

Mental health services for children and adolescents: gap-analysis of key digital navigation tools in ACT

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Table of Contents

Original Manuscript.....	5
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Mental health services for children and adolescents: gap-analysis of key digital navigation tools in ACT

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Abstract

Background: A recent strategy to improve access to mental health services is the development of service navigation tools, particularly digital, to help match consumer needs with service availability. Service directories provide key information for navigation tools. However, their fitness for purpose is reliant on the comprehensiveness and accuracy of the services they include.

Objective: To compare the comprehensiveness and accuracy of three key online service navigation tools (digital service directories) for child and adolescent mental health services in Australian Capital Territory (ACT) with that of the Description and Evaluation of ServiceEs and Directories (DESDE) service directory.

Methods: The 2023 DESDE directory was developed by our research team. Services are identified using a systematic and iterative search using local expert knowledge and a web search. All service listings for child and adolescent mental health care in ACT in the national digital directories “Head to Health” and “Healthdirect”, the ACT digital directory “MindMap”, and the DESDE Directory were counted and each directory analysed according to the comprehensiveness of its listings when compared to the total number of services identified by all four directories as available; and also to the accuracy of services listed in each directory according to target population and geographic location.

Results: All three key national and regional digital directories had significant limitations, both in comprehensiveness of service coverage and in the accuracy of target population and geographic location of services, when compared to the DESDE Directory.

Conclusions: Currently available key digital directories for child and adolescent mental health services in ACT lack comprehensiveness and accuracy as tools for system navigation, significantly limiting their usefulness in reducing barriers to access to care and a potential cause of confusion. For planners, the absence of comprehensive service information limits their usefulness in identifying gaps in availability and guiding service planning.

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Original Manuscript

Original paper

Mental health services for children and adolescents: gap-analysis of key digital navigation tools in ACT

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Keywords: digital navigation, child and adolescent mental health services, health services research, navigation tools, health system navigation

Abstract

Background: A recent strategy to improve access to mental health services is the development of service navigation tools, particularly digital, to help match consumer needs with service availability. Service directories provide key information for navigation tools. However, their fitness for purpose is reliant on the comprehensiveness and accuracy of the services they include.

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Introduction

Mental health (MH) illnesses affect 14% of children and adolescents in Australia (1,2), contributing to four of the five leading causes of the total burden of disease in this population (3,4). Over the last decade (2008-2022), MH has contributed to an increased number of hospitalisations due to intentional self-harm (5). These figures show a strong and increasing demand for MH services for this population. However, almost half of the children and adolescents with MH problems never receive professional help (1,6), contributing to chronic MH problems in adulthood (7).

A number of reviews have identified barriers to accessing MH services for this population (8–12). Barriers identified by carers, children and adolescents include structure-related (e.g., location, cost, procedures, wait time, and service availability) and personal-related (e.g., knowledge about MH and MH services, confidentiality, anonymity, stigma and shame around help-seeking) barriers, as well as those related to people in children and adolescents' life (e.g., parent recognition of the problem and willingness to seek help, family support for treatment) (8–12). Tackling these barriers would increase the likelihood of children and adolescents receiving appropriate help.

Several strategies aimed at increasing access to services for children and adolescents with MH have been formulated (13–16), MH service navigation tools being one of the most recent (13). MH service navigation tools have different purposes including matching consumer MH care needs with the services available by resolving barriers to care (17) or tools for supporting individual care management or local and national planning. Content of navigation tools is delivered in different ways, including most recently online modes of delivery (13).

Waid et al (13) recently reviewed MH service navigation tools available worldwide, including those delivered online. However, they did not focus on navigation tools delivering MH services for children and adolescents, or appraise MH service navigation tools by region. Local directories of services are a key sub type of navigation tool and can provide crucial understanding of service availability within a defined area.

