



THE UNIVERSITY  
OF QUEENSLAND  
AUSTRALIA

# Provision of Casemix Review

## Literature Review

**Prepared for:**

**Department of Families, Housing  
Community Services and Indigenous  
Affairs**

**The University of Queensland Social  
Research Centre**

**ABN: 63942 912 684**

August 2009

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<b>Printed</b>	7 August 2009
<b>Last saved</b>	7 August 2009
<b>File name</b>	Draft Casemix Review Report for FaHCSIA 070809.doc
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<b>Name of project</b>	Provision of Casemix Review P090046
<b>Name of organisation</b>	Department of Families, Housing, Community Services and Indigenous Affairs

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## 1. Introduction

The University of Queensland Social Research Centre (UQSRC) was commissioned by the Department of Families, Housing, Community Services and Indigenous Affairs in June 2009 to examine the casemix approach to funding in the context of specialist homelessness services. The resulting literature scan considered three distinct dimensions including:

- Casemix and case-based approaches used by the homelessness sector in Australia and overseas;
- The funding mechanisms currently used by the homelessness sector in Australia;
- Casemix and case-based approaches used to fund community services in general;
- Funding mechanisms used to fund community services.

The primary deliverable outcome of this project will be the following report on the literature scan, which includes:

- A summary of key issues and themes based on the above framework;
- An overall summary of the existing knowledge base as per the literature identified;
- Identification and bibliography of all relevant literature identified through the scan

### *Purpose and scope*

The Department of Families, Housing, Community Services and Indigenous Affairs sought a review of the relevant academic and professional literature as a first step toward meeting the White Paper's commitment to establishing a 'casemix' trial for the funding of homelessness services. The purpose of the project was to identify the current literature relevant to the topic, complete a review and develop a bibliography. This was achieved by carrying out a literature scan designed to identify publications focused on casemix or case-based funding models used by homelessness services. Although the focus was homelessness, the scan also drew on the funding mechanisms being utilised by other community services. The aim was to take account of the literature both in Australia and internationally. The outcomes sought by the literature scan can be divided into two broad, related areas:

1. Approaches to funding allocation, including casemix and case-based funding models, specifically:
  - The current or previous use of casemix or case based funding approaches for the homelessness sector, both in Australia and internationally.

- The current or previous use of casemix or case based funding approaches in other community service sectors both in Australia and internationally, including services to groups of people at high risk of homelessness such as those with mental health and disability issues. This includes a selective examination of the application of casemix in the health sector where it has been extensively used in Australia.
2. Existing funding and resource allocation arrangements for homelessness services, specifically:
- Existing funding models in Australia for services for homeless people, particularly for services assisting clients with high and complex needs and multiple barriers;
  - Existing assessment tools within the homelessness sector which assist in determining resource allocation to providers and by providers to specific cases;
  - International funding models for homeless services that are calibrated according to the complexity of client needs and services required.

The scan was to culminate in a Report which summarised the key issues and themes arising from the review of literature and provide an overall summary of the existing knowledge base.

### ***Method***

The primary method used to achieve the aims of this research project was a scan, review and analysis of the secondary and grey literature. The scan was limited to publications from 1990 onwards and comprised a search of the literature available in Australia and overseas.

The identification and collection of secondary literature began by searching a range of sources including:

- Books and other monographs on the financing of community services including homelessness services;
- Articles in journals and other serials on the community service funding mechanisms including homelessness services;
- Databases searched included: *Social Services Abstracts*, *Sociological Abstracts*, *Medline*, *Rehab. & Physical Med.*, *PsycINFO*, *APAIS*, *Family and Society Plus* and *Google Scholar*;
- Clearinghouses and other web-based information relevant to homelessness.

Not all of the literature relevant to this scan was available through these conventional search methods. Therefore, an exploration of 'grey' literature was also undertaken. The 'grey' literature included

unpublished conference papers, reports, reviews, and evaluations of both government and non-government organisations that related to the funding of services and assessments of these mechanisms.

Keyword searches began by focussing on casemix and case-based funding approaches, with a particular emphasis on funding mechanisms for homelessness services. The search terms and their derivatives included 'casemix', 'casemix funding', 'case based funding', 'case funding', 'assessment tools', 'homeless' and 'homelessness'. The searches found that literature on casemix funding mechanisms relates predominantly to hospital settings in Australia. Some smaller examples emerged in the areas of aged care and rehabilitation in Australia and ambulatory care and education in the United Kingdom. The term 'case-based funding' was found to relate specifically to the Australia Disability Employment Network and was not apparent in the literature on homelessness.

No literature, secondary or grey, was found to indicate that homelessness organisations either in Australia or overseas were using casemix as a funding mechanism. Searches of the terms 'homelessness' and 'funding' found some literature on funding models. However, none of the articles detailed how the resources are received by service providers or allocated to clients. Most articles by homelessness organisations state the amount and source of funding. There were no articles found which discussed assessment tools within the homelessness sector or how resource allocation to providers and by providers to specific cases was determined. As a result of this absence of information, existing and proposed international funding models for homeless services cannot be discussed as part of this literature scan.

As the search for casemix or case-based funding approaches in other community service sectors both in Australia and internationally commenced, it became evident that a range of different funding mechanisms were being used. Therefore, by agreement with the Department of Families, Housing, Community Services and Indigenous Affairs, the search terms were broadened beyond casemix or case-based funding. Keywords used included:

- 'evidence based funding', 'resource utilisation groups'
- 'flexible funding'
- 'formula funding'
- 'funding approach(es)', 'funding model(s)', 'financing community services'
- 'individual funding',
- 'unit-cost funding'
- 'joined-up funding'

- ