosion in uptake of digital mental health services. There is very limited evidence about the impact of these services in improving employment out-

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https://doi.org/10.1016/j.ejpsy.2022.08.001

comes for people with a mental illness in Australia. The Government has moved to make them a permanent feature of mental health care, in addition to traditional face-to-face care.
Conclusion: Key lessons emerge from the Australian experience, including the need for target clarity; the importance of blending digital services into broader frameworks of mental health care; the need for quality and safety standards to be developed and applied to digital services; and the need for better evaluation of the outcomes of digital interventions in the workplace.

The digital mental health genie is out of the bottle. New capacity for evaluation of the outcomes of digital mental health services is vital to ensure value and quality of such investments.

Introduction

Digital Mental Health (e-mental health) comprises services, programs or apps, delivered via online, mobile or phone-based platforms. They may be self-driven, or practitioner guided and can be used alone or in combination with face-to-face therapy. Australia has been something of a pioneer of e-mental health services which can surmount access problems faced by people seeking traditional, clinic-based services. These services can also assist in reducing the burden of mental illness and offer efficiencies and advantages in service delivery.[1]

Telehealth is the part of eHealth that comprises the provision of healthcare remotely by means of telecommunications technology and can be grouped in three major types[2]:

1. Real-time Telehealth: In real-time Telehealth, a telecommunications link allows instantaneous interaction. Videoconferencing is the most utilised of this form of Telehealth.
2. Store & Forward: In store-and-forward Telehealth digital images, video, audio and clinical data are captured and 'stored' on a computer; then securely transmitted ('forwarded') to a clinic at another location where they are studied by relevant specialists. The opinion of the specialist is then transmitted back.
3. Remote monitoring: This involves the consistent, reliable and accurate remote monitoring of a patient's vital signs and predetermined health measures (e.g., mental health symptoms, plus blood pressure, heart rate, weight etc). This is also called home Telehealth.

Australia pioneered the use of digital mental health services in the 1990s and early 2000s. This trend continued while the overall mental health system in Australia suffered a progressive fragmentation of care during the last decade. The struggle to develop comprehensive and effective mental health care system can be seen in the frequent, repeated government and statutory inquiries into mental health care, which typically report poor access and quality, in services where "dignity is often disregarded and human rights are breached".[3]

COVID-19 has exacerbated the crisis of the Australian mental health system. The Australian Institute of Health and Welfare (AIHW) have been tracking the nation's mental health and found stress, confusion and anger are commonplace because of the pandemic.[4] Throughout 2020 and in the early months of 2021, national surveys reported evidence of heightened psychological distress. There was a rise in the use of mental health services. The AIHW reported that between March 2020 and September 2021, almost 21 million Medicare-subsidised mental health-related services were provided — more than 38,000 services every day over the entire period.

By comparison, for the year July 2019-June 2020, 12.4m Medicare mental health-related services were provided (almost 34,000 daily).

New service items, to be provided by psychologists, general practitioners, specialists and others were added to Medicare, Australia's public health insurance funding system. New funding was also provided to enable services to be delivered remotely via digital formats commonly referred to as telehealth services. This new suite of digital mental health programs are welcome additions to the previous digital service landscape.

However, some other aspects of this evolution are not so well advanced.[5,6] The plethora of novel digital services require new regulation for quality assurance. It is also vital that new digital services develop as part of the overall mental health system, rather than as a separate, parallel service. New digital services also require new approaches to outcome, cost and impact analysis and these have generally not yet evolved. Another important issue in relation to these new digital services is choice and the capacity of service users to discern the digital program that is best suited to them.

The eruption of digital mental health has special relevance for the workplace. Work stress can lead to anxiety and depression and reduced wellbeing at the workplace and work productivity. There is a need to address these with digital interventions for employees in the workplace. The pandemic has exacerbated the unemployment situation in Australia, like most countries. Multiple Australian studies undertaken over the pandemic have found that people who have lost their jobs or worked decreased hours experienced worse mental health outcomes, including psychological distress, loneliness, depression and self-harm, in comparison to people whose employment was unaffected. This effect was compounded for young people.[7] About 2.8 million working Australians have mental illness, requiring time off work to maintain their wellbeing. A further 440,000 working Australians are carers of someone with mental illness. People with mental illness take an average of 10 to 12 days per year off work due to psychological distress.

Common mental conditions account for about 40% of all cases of occupational disease. An estimated average of 36 workdays are lost each year due to depression.[8] Estimates for the cost of workplace absenteeism due to mental ill

health are up to $10 billion per year. Mental illness can also lead to presenteeism, affecting a person's ability to function effectively while at work. On average, people with mental illness reported that they reduced the amount of work they did on 14 to 18 days per year because of their psychological distress — costing up to $7 billion per year.[9]

Mental health interventions in the workplace using digital technologies have demonstrated positive effects in reducing common mental health problems but more information is needed on multimodal and whole of system digital interventions.

Better understanding these issues and lessons learned may assist in the effective take-up of digital mental health services in other countries.

This paper reviews Australia's take-up of digital mental health interventions thus far, with specific reference to their application in relation to employment. Data on service utilisation is presented, together with a summary of some of the more significant new interventions and programs.

We present data reflecting the take-up of digital mental health services and the current employment situation of people with a mental illness in Australia. It also considers key texts, resources, policies and reports, from government and other sources.

Method

This narrative review is part of the Horizon 2020 project "European Intervention to Promote Wellbeing and Health in the Workplace" (EMPOWER). It is aimed at developing and testing a digital intervention[10] designed to provide and evaluate an integrative user experience that meets the needs of employees and employers.

As part of their contribution to the EMPOWER project and drawing on funding provided by the National Health and Medical Research Council (NMHRC), the Australian research team has investigated the impact of new digital interventions in Australia and the lessons learned for its application in Europe.

This paper has collated and reviewed contemporary material from a variety of sources, including government and other policies, strategies, publications and websites. Service utilisation data is also presented, following interrogation of national data (Medicare) and other data sets. The aim of this review was to gather the key material underpinning the evolution of new digital mental health services in Australia.

Context for reform

Australia is a rich country, often lauded for the excellence of its health system.[11] The benchmarks indicating this high performance typically do not include mental health care, where there is evidence to suggest Australia's performance is better described as mediocre.[12]

Mental health care has been subject to myriad reports and inquiries. These commonly characterise Australia's mental health system as being 'in crisis'.[13]

One key aspect of Australia's failure to properly organise its response to mental illness is reflected in the high rates of unemployment among people with mental health problems. People with mental illness are disproportionately represented among the unemployed and those on low incomes. This is especially so for people with severe and persistent disorders.[14]

In 2015, the Organisation for Economic Co-operation Development (OECD) reported Australia as having no structural collaboration between the health care and employment sectors.[15] Of nine countries reporting (in 2012), people with a mental illness in Australia had the lowest incomes (as a ratio of the average income of the population) and ranked the third most at risk of poverty.[16] The unemployment rate for people with moderate mental illness in Australia is about two and half times that for those without mental illness. For people with severe mental illness, it is more than five times the rate of those without mental illness.[17]

Concerns about the health and welfare of the people with a disability in Australia led to the establishment of the National Disability Insurance Scheme (NDIS) in 2013. Funded separately from health care, the NDIS is a new public insurance scheme designed to provide lifetime (but not health) care for people with a disability, including people with severe psychosocial disability.[18] Despite very significant new funding provided to improve their circumstances NDIS recipients with psychosocial disability had the lowest rates of employment. Psychosocial disability is the term used to describe disabilities that may arise from mental health issues. To be more specific, in December 2020 the NDIS had 2413 clients with a psychosocial disability aged between 15-24 years. Of this group, 9.6% were employed. There were 36,993 clients with psychosocial disability aged 25 years or older and of this group, only 8.5% were employed. For both age groups, the employment rate was highest for people with a hearing impediment at more than 50%.[19]

Given 75% of all mental illness manifests before the age of 25,[20] there is a strong emphasis in this paper on the application of digital mental health resources for young people. In this regard, it is interesting to note a recent review indicating that few digital mental health tools aimed at young people are the product of co-design.[21]

Results

Use of digital services

Telehealth activity for the year between September 2020 and September 2021 is shown below at Tables 1 and 2.

Table 1 indicates that almost $189m was spent providing more than 1.5m specialist mental health telehealth services, mostly by General Practitioners and psychiatrists, while Table 2 shows almost $200m of Medicare spending on 1.8m allied health telehealth services, largely provided by psychologists. Most of these services would not have been provided via telehealth pre-COVID.

In the last 4 weeks of September 2020 (31 August to 27 September 2020), the number of telehealth services delivered was 14.5% higher than for the same period in September 2019.

Telehealth services reached their peak in the week ending 26 April 2020 when half (49.9%) of all Medicare (publicly funded) mental health services were provided remotely. In

Table 1 COVID mental health telehealth specialist services in Australia — Sept 2020 to Sept 2021.

Service Type	*Services Provided*	*Spending ($AUD)*
Focussed Psychological Strategies (FPS) telehealth services	5598	752,757
Consultant psychiatrist telehealth services	336,448	64,484,362
Consultant psychiatrist phone services	450,238	60,055,786
Focussed psychological strategies phone services	5743	737,796
GP mental health treatment plan - telehealth service	77,709	6,934,010
GP mental health treatment plan - phone service	691,169	55,446,479
GP eating disorder treatment - telehealth service	996	103,776
GP eating disorder treatment - phone service	1677	177,658
Consulting physician & psychiatrist - eating disorder treatment telehealth	67	25,257
Consulting physician & psychiatrist - eating disorder treatment phone	29	11,592
GP - eating disorder FPS - telehealth service	85	11,381
GP - eating disorder FPS - phone service	228	31,782
Totals	**1,569,987**	**$188,772,636**

the 4 weeks to 19 September 2021, 37.0% of MBS mental health services were delivered via telehealth.

Providing effective and sufficient access to mental health care has been a perennial challenge in Australia, particularly to rural and remote areas where the mental health workforce is thin or non-existent. The digital and telehealth services shown in Tables 1 and 2 represent a new and significant boost to services overall and in rural areas.[22]

In addition to this Medicare-funded service utilisation, Australians are also using other new national digital mental health resources. The e-Mental Health in Practice Project (*eMHPrac*) produced a comprehensive resource guide to available digital mental health services, coding them to reflect their target audience, cost and other details.[23] Of the more than 200 separate digital mental health resources identified, none are specifically directed towards employment or the workplace. They focus on responding to the health needs of users.

Head to health is an Australian Government website that brings together apps, online programs, online forums, and phone services, as well as a range of digital information resources. It provides information for help-seekers, family and other carers, service providers and health professionals. In 2019 the website won a design award[24] though in January 2020 it was reported that only a few hundred Australians used the service.[25] In March and April 2020, this spiked to close to 10,000 before receding back to around 2000 by September 2020. Several recommendations have been made recently about the service could be improved.[26] *Head to health* provides some generic information in relation to mental health and work, covering information on disclosure, managing mental health in the workplace and supporting colleagues. No specific tools are provided.

MindSpot is a free service, already used by more than 150,000 Australian adults experiencing difficulties with anxiety, stress, depression and low mood.[27] Funded by the Australian Government, it provides assessment and treatment courses, and then aims to link clients to local services.

Lastly, it should be noted that throughout the period of the pandemic, the Australian Government boosted its investment in several national e-mental health resources. Organisations such as Beyond Blue which provides advice and information particularly about depression, Lifeline and KidsHelpline (both suicide/mental crisis helplines) all reported some additional demand for their services, though this varied over this period.[28]

Table 2 COVID mental health telehealth allied health services in Australia — Sept 2020 to Sept 2021.

Service Type	*No. of Services*	*Spending ($AUD)*
Psychological therapies telehealth services	570,847	77,230,516
Psychologist Focussed Psychological Strategies (FPS) telehealth services	571,813	53,987,835
Occupational therapist FPS telehealth services	5984	518,097
Social worker FPS telehealth services	52,005	4,264,359
Psychological therapies phone services	218,480	28,164,075
Psychologist FPS phone services	295,068	25,890,630
Occupational therapist FPS phone services	2905	220,310
Social worker FPS phone services	32,260	2,438,105
Eating disorder dietetics telehealth services	14,501	1,125,130
Eating disorder psychological treatment telehealth services	30,159	4,414,909
Eating disorder dietetics phone services	1857	120,856
Eating disorder psychological treatment phone services	3135	430,086
Total	**1,799,014**	**$198,804,908**

Digital mental health and employment

Given EMPOWER's focus is on employment, it is important to consider Australia's application of digital mental health in relation to the workplace. There is strong evidence demonstrating the impact of psychological distress on productivity, with considerably higher numbers of 'days out of role' experienced (by young people in this case) compared to those with low or moderate levels of distress.[29] This impact then translated into excessive lifetime costs to individuals and communities. Poor mental health in adolescence can lead to poor educational attainment, lower lifetime earnings, lower productivity as well as poorer health.[30]

Participants in an Australian survey focusing on young men reported a greater risk of suicidal ideation if they were unemployed. Mental illness can engender a cycle of chronic and long-term unemployment.[31]

While Australia has developed many digital mental health services, it should be noted that overall, few mental health services are designed or funded for employment outcomes.