Australian Capital Territory (ACT) is a pilot area for MH research innovation in Australia, including the first study on the effect of the National Disability Insurance Scheme (18), comparisons of urban MH service provision (19), and modelling studies (20). The Mental Health Policy Unit of the Health Research Institute University of Canberra have developed a service directory in the ACT using the Description and Evaluation of Services and DirectoriEs (DESDE) service classification instrument (21). In addition, there are other online directories available for ACT residents: including key regional (MindMap) and national (Head to Health, and Healthdirect) directories. However, it is not known how effective these directories are in providing comprehensive and relevant information about service availability to improve access to services for service users, referral guidance for health professionals, and government agencies in allocating resources for the most useful tools.

Thus, this study aimed to review the comprehensiveness and accuracy of key online service directories intended for children and adolescents with MH problems living in the ACT and compare them with those of the systematically developed DESDE Directory.

Method

We conducted an infoveillance analysis of three digital service directories. Infoveillance is a combination of information and surveillance. It is a study of the systematic collection, analysis, and monitoring of information from digital sources (22,23). Our analysis compares the comprehensiveness (number of services listed) and accuracy (accurate correspondence of services listed with the stated nominal location (ACT) and target group (child and adolescent MH)) of service listings in three key digital directories and compared the results with those identified in the DESDE Directory of Mental Health Services.

Study area: ACT has an area of 2,351 square km. Around 55% of this territory corresponds to protected areas such as a National Park, Botanic Gardens, a Wilderness Zone and several Nature Reserves. The Namadgi National Park, located in the South-West, comprises around 46% of the land area of the ACT. Canberra is the territory's only city.

ACT has a population of almost half a million people (2021 census), 23.5% of whom are 18 years of age or less. The ACT population is overall relatively well-educated and socio-economically advantaged, with low unemployment and rates of psychological distress. However, it also has local pockets of disadvantage across its seven districts: North Canberra, South Canberra, Woden Valley, Belconnen, Weston Creek, Tuggeranong, and Gungahlin, with 23% of people in ACT in the lowest (most disadvantaged) quintile of the Index of Relative Socio-economic Disadvantage (24). Residents in the city of Queanbeyan (population approximately 65000), just across the ACT border in the neighbouring state of New South Wales may also at times access services in Canberra, as the nearest major city.

Data collection

The digital directories used in this study were part of a larger infoveillance study to investigate MH navigation tools (NTs) in Australia. NTs were identified through a Google search using the name of

each Primary Health Network (PHN) in Australia and the following search terms and Boolean operators: AND directory OR navigation; and through following state or territory-based links from PHN websites. This study includes the results of analysis of service listings in the three largest digital NTs that include ACT MH services- two key national directories, and one directory specific both to ACT and to child and adolescent MH services.

Directories:

1. Healthdirect: This is “the national virtual public health information service”(25). It is a not-for-profit navigation tool operating in partnership with national and state governments to provide health advice and information to consumers and professionals through website, telephone helpline, and an app, along with a service finder to help people find local health services. The digital service finder/directory uses search filters for all health services based on postcode and type of health service required. A visual map of service locations is also available.

2. MindMap: This is a dedicated portal for children and young people (up to 25 years of age) to help them navigate Canberra’s MH system (26). The MindMap website is a composite navigation tool, which includes direct support provided through an Active Hold capability to support people on waitlists. Its online service directory provides a search filter based on a number of service characteristics including target age range, location, level of support and payment options.

3. Head to Health. Head to Health is a national website service gateway connecting people, including carers, family members and health professionals with MH services in their local area (27). It is part of a suite of tools including a phone service, Head to Health centres, Popup clinics and Kids Hubs. It provides a digital service finder for health professionals with a search filter based on age, disorder, level of care and level of distress.

DESDE Directory. The DESDE system of service classification has been used to describe service availability in ACT in Atlases of Mental Health Care of the region in 2016, 2020, and 2023 (28). The

Directory provides information about availability of MH services in ACT using the DESDE service classification system. The DESDE system is an open access international instrument for the standardised description and classification of health and human services in a defined area according to the number of professional teams provided by health and human service organisations in the region, and the type of care or support they provide. Services are identified through a systematic and iterative search including discussions with local domain experts (e.g., health agency managers), web searches, and review of existing directories. Service information including main type of care and target population is collected “bottom up” from interviews with all service managers where possible, or from website information if otherwise unavailable.

