1. Annex 1 Methodology

Typically, atlases of health are formed through lists or directories of services, and the inclusion of services is based on their official or everyday titles. This is particularly problematic for several reasons:

-the wide variability in the terminology of services and programs even in the same geographical area;

-the lack of relationship between the names of services and their actual functions (e.g. day hospitals, day clinic), as the service name may not reflect the actual activity performed in the setting; and,

-the lack of a common understanding of what a service is. The word 'service' is an umbrella term that is used to describe very different components of the organisation of care. It merges permanent, highly structured services, with clinical units, or even short-term programs and interventions.

DESDE-LTC

To overcome these limitations, in this project, the "Description and Evaluation of Services and Directories for Long-Term Care" (DESDE- LTC) has been used (Salvador-Carulla et al., 2013). This is an open-access, validated, international instrument for the standardised description and classification of services for Long Term Care. Whilst originally developed around health issues requiring long term care, the application of the DESDE-LTC across mental health (and AOD) in Australia necessarily includes services across a spectrum of care intensity and duration.

The DESDE-LTC includes a taxonomy tree and coding system that allows the classification of services in a defined catchment area, according to the main care structure/activity offered, as well as to the level of availability and utilisation. It is based on the activities, not the name, of the service provider. The classification of services based on the actual activity of the service therefore reflects the real provision of care in a defined catchment area.

It is important to note that in research on health and social services there are typically different units of analysis, but comparisons should be made across a single and common 'unit of analysis' group. Different units of analysis include: macro- organisations (e.g. Local Health Networks), meso-organisations (e.g. Hospitals), and micro- organisations (e.g. Services). They could also include smaller units within a service: main types of care, care modalities, care units, care intervention programs, care packages, interventions, activities, micro- activities or philosophy of care.

Analysis based on DESDE-LTC is focused on the evaluation of the service delivery teams or Basic Stable Inputs of Care (BSIC).

Basic Stable Inputs of Care

A Basic Stable Input of Care (BSIC) is best described as a team of staff working together to provide care for a group of people. It could also be described as a service delivery or care team.

These teams must have time stability (typically they have been funded for more than three years or have funding secured for three years) and structural stability. Structural stability means that they have administrative support, and two of the following: their own space (which can be in a shared office); their own finances (for instance a specific cost centre); and their own forms of documentation (i.e. they collect data and produce reports on their service activities). There are several criteria that help to define a BSIC (**Error! Reference source not found.**).

Table 1-1 Basic Stable Input of Care Criteria

Criterion	
A	Has its own professional staff
B	All activities are used by the same clients
C	Time continuity
D	Organisational stability
D.1	The service is registered as an independent legal organisation (with its own company tax code or an official register). If NOT:
D.2	The service has its own administrative unit and/or secretary's office and fulfils two additional descriptors (see below). If NOT:
D.3	The service fulfils three additional descriptors
D3.1	It has its own premises and not as part of other facility (e.g. a hospital)
D3.2	It has separate financing and specific accountability (e.g. the unit has its own cost centre)
D3.3	It has separated documentation when in a meso-organisation (e.g. end of year reports)

Classification of BSIC

Once BSIC are identified using the above criteria, the Main Types of Care (MTC) they provide are examined and classified.

Each BSIC is classified by using one or more codes based on the MTC they deliver. Some services might include a principal structure or activity (for example a 'Residential' code) and an additional one (for example, a 'Day Care' code).

There are six main classifications of care within the DESDE-LTC, as described below (**Error! Reference source not found.**).

Residential Care - Used to classify facilities which provide beds overnight for clients for a purpose related to the clinical and social management of their health condition. These include inpatient hospital wards, crisis shelters, residential rehabilitation services and inpatient withdrawal units. Residential Care is divided into Acute and Non- Acute branches (**Error! Reference source not found.**).

Day Care - Used to classify facilities which: (i) are normally available to several clients at a time (rather than delivering services to individuals one at a time); (ii) provide some combination of treatment for problems related to long-term care needs (e.g. providing structured activities or social contact/and or support); (iii) have regular opening hours during which they are normally available; and (iv) expect clients to stay at the facility beyond the periods during which they have face to face contact with staff: these include the more traditional long-stay day programs (**Error! Reference source not found.**).

Outpatient Care - Used to code care provided by service delivery teams which: (i) involves contact between staff and clients for some purpose related to the management of their condition and associated clinical and social needs; and (ii) is not provided as a part of delivery of Residential or Day services (**Error! Reference source not found.**). These include outreach services. Quite often, Outpatient Care also involves the provision of information and support to access other types of care.

Accessibility to Care - Classifies service delivery teams whose **main function** is to facilitate access to care for clients with long- term care needs. These services do not provide any therapeutic care, and include Care Co-ordination services (**Error! Reference source not found.**).

Information for Care - Used for service delivery teams whose **main function** is to provide clients with information and/or assessment of their needs. Services providing information are not involved in subsequent monitoring/follow- up or direct provision of care. These include many telephone information and triage type services (**Error! Reference source not found.**).

Self- Help and Voluntary Care - Used for BSIC which aim to provide clients with support, self- help or contact, with un- paid staff that offer any type of care as described above (i.e. Residential, Day, Outpatient, Accessibility or Information) (**Error! Reference source not found.**).