Sources of Strength[32] is a school-based prevention and early intervention program for suicide, one of several in this setting aimed at addressing depression and mental health-related problems affecting young people.[33]

WorkOut is an Internet-based program designed to help young men overcome the barriers towards help-seeking and to build the skills they need to understand and manage their own mental health.[34]

However, by far the best studied approach in Australia to employment for people with a mental illness is Individual Placement and Support (IPS).[35,36] IPS is a highly defined form of supported employment based on several principles, including; that the aim to find work through placement in competitive employment; that job searching starts immediately on entry into the program; there is support from a mental health team; and that support is time-limited.

Recent research attempted to evaluate the impact of an online version of IPS, finding the service helped young people with mental illness attain important work and study outcomes, and that this version was both readily scalable and adaptable for broader use across Australia and in other countries.[37]

Another Australian study found some positive results in the application of digital mental health care for apprentices (trainees in the workplace).[38] This study suggested that as apprentices are unlikely to utilize traditional services, internet and mobile phone based mental health interventions are a useful means of delivering interventions to this group.

Together, these developments indicate clearly that digital mental health services can significantly improve mental health outcomes for hard-to-reach and traditionally underserved groups. Internet-based programs and mobile phone applications may be particularly appealing to young people due to their convenience, accessibility and privacy. Such programs also address the strong desire for independence and autonomy held by younger people, especially males.

In its recent inquiry into mental health in Australia, the Productivity Commission[39] set out a clear picture of the risk factors to workplace mental health, such as high job demands with little control, imbalance between effort and reward and the level of organisational justice in the workplace

SafeWork Australia reports on the workers compensation issues arising from mental health problems and has also produced an Australian Workplace Barometer[40] designed to regularly report on workplace psychosocial safety climate (PSC)[41] and worker health in Australia. In 2020, the Barometer confirmed the massive impact mental illness has on Australian workplaces.

But more than this, it attempted to identify leading indicators and psychosocial risk factors, building an evidence basis for targeted prevention and intervention. The Barometer recommended employers target specific factors such as PSC, and reducing working hours and harassment, suggesting these will likely make the most impact on health and productivity outcomes.

The Barometer is trying to shift the Australian workplace compensation culture away from reliance on lag indicators, such as compensation claims, and towards international best practice standards for proactive psychosocial risk prevention.

On this basis, it is perhaps not surprising that industries and employers are looking to take action themselves to boost workplace mental health.

Smiling Minds[42] is one such example, a dedicated program that addresses the psychological wellbeing of small business owners. This program operates as an online 'app', exploring a range of topics to support small business owners with Mindfulness activities and resources they can use every day to support their mental health and wellbeing, helping them to establish a routine to proactively look after their mental health; learn about mindfulness; maintain a healthy work-life balance; foster healthy relationships both at work and at home and navigate the stresses of owning a business.

Another example of an industry acting is Mates in Construction,[43] a community development organisation aimed at reducing suicide and improving mental health and wellbeing within the Australian Construction industry. Established in Queensland in 2008, MATES in Construction is a federation of independent industry-based MATES in Construction organisations in Queensland, New South Wales, South Australia and Western Australia.

Discussion — key lessons from the Australian experience

A recent paper suggested that to fully exploit the opportunities afforded by new digital mental health services, it was necessary to view them as 'touchpoints' across a continuum - from the entirely physical or corporeal realm, through human dominated reality, balanced reality, a technologically dominated reality and finally virtual reality. These touchpoints can help us understand how to create a productive blend between technology and human interaction.[44]

In a very practical sense, the Australian experience of the explosion of digital mental health services has yielded several key lessons. The first is of course that these services have proven very popular.

One reason for may well be there availability outside of usual working hours, in the privacy of individuals' homes. There are other lessons.

Target clarity

Service planning would benefit from greater clarity about intent and target. For example, it is likely that there may be

benefit in differentiating between universal and targeted interventions. There are mental health workplace initiatives designed to support people with already identified mental health problems. This is about supporting a workforce in employment, preventing unemployment, workplace adjustments and flexibility. There are also of course initiatives aimed at the workforce as a whole, designed to boost mental health literacy, workplace mental health promotion and so on.