Directory search methods

1. Healthdirect: to identify MH services and organisations providing MH care specifically for children and adolescents in ACT, we entered the following search terms in the topic/service type search filter: “child and adolescent mental health”; “child and adolescent mental health services”; “child psychiatry”; “child and adolescent psychiatry”; “child psychology”; and “child and adolescent psychology”

Six different ACT suburbs were initially entered separately into the location filter (Acton, Tuggeranong, Belconnen, Woden, Lyneham, and Wanniassa). As all returned identical service listings, we used Acton and postcode 2601 as indicative. Services in the region that were known to the research team, but which did not appear in the location and topic search, were also entered into the topic/service filter manually.

2. MindMap: MindMap is a directory specifically targeting MH services for children and adolescents. Therefore, the full list of services and providers included in this directory was used in the initial analysis.
3. Head to Health. We searched and followed the prompts for support for consumers on the

Head to Health website, including “Finding help”, “Giving support”, “For health professionals”, and “I need help now”. We also used the general search function for professionals, entering the terms “child and adolescent mental health”; “child and adolescent mental health services”; “child psychiatry”; “child and adolescent psychiatry”; child psychology” and “child and adolescent psychology”. We could not identify a location filter in this directory.

4. DESDE Directory of MH care 2023: all services in this directory coded as being specifically for children and adolescents in ACT using the DESDE system (DESDE codes CX CA CC TA and CY) were included in the analysis.

Inclusion and exclusion criteria of services and providers

Services and provider organisations listed in the directories were included if they

- (i) were physically located in ACT;
- (ii) specifically targeted the child and adolescent age group (< 18 years). Thus, services for the general age population, as well as those for adults, were excluded.
- (iii) specifically addressed MH issues. Thus, services for related but not specific MH services such as those for domestic violence, parenting services, and general health services (unless it included a specific MH service) were excluded.
- (iv) Services for young carers of people with MH were included.

Services listed but provided online or by phone only were excluded.

Data analysis

First, we counted the number of unique provider organisations included in each directory. These

organisations are at the meso level of the service system and have overall responsibility for the delivery of services. This includes non-government organisations (NGOs), public (provided by government), and private (for profit) provider organisations. All organisations listed by the four directories were identified and counted to provide a list of the total of all included organisations. The number and percentage of this total that was identified by each individual directory was recorded and compared.

The second unit of analysis was at the micro or individual service level: i.e., services or service teams delivering care or support directly to service users. As with the analysis at organisational level, each individual service listed was identified and counted, and the number and percentage of the total that was identified in each directory recorded and compared.

Where a service included in one directory appeared in another directory disaggregated into its component individual service teams, the disaggregated services were counted towards the total number of services: for example the Child and Adolescent Mental Health Service (CAMHS) community team was listed as one service in the MindMap directory, but in the DESDE directory it had been disaggregated further into its two component teams (Northside and Southside) teams and thus was counted as two services towards the total number of service listings.

Where a listing met criteria at both meso and micro levels of analysis: i.e., the overall organisation was also the direct service provider as in the case for example of a small organisation or an individual private practitioner, these services were included in both provider and service categories.

Ethics: Healthdirect, Head to Health, and MindMap are publicly available websites, so ethics approval was not required. The DESDE Directory as a component of the ACT Atlas of Mental Health received ethics approval from ACT Health (2022/ETH02523) and University of Canberra (Project ID: 12019) HRECs.

Results

Total number of provider organisations and service listings

A total of 29 individual service provider organisations that met inclusion criteria were identified by the included directories. Of these, 18 were NGOs, seven were private for-profit providers, and four were public sector service providers from government departments (Health, Education, Community Service) (Table 1).

Table 1 Number and percentage of services and providers identified, by sector, as listed by each directory

	Number of providers identified (% of total number identified in study)	Number of services identified (% of total number identified in study)
healthdirect		
Public	4 (100%)	7 (43.8%)
NGO	3 (16.7%)	3 (8.3%)
Private	2 (28.6%)	2 (28.7%)
Total	9 (31%)	12 (20.3%)
Mindmap		
Public	2 (50%)	3 (18.8%)
NGO	17 (94.4%)	25 (69.4%)
Private	0 (0%)	0 (0)
Total	19 (65.5%)	28 (47.5%)
Head to Health		
Public	0	0
NGO	0	0
Private	0	0
Total	0	0
DESDE Directory		
Public	4 (100%)	16 (100%)
NGO	15 (83.3%)	28 (77.8%)
Private	7 (100%)	7 (100%)
Total	26 (89.7%)	51 (86.4%)

A total of 59 individual services delivered by these providers were identified from all directory listings. Of these, 16 were provided by the public sector, 36 by NGOs, and 7 by private providers

(Table 1). Reasons for the exclusion of services listed included being either out of area, not specifically related to MH, or not specific to children and adolescents (Table 2). This was particularly the case with Healthdirect, which provided listings of services in some cases up to 3000 km away despite our use of the location filter (Table 3 and example in Figure 1). 105 of the 133 services listed by MindMap were excluded (Table 2).

All service listings in Healthdirect and DESDE Directory were at individual service level while MindMap included some listings at individual service level and some at organisation level only (i.e., not disaggregated into the individual services provided by an organisation).

Figure 1 Example search for “psychiatrist” in Canberra: comparison results Healthdirect and DESDE Directory

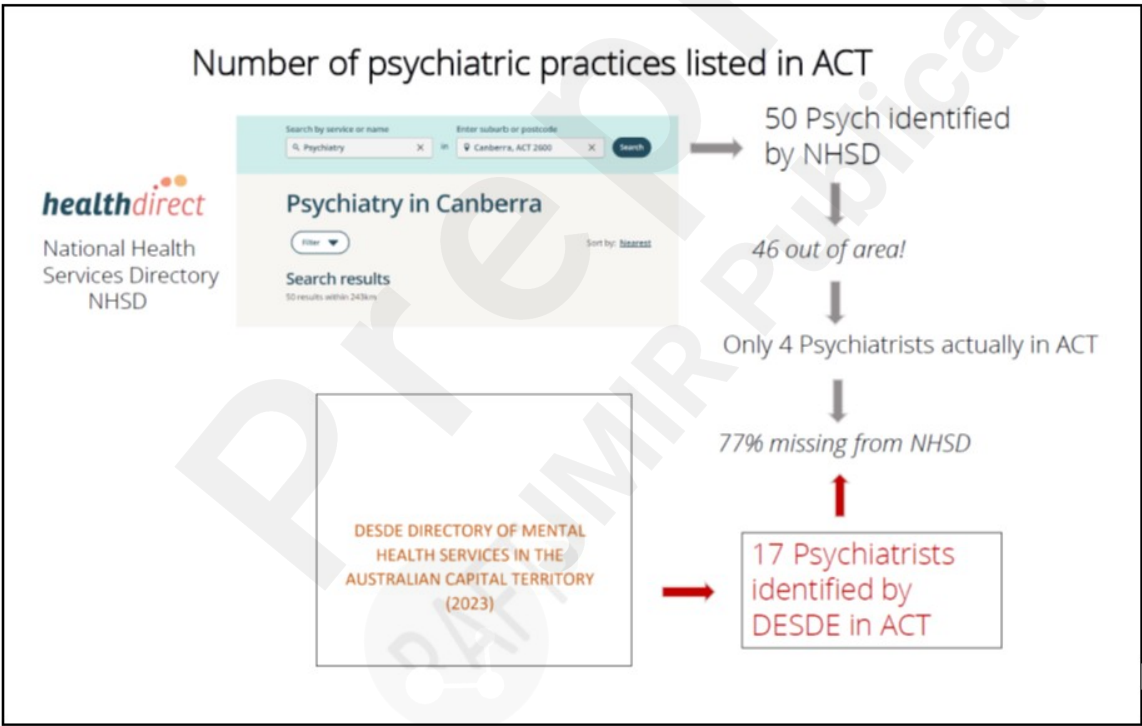


Figure 1 Example search for “psychiatrist” in Canberra: comparison results Healthdirect and DESDE Directory