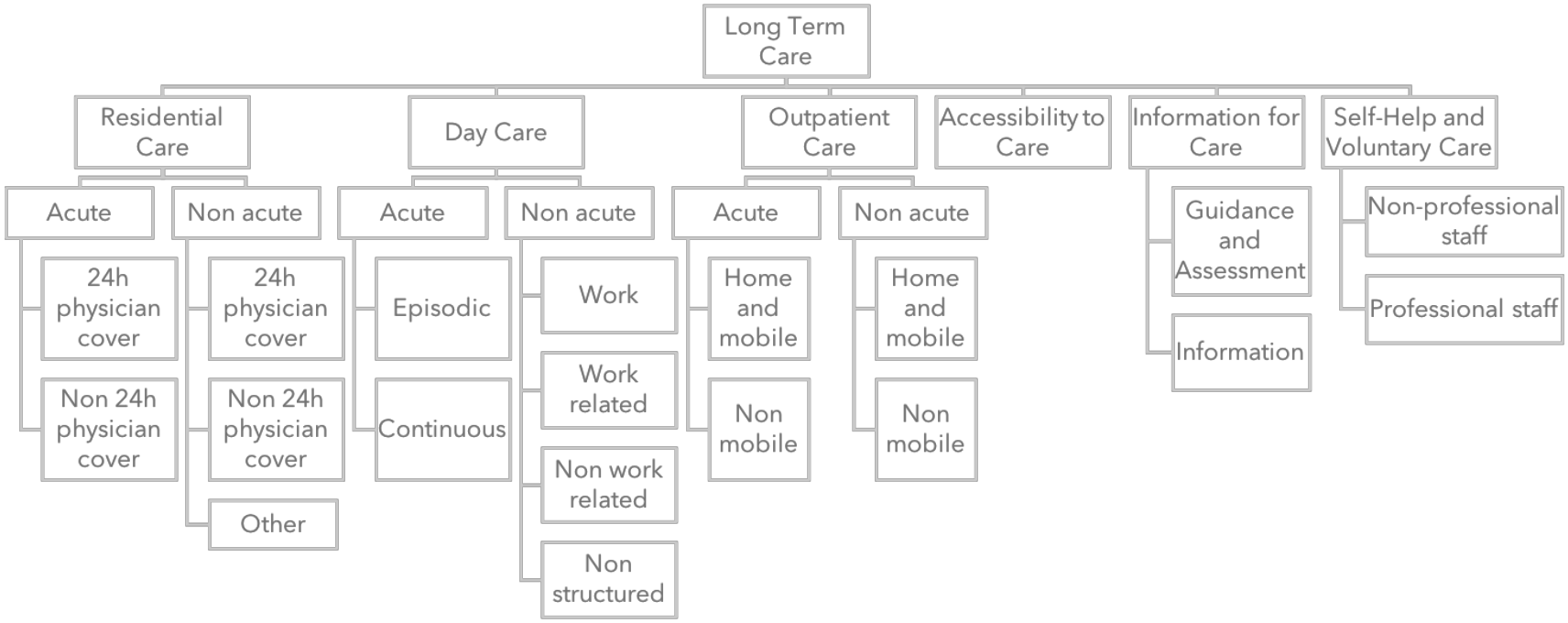


Figure 1-1 Long Term Care Main Branches of Care

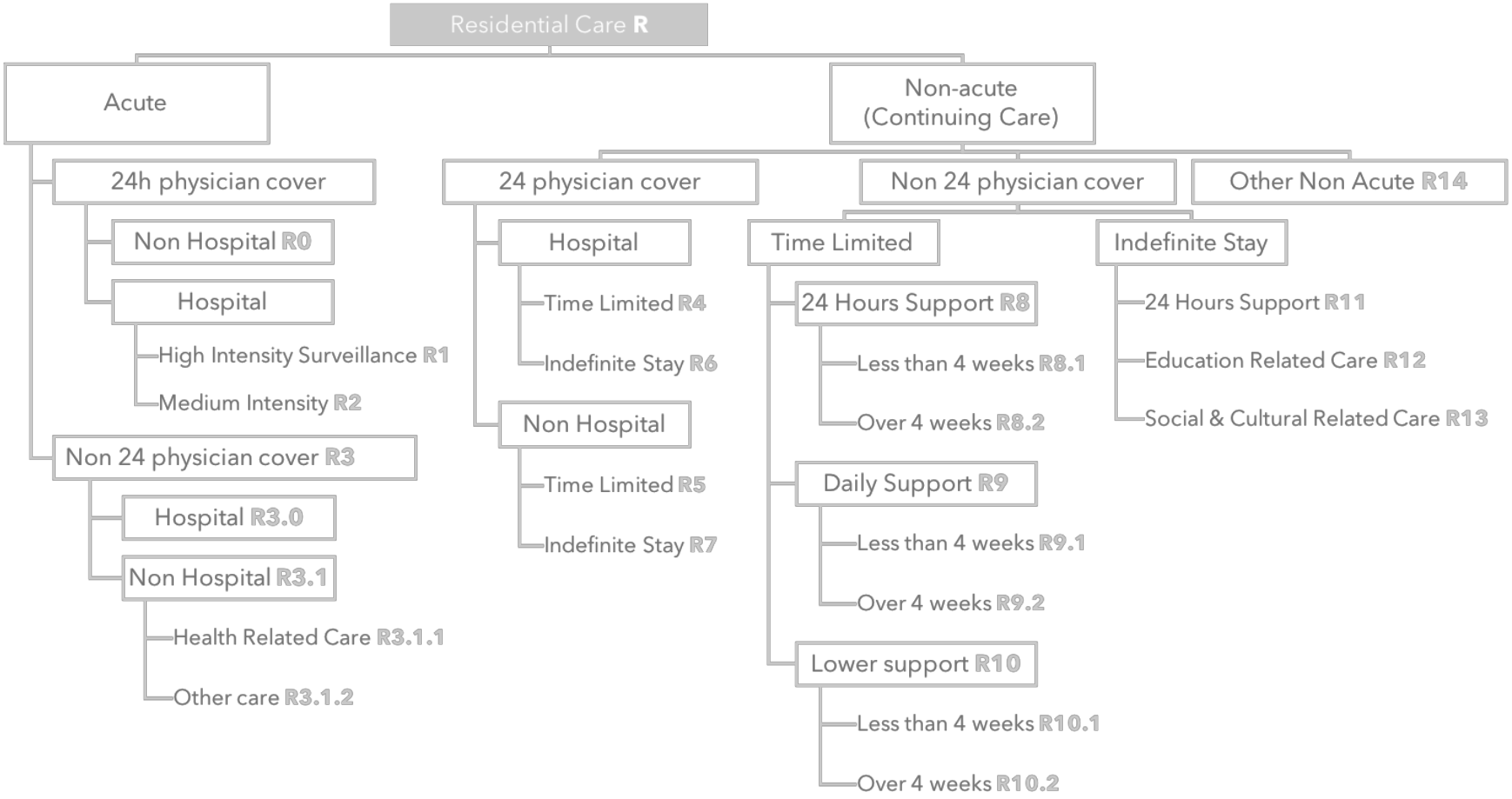


Figure 1-2 Residential Main Branch of Care

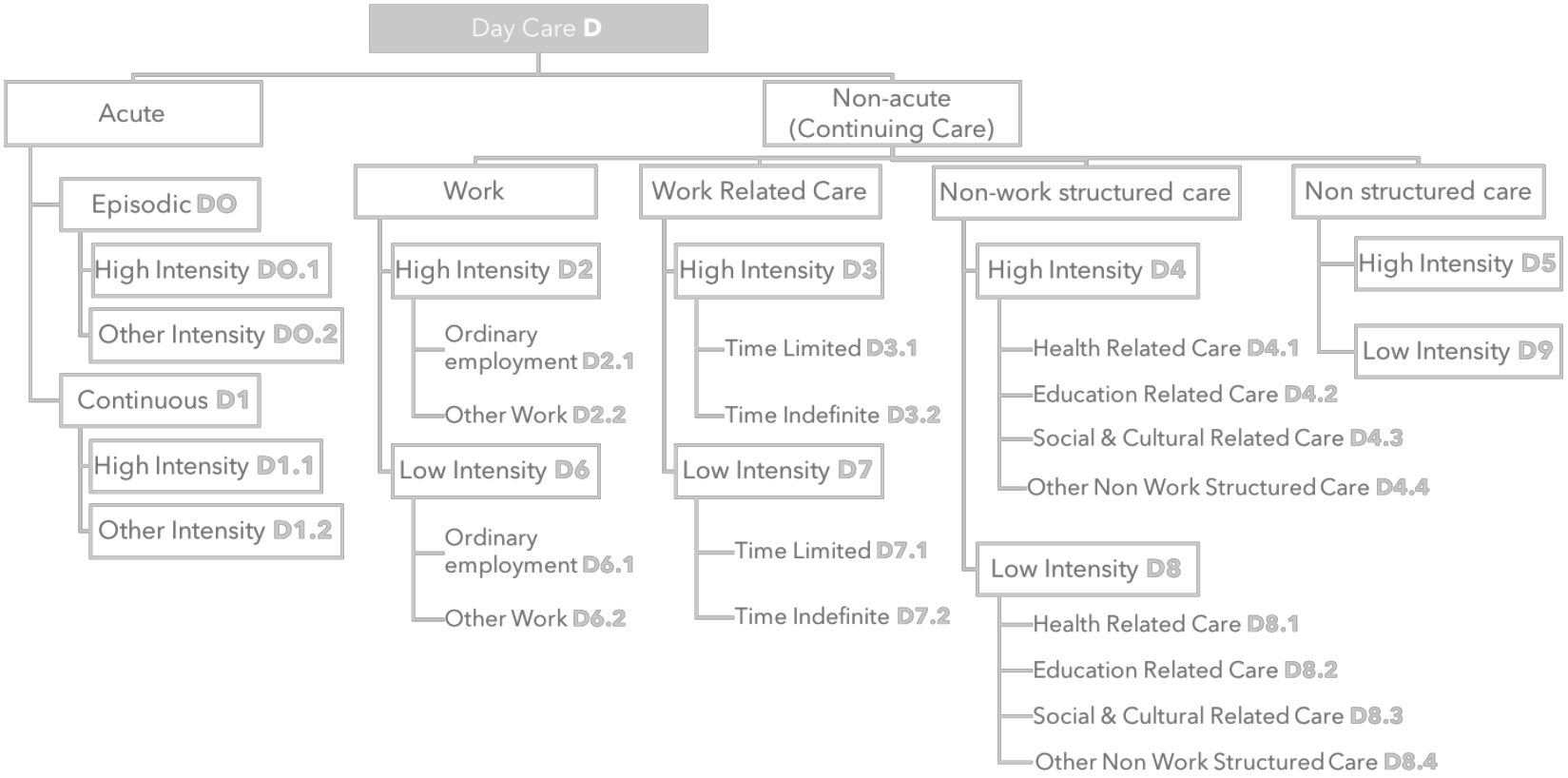


Figure 1-3 Day Care Main Branch of Care

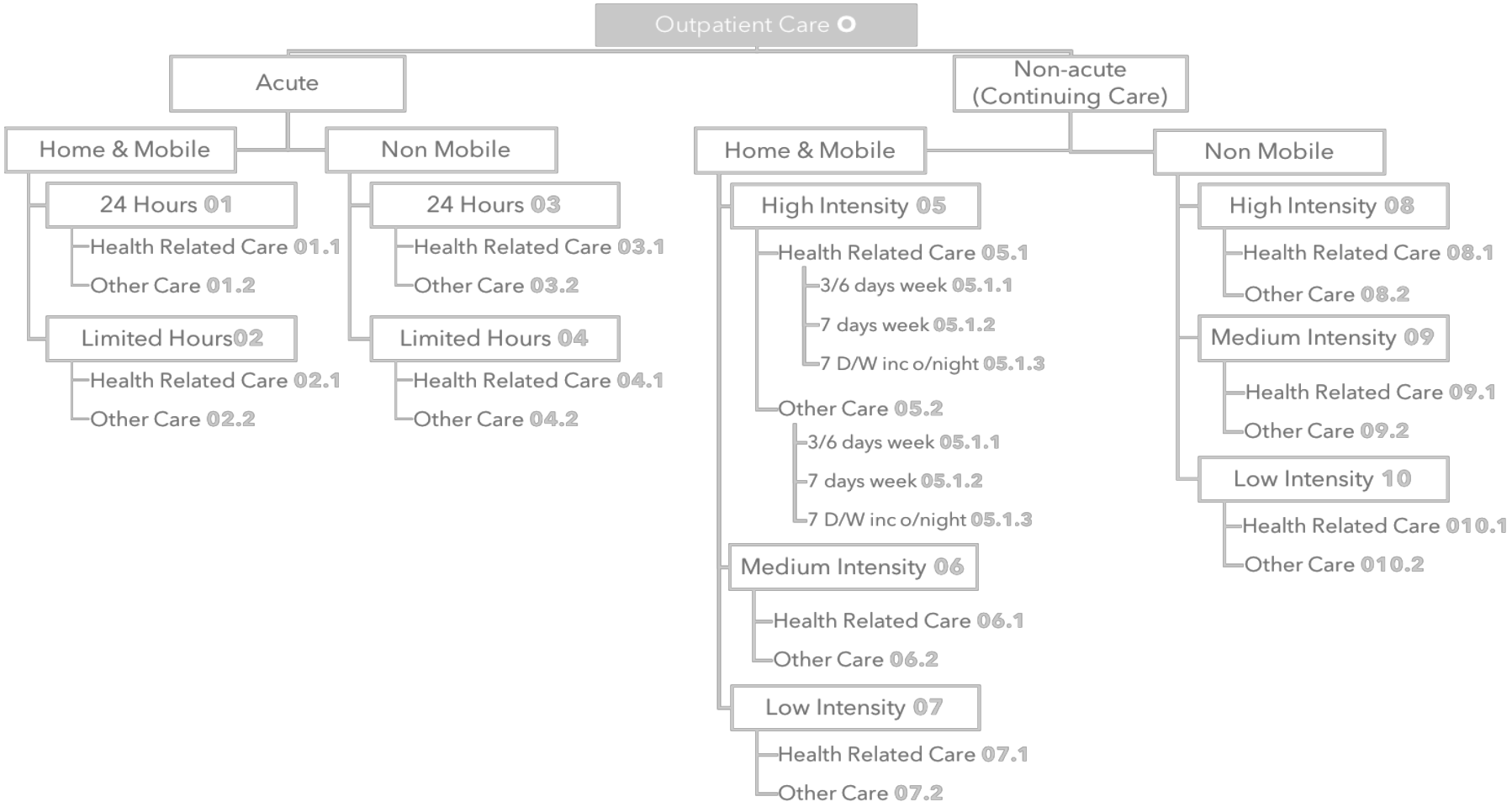


Figure 1-4 Outpatient Main Branch of Care

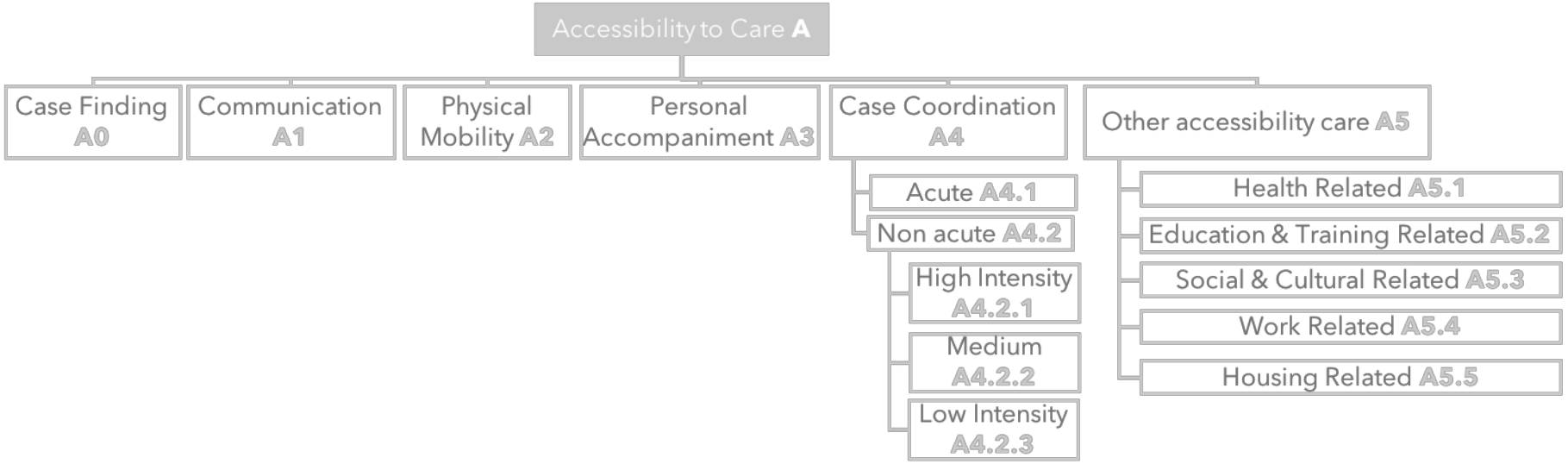


Figure 1-5 Accessibility Main Branch of Care

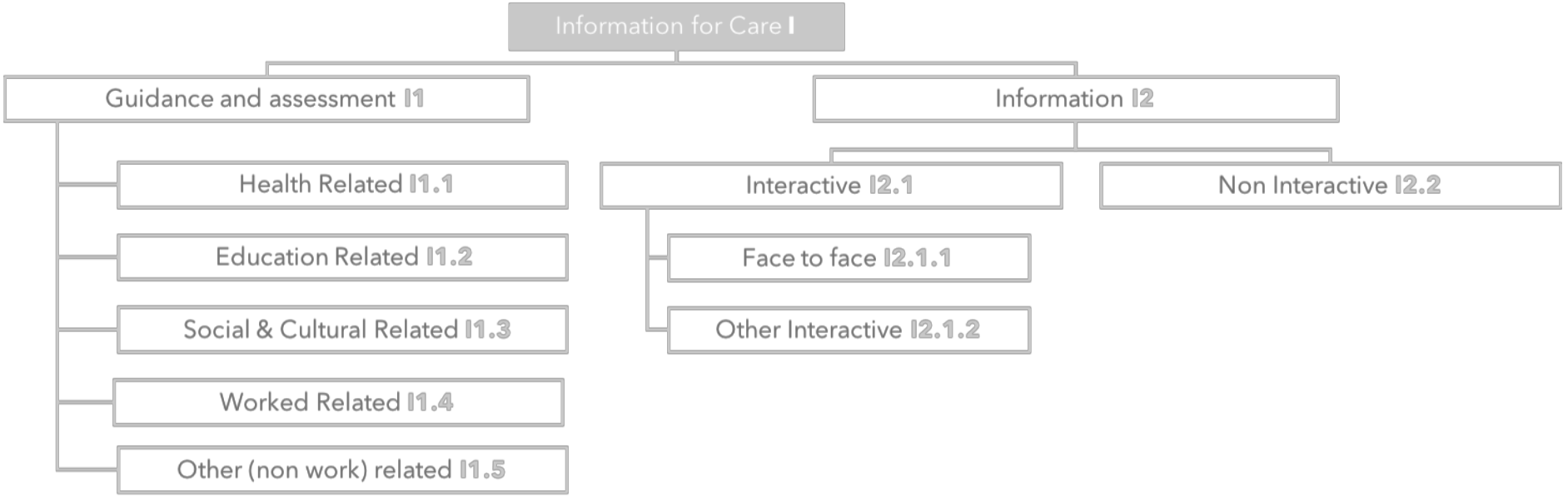


Figure 1-6 Information for Care Main Branch of Care

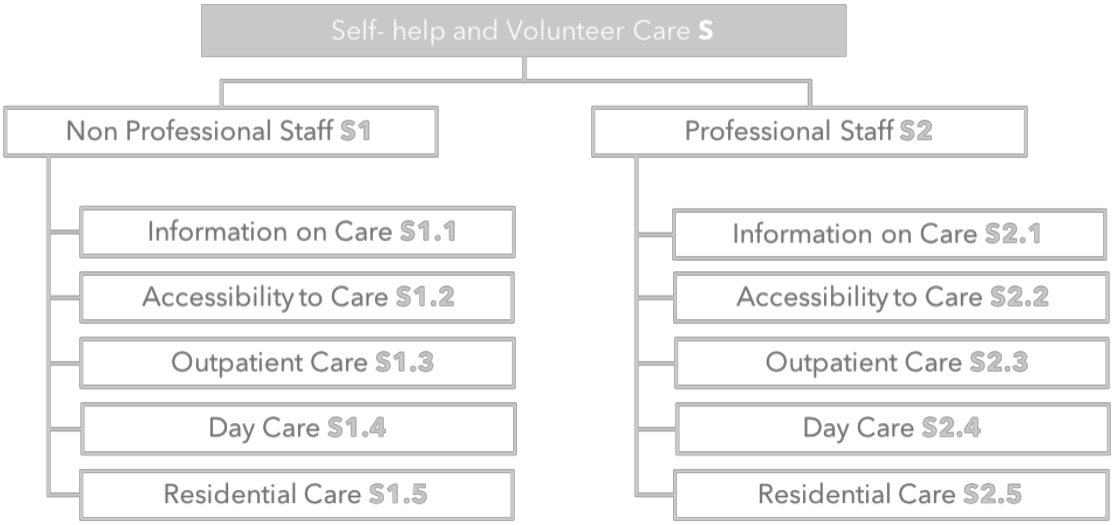


Figure 1-7 Self-help and Volunteer Main Branch of Care

Other Care Teams (OCT)