In this regard, we have undertaken to develop and validate a risk algorithm to predict the onset of common mental disorders at 12 months in a working population.[45] Prediction algorithms for the onset of common mental disorders may help target indicated work-based prevention interventions. Our work reinforced this notion, suggesting that such models have the potential to change the way that prevention of common mental disorders at the workplace is conducted, and that different models may be required for women. This predictive model has been applied in several real-world settings.[46,47]

Blending digital care into a framework

Digital mental health services should ideally be developed as part of a framework of care spanning all services, not as a separate or parallel system of care. Repeated inquiries have found Australia's overall mental health system to be poorly articulated.[48] For example, there is some role confusion depending on whether services are state or federally funded. There are also large service gaps, now commonly referred to as 'the missing middle'.

The foundations to seamlessly incorporate the rapid expansion of digital mental health care into this system are weak. New services risks perpetuating fragmentation and confusion for mental health consumers and their families, leaving them uncertain about where to go for help, and what to do next. Links between work and home, between online and face to face care, between acute and other mental health services are just as important as the services themselves. Australia's implementation of 'stepped care' has been very narrowly defined thus far and remains a work in progress.[49] Ensuring new digital services fit as part of overall mental health system design is vital.

Standards of quality and safety

The rapid growth of digital services also necessitates the development of the standards required to assure quality. The Australian Commission on Safety and Quality in Health Care partnered with consumers, carers, families, clinicians, service providers and technical experts to develop the National Safety and Quality Digital Mental Health Standards, officially released on 30 November 2020.[50] Service providers must not declare that they meet the Standards until they have successfully completed an accreditation assessment.

Head to health is a government website that provides access to 'trusted' e-mental health services though how a service qualifies for inclusion is unclear.

Arising from experience during the pandemic, Australian researchers have identified ten key lessons learned as digital mental health services became part of routine care.[51] They found that these services improved access to a broad cross-section of consumers; that therapists and others delivering and operating services need specialist skills; and identified the challenge of integrating digital services within health systems.

Better understanding of outcomes of digital interventions in the workplace

Consumer and provider views about these changes seem positive but the actual outcomes remain unclear.[52] Australia still lacks regular, validated collection of the outcomes of digital mental health services. There is an urgent need to develop new approach not only to outcome measurement, but also to cost and impact analysis. This is the basis of Australia's development of the new Global Impact Assessment Framework (GIAF) as part of the EMPOWER project.[53,54]

Despite some notable exceptions, overall, the Australian experience demonstrates not a lack of resources, but a lack of well-conducted studies of workplace interventions. It is not possible to conclude with certainty what is and what is not effective in improving workers mental health in Australia.[55,56] In fact, it is reasonable to suggest that Australian activity in digital mental health, as with mental health more broadly, could be characterised by an unhelpful willingness to roll out interventions without evaluating their effectiveness.

Conclusion

Recent data has shown that overall, population access to mental health services has not changed significantly. It was estimated in 2011 that 46% of the population received mental health care[57] while in 2020-21, the most recent national survey of mental health and wellbeing indicated that of people requiring mental health care, 47% of people received that care.[58] So while digital mental health services have indeed exploded onto the scene, no doubt accentuated by the pandemic's impact on face to face care, it is perhaps too soon to assess their contribution to overall population access to mental health care.

The digital mental health genie is out of the bottle.[59] Australia has made significant strides in key service areas. This has been backed by very significant policy and financial commitments leading to widespread adoption of these technologies and services. These advancements have focused much more on mental health services than in the area of employment support, to either people with known conditions or the broader workforce. While there is growing recognition of the need for employment-specific initiatives, these have been much slower to emerge than taxpayer-funded access to online mental health care per se.

Less well understood perhaps are the outcomes of these changes. Particularly under COVID conditions, Australia has embraced online mental health care at both speed and scale. Understanding the impact of changes and programs remains a weak point in mental health evaluation more broadly. Data collected about the impact of telehealth often focuses on the experience of the professional rather than the user and in general health rather than mental health specifically.[60] The limited evidence available regarding consumer experiences of mental health during the pandemic suggests telehealth was viewed as a positive alternative service modality.[61] The extent to which e-mental health

services of any description resulted in outcomes that might be significant to the consumers themselves, being able to resume normal duties, go back to work, finish study etc, are not generally collected or reported.

The development of e-mental health services in Australia has been disruptive and exciting. The lessons described here will permit Australia and other countries to capitalise on the evolution of these services, and better understand which are useful in different contexts, including the workplace. The cost of inaction here is high.

Ethical considerations

Ethical approval was not required for this article.

Funding

This project has received funding from the European Union's Horizon 2020 research (https://ec.europa.eu/programmes/horizon2020/en/home) and innovation program under grant agreement No 848180 and the National Health and Medical Research Council of Australia under grant APP1195937.

Conflicts of Interest

None.

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