Table 2 Search results including exclusion criteria

Navigation	Total	Number out	In area but	In area but	Total
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Tool	number of individual service listings	of area	not child and adolescent specific	not mental health specific	number of listings meeting criteria: Child and adolescent services within ACT
healthdirect	152	136	2	2	12
MindMAp	133	23	25	57	28
Head to Health	0	NA	NA	NA	0
DESDE	51	0	0	0	51

Table 3 Search term results healthdirect

Search term	Number of services identified using search term	Listings specific for child and adolescent mental health and located in study area
"child and adolescent mental health"	50 results within 242km	8
"child and adolescent mental health services"	4 results within 710 km	0
"child psychiatry"	45 results within 3095km	1
"child and adolescent psychiatry"	48 results within 3109km	3
"child psychology"	38 results within 1794km	0
"child and adolescent psychology"	47 results within 3109km	3
Service name search (services known to research team that were not found by the above search)		6
Total number of services identified in search after removal of duplicates	152	12

The Head to Health website included a range of online or phone services, including crisis lines, however we did not find any services meeting our criteria (Table 1).

Analysis by directory

1. Healthdirect.

Healthdirect listed 31% of the total number of provider organisations identified. This included all public providers but only 16.7% of NGOs (Table 1).

Healthdirect listed 20.3% of the total number of individual services identified. Most services were provided by the public sector although these represented only around one third of the total number of public sector services identified across all directories in the study (Table 1). Six services were only identified through adding known service names as search terms (Table 4).

2. MindMap

MindMap listed around 65.5 % of all identified provider organisations. It did not include any private providers but identified 94.4% of NGO providers (Table 1).

MindMap listed 47.5% of all identified services, including 69.4% of identified NGO services, but only 19% of the total number of public sector services identified in the study (Table 1).

3. Head to Health:

In our search, we did not find child and adolescent specific MH services in ACT (Table 1).

4. DESDE Directory 2023:

Fifty-three child and adolescent services were listed, all of which met inclusion criteria.

DESDE Directory listed 89.7% of providers, including 100% of public sector and private sector providers, and 83.3% of NGO providers (Table 1).

DESDE Directory listed 86.4% of individual services, including 100% of both public and private services, and 77.8% of NGO services (Table 1).

Discussion

To our knowledge this is the first infoveillance analysis of mental health service navigation tools for children and adolescents. Our study has revealed significant gaps in identification of MH services for children and adolescents in the key digital directories currently available. These gaps have implications for the ability of consumers, professionals and planners to navigate the system and find appropriate services when needed as well as potentially adding confusion and inefficiency in a system already well documented to be fragmented, complex and hard to navigate. These gaps also significantly limit the useability of these directories in service planning. Of particular concern is that two of these directories have been developed by federal government departments and thus could reasonably be assumed to have a high level of accuracy.

Issues arising include a lack of comprehensiveness, including uneven coverage across sectors; inaccuracies in geographic boundaries; and a lack of precision in how the target population is defined. Directory users in most cases must wade through many irrelevant services to identify an incomplete list of appropriate services: some of which were difficult to find without already knowing the service name.

The Head to Health website is a federally funded service aiming to help people to find and access appropriate services; according to its website it “helps all Australians access the mental health and wellbeing services that are right for them. It makes it easier to navigate and choose the most suitable care options, whether that’s face-to-face, via phone, or online”. However, while the website provides general information about accessing services and several online resources and help lines, in order to access local services, the consumer is advised to either see their GP, provided with a national phone number, or with a phone number to speak with their local Head to Health physical service. Consumers do not have the ability to review available or alternative services themselves without

speaking with a service navigator holding that information. This transfers the ability to assess available services and make decisions about individual appropriateness from the consumer to the Head to Health service. Head to Health can therefore not be defined as a navigation tool, but as a navigator, the distinction being that navigators perform the function of providing service coordination, using available navigation tools.