These are a minimal set of inputs organised for delivering health-related care characterised by time continuity which does not fulfil the organisational stability criteria or attributes described for a BSIC. An example are stable clinical units financed with earmarked funding under a policy provision programme separated from the general financing system of the micro-organisation (e.g. early psychosis intervention in Catalonia) and using a separate documentation due to specific monitoring by the local health agency) .

A typical case of OCT are 'clinical units' within 'care teams' of general hospitals or other health-related meso-organisations (e.g. an eating disorder clinical unit within a psychiatric inpatient care team in a general hospital, or the acute emergency care function provided by the staff of the psychiatric care team at the emergency room). These are coded with lower case mtc (d1.1 etc.) to differentiate them from MTCs of BSICs.

Inclusion Criteria

The Integrated Atlas has clear inclusion criteria to ensure consistency and comparability across Atlases created using the DESDE methodology, both internationally, and across Australia.

To be included in the Atlas a service has to meet certain inclusion criteria:

The service is specialised - the service must specifically target people with a lived experience of mental ill- health. That is, the primary reason for using the service is for treatment of mental ill-health. This excludes generalist services that may lack staff with specialised mental health training and experience.

The service is universally accessible - the Atlas focuses on services that are universally accessible, regardless of whether they are publicly or privately funded. Only services that do not have a significant out- of- pocket cost are included. Despite the availability of Medicare- subsidised

mental health-related services, access to most private mental health services in Australia requires an individual to have private health insurance coverage, higher income or savings. The inclusion of private providers would give a misleading picture of the resources available to most people living with mental health issues, and obscures the data for evidence- informed planning of the public health system.

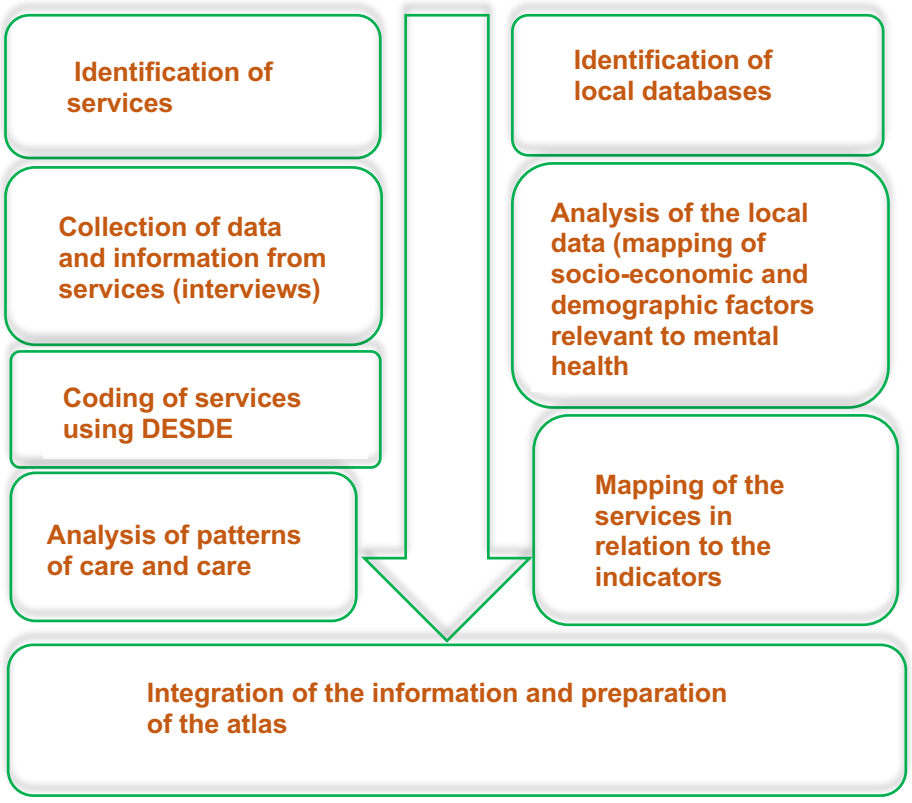
The service is 'stable': that is, it has, or will, receive funding for more than 3 years - the inclusion of stable services guarantees that the mapping reflects the robustness of the system as a basis for evidence- informed planning. As such, services that are pilot projects or are provided through short term grants are excluded. However, there is an appreciation that the current environment is one where there is significant uncertainty around the continuation of funding streams at both state and federal level. Thus, an additional qualifier "v" has been added to the classification to identify services that do not have this stability of funding but whose exclusion would skew the information provided.

The service is within the boundaries of the ACT the inclusion of services that are within the boundaries of the region is essential to have a clear picture of the local availability of resources.

The service provides direct care or support to clients - services that were only concerned with the co- ordination of other services or system improvement, without any type of direct contact with people with a lived experience of mental ill- health, were excluded

Atlas Development Process

Phase 1: There were five key steps involved in the creation of the Integrated Atlas of Mental Health



.

Figure 1-8 Atlas Development Process

Step 1 – Ethics and Governance Approval

The project obtained ethical approval from the HREC at Australian National University (ethics protocol 2019/964).

Step 2 - Data Collection

A preliminary list of organisations was drawn up to verify and pre- qualify where possible their appropriateness for inclusion in the Atlas.

Following pre- qualification, a determination was made on how best to contact each organisation for the purposes of gathering the information necessary to create the Atlas.

The Integrated Atlas methodology provides the framework and template for the information that needed to be gathered. This included:

- basic service information (e.g. name, type of service, description of governance);
- location and geographical information about the service (e.g. service of reference, service area);
- service data (e.g. opening days and hours, staffing, management, economic information, legal system, user profile, number of clients, number of contacts or admissions, number of days in hospital or residential accommodation, number of available beds or places, links with other services); and
- additional information (e.g. name of coder, date, number of observations and problems with data collection).

This information was gathered through face to face and telephone interviews. Following the initial interview, additional information was on occasion sought in order to support and verify classification decisions.

Step 3 – Codification

Information gathered in step one was entered into a master spreadsheet, analysed, and allocated a DESDE code (where the service delivery team meets the inclusion criteria). The work of each service delivery team was coded following the criteria defined in the DESDE-LTC, according to the MTC provided. Codes can be split into four different components and follow a standard format.

(i) Client age group: This represents the main target group for which the service is intended or currently accessed by, using capital letters.

GX All age groups

CX Child & Adolescents (e.g. 0-17)

CC Only children (e.g. 0-11)

CA Only adolescent (e.g. 12 – 17)

CY Adolescents and young adults (e.g. 12-25)

AX Adult (e.g. 18-65)

TA Transition from adolescent to adult (e.g. 16-25)

AY Young Adults (eg 18-25)

An additional letter is added to the age code where a service is gender specific; for example, AXF is used to indicate a service is specifically targeted at females 18-64 years of age.

In the analysis section of this report, for simplification, the age codes are grouped as follows:

- Children and Adolescents (including young adults) – CC, CA, CX
- Transition to Adulthood-CY and TA
- Adults (Including services with no age specification) – AX and GX

(ii) ICD-10 Code: ICD-10 codes appear in brackets after the age group code but before DESDE-LTC code in order to describe the main diagnostic group covered by the service. For generalist mental health services, the code [F0-F99] is used, which means that the service includes all types of mental disorders rather than a specific disorder. If the service is not targeting mental ill-health, but psychosocial problems (for instance with some child and adolescent services) codes between Z56-Z65 are used. Homelessness services use the code [Z59] and AOD services use [F10-F19]. If the client of the service is a child, but the professional is working with the family, or if the service is for carers, or the family, the code [e310] (immediate family or carers) from the International Classification of Functioning (ICF) is used.

The key diagnostic codes used in this Atlas are:

Table 1-2 ICD codes used in Integrated Atlas of Region

Diagnostic codes used in this atlas	
F00-F99	All types of mental disorders
F10-F19	Mental and behavioural disorders due to psychoactive substance use
F20-F29	Schizophrenia, schizotypal, delusional and other non-mood psychotic disorders
F50	Eating disorders
F53	Mental and behavioural disorders associated with the puerperium
F70-F79	Intellectual Disability
T14.91	Suicide attempt
T74	Adult and child abuse, neglect and other maltreatment
Z55-Z65	Persons with potential health hazards related to socioeconomic and psychosocial circumstances

Z62.81	Personal history of abuse in childhood
e310x	Services for immediate family or carers
ICD	Used where there is not a specific diagnostic group for this service or where there is a liaison service

(ii) DESDE-LTC code: The third component of the code is the core DESDE-LTC code which is the MTC. As explained above (p.5), the services were classified according to their main type of care. This care can be related to: a) Residential care (codes starting with R); b) Day care (codes starting with D); c) Outpatient care (codes starting with O); d) Accessibility to care (codes starting with A); e) Information for care (codes starting with I); and f) Self-help and voluntary care (codes starting with S).

(iv) Qualifiers: In some cases, a fourth component may be incorporated to facilitate a quick appraisal of those characteristics of the services which may be relevant to local policy. Not all available qualifiers have been relevant for use in this Atlas. The qualifiers used in this Atlas are:

Table 1-3 Qualifiers used in this Atlas

Qualifier	Description
b	**This qualifier describes episode-related care provision, usually provided for non-acute patients within a time limited plan (e.g. three months of brief psychotherapy). The 'b' qualifier is only assigned when at least 80% of the care provided in the facility is short- time limited and episode-related.**
e	**Technology based services; eg phone or online**
g	**This qualifier is applied to Outpatient services that provide predominantly group activities and do not meet the criteria for a Day Care service (Typically 80% of their activity is through the provision of groups);**
h	**Hospital (Care provided in a hospital setting)**
J	**This qualifier describes facilities which main aim is to provide care for crime & justice users (security or prison hospitals, surveillance wards for patients under justice custody, physical disability and psychiatric units in prisons and regional security units).**
l	**Liaison – use for liaison psychiatric services such as to oncology patients**
m	**Used where counselling is provided with management such as planning and care coordination**

q	**This qualifier indicates that the main attribute of the MTC (e.g., mobility, intensity) is significantly higher/greater than for other care teams coded in the same MTC.**
t	**Tributary-refers to a satellite team: may be a second permanent location for the team or a team that travels to more than one location**
v	**This qualifier is used when the code applied at the moment of the interview could vary significantly in the near future (from example from acute outpatient care to non- acute). This depends on the capacity of the service to provide the type of care described by the code due to fluctuations in the demand or the supply capacity. For example a crisis accommodation team for homeless or a crisis domestic violence refuge may fluctuate in its capacity of providing acute care within 24 hours depending on the demand and the availability of places. This code can be also applied to services under transition due to a health reform, a change in the whole financing system of health or social care, or the development of a new disability scheme. This variability in the pattern of service provision is independent of the time continuity of the service. For example, a continuous service can have a 'v' code due to a health reform while a care program limited to two years may show organisational stability during the period when it is funded.**

Example:

A Non-Acute forensic unit in a hospital for adults with lived experience of mental illness will receive the following code: AX[F00-F99] - R4j (**Error! Reference source not found.**).

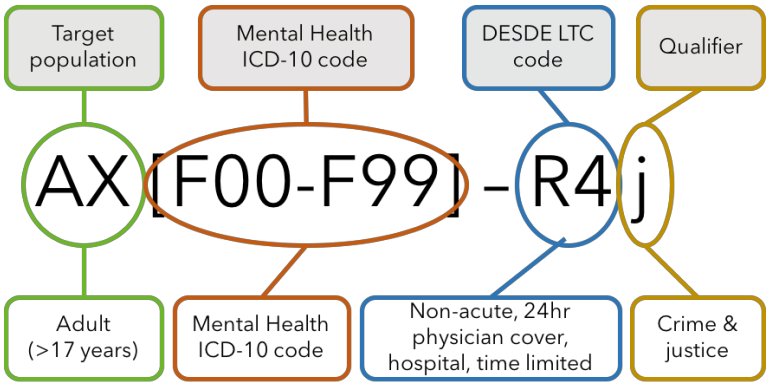


Figure 1-9 Code Components

Step 4 - Mapping the BSICs

The next step in the construction of the Atlas was to map the supply of mental health services in relation to indicators of potential demand within the ACT region. To achieve this step, the BSIC data was exported into a Geographic Information System (GIS) for visualisation.

Step 5 - Description of the Pattern of Care - Service Availability and Capacity

The availability of services was analysed according to their MTC, as well as their capacity.

Availability - defined as the presence, location and readiness for use of service delivery teams in a catchment area at a given time. A service is available when it is operable or useable upon demand to perform its designated or required function. The availability rate for the MTC is calculated per 100,000 of the target population. For example, for services for children and adolescents the estimated residential population of children and adolescents is used.

Placement Capacity – this is the maximum number of beds in Residential care, and places in Day Care in a care delivery organisation or catchment area at a given time. Rates are also calculated per 100,000 of the target population (2016 population figures).