Healthdirect is a health information and advice website supported by Australian government agencies at federal and state and territory level. Its service finder is self-described as “Australia's most comprehensive directory of healthcare professionals and services”. However, despite the entry of standard search terms and a specific location into search filter, most child and adolescent MH services identified by this directory were well out of the search area- up to 3000km away- while less than 10% of relevant services located in the ACT provided by NGOs were identified.

The full range of services offered by a provider organisation is important information in understanding overall service availability and supporting access to appropriate care. Although Healthdirect identified CAMHS as a key provider, its listing of the individual services provided by CAMHS was limited. Additionally, several NGO services known to the research team were not brought up by our search using standard terms and found only through searching by their specific names.

MindMap is an online directory specific to youth MH services in the ACT. MindMap is provided with the ACT Youth Portal, an initiative of ACT Health and the Office of Mental Health and Wellbeing which was associated with the Atlas of Youth Mental Health Services developed by the DESDE Directory team in 2020. This association may be relevant in MindMap providing the second most comprehensive listing of services in our study. However, this directory also included a large number of services peripherally, rather than specifically, related to MH. Its units of analysis were

also at more than one level of the system: i.e., while it included individual services, in some cases only the overall provider organisation was listed. As with Healthdirect, failing to include individual services limits its useability to users, while the use of both service levels has the potential to cause confusion around actual availability.

The DESDE Directory is a part of the latest update of a series of ACT Atlases of Mental Health care developed by our research team (28). Services are identified through a systematic process based on a range of sources including local expert knowledge, previous Atlases, other directories, website searches, as well as iteratively from information gathered during interviews with service managers. Service teams as the unit of analysis are operationally defined and in this way each service provided by the organisations is identified and disaggregated. Results are then verified through a process of consultation with local experts such as health agency managers and service providers. While still not fully comprehensive, this has provided the most comprehensive directory of those studied.

A local approach to the provision of MH care and ease of navigation are tenets of national MH care planning (29). This study raises questions about the effectiveness at local level of nationally developed directories, and about the resources needed at local level to provide a comprehensive picture of service availability when, even in the relatively small jurisdiction of the ACT, available information is incomplete and confusing.

Stafford et al (30) identified user confusion in the identification and use of navigation tools for health services. The results of our study showing significant gaps in, and differences between, key national directories suggest that this is also likely to be the case for consumers, professionals, and planners of child and adolescent MH services in ACT, to the detriment of all.

Limitations

This study is limited to three of the seven NTs providing directories that were identified in our infoveillance study. However, the directories chosen were the most significant since they were all developed or codeveloped by national or territory government agencies.

It is possible that despite a systematic web search not all directories listing child and adolescent MH services in ACT were identified, particularly if these are paper based rather than online.

Conclusion

We compared the DESDE directory of child and adolescent MH services in ACT, based on a systematic search and local expert knowledge, with key digital directories currently available. We found that despite these directories being developed by federal or territory government funded departments or agencies, there are significant gaps in comprehensiveness and imbalances in focus across the different sectors providing services, as well as distractions caused by the inclusion of many services either out of the directory search area or not specifically relevant to the target population. These issues severely limit their usefulness to directory users (whether consumers, professionals, or planners), and also their ability to reduce barriers to appropriate care through ease of system navigation and evidence informed service planning.

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MF provided the data analysis. MF and SH wrote the first draft of the paper. LSC, MF and SH contributed equally to revisions of the draft.

Conflicts of Interest

The DESDE Directory is a part of the MChart project to develop a digital interactive navigation tool. The MChart project is a collaboration between the Health Research Institute at University of Canberra, Digital Health CRC Limited, Swinburne Institute of Technology, University of Sydney, Capital Health Network, the ACT Office for Mental Health and Wellbeing, and Psicost Research Association. This study is not a part of the MChart project.

Abbreviations

ACT: Australian Capital Territory

CAMHS: Child and Adolescent Mental Health Service

DESDE: Description and Evaluation of ServiceEs and Directories

MH: Mental health

NGO: Non Government Organisation

NT: Navigation Tool

PHN: Primary Health Network

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