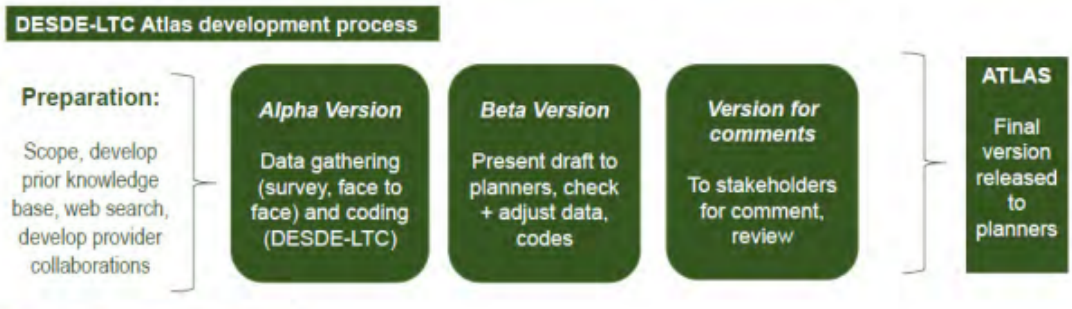
Spider Diagrams – to understand the balance between the different types of care offered in an area, a radar chart tool, also referred to as a spider diagram, is used. The spider diagram is essentially a tool to visually depict the pattern of care in an area. Each of the 21 points on the radius of the diagram represents the number of MTC for a particular type of care per 100,000 population (2016 population figures).

This analysis allows for comparisons of the availability and capacity rates with other areas, and to estimate whether the provision of services is adequate with regard to the population's needs.

Following the coding of the services and development of a draft Atlas (Phase 1, or Alpha version), the Atlas is presented to planners in order for them to review and adjust the data and codes presented where necessary (Phase 2, or Beta Version). A Version For Comments is then prepared by the research team for release to stakeholders. Time is allowed for stakeholders to review the service data and coding, and provide any further comment. After further revision based on the received feedback, a Final Version is released to the planners.

This Atlas represents the results of Phase 2 of the process (Beta Version): that is, the revision of the Alpha version by the planners, and subsequent adjustment to data and codes carried out by the team from Australian National University (ANU) (Figure 1-10, below).

Figure 1-10 Development of the Integrated Atlas of Psychosocial Care in the ACT Region



2. Annex 2: Equivalence of DESDE terminology and terms used in the Australian system

DESDE Code and Australian Mental Health Care Descriptors

The following table lists the DESDE Main Types of Care shown in the radar or spider diagrams. The variations in terminology for similar types of care in different Australian jurisdictions is a feature of the Australian mental health care structures. Further complicating the analysis of Australian services, is that within the same state-wide program there may be a great deal of variation in the intensity of care provided. For example, the HASI and HASP programs in NSW and Qld, both have high and low care support packages – this means that some HASI services may be coded as 'High Intensity non-Hospital Residential' and 'Other Non-Hospital'. DESDE allows consistent comparisons based on the level of input of care and setting, not localised descriptors.

Table 2-1 Service group for pattern of care analysis

DESDE main Types of Care by Group and sub-type	Examples of Australian Mental Health Care Descriptions
RESIDENTIAL	**Accommodation, Hospital, Residential**
R: ACUTE HOSPITAL	High Dependency Inpatient; Acute Care Unit; Intensive Care Unit; Psychiatric Assessment and Planning Unit
R: NON ACUTE HOSPITAL	Sub-acute; Community Care Units; Extended Care Mental Health Rehabilitation Unit; Extended Treatment
R: ACUTE NON HOSPITAL	Hospital in the Home; Crisis homes (almost complete absent in Australia)
R: NON ACUTE NON HOSPITAL	Step up-Step Down (SUSD); Prevention and Recovery Care (PARC)
R: OTHER NON HOSPITAL	Psychiatric Hostel; Group Houses; Supported Accommodation; Crisis accommodation (e.g. Common Ground)
R: HIGH INTENSITY NON HOSPITAL	PARC/SUSD; Housing Supported Care (e.g. HASI, HASP)

DAY CARE	**Rehabilitation or Recovery**
D: ACUTE HEALTH	Day Hospital services (non-existent in Australia)
D: NON ACUTE HEALTH	Some limited, specialist services such as Psychological Trauma Recovery Service or Neuropsychiatric Rehabilitation Services, both at Austin Hospital Vic.
D: WORK RELATED	Disability Enterprises; Social firms; Workers Coop
D: OTHER	Social Clubs; Club Houses
OUTPATIENT	**Community or ambulatory care**
O: ACUTE MOBILE HEALTH	Police & Acute Care Response; Crisis and Treatment Team; Assertive Community Treatment
O: ACUTE NON MOBILE HEALTH	Emergency Depts, Psychiatric Emergency; Psychiatric Liaison
O: NON ACUTE MOBILE HEALTH	Mobile Support and Treatment Team; Community Outreach;
O: NON ACUTE NON MOBILE HEALTH	Outpatients; Clinic services, Dual Diagnosis; Community Care/Continuing Care
O: NON ACUTE NON MOBILE NON HEALTH	Daily Living
O: NON ACUTE MOBILE NON HEALTH	Personal Helpers and Mentors; Psychosocial support
O: ACUTE NON MOBILE NON HEALTH	Family and sexual violence crisis services (e.g. Yarrow Place, Adelaide)
O: ACUTE MOBILE NON HEALTH	No services identified in Australia
ACCESSIBILITY	
A: OTHER	Advocacy services
A: CARE COORDINATION	Partners in Recovery; Care Navigator; Access and Support
A: EMPLOYMENT	Disability Employment Service or DES (Psychiatric); some Partners in Recovery
A: HOUSING	No services identified in Australia

INFORMATION	
I: GUIDANCE & ASSESSMENT	Telephone triage; Intake & Assessment
I: INFORMATION	Information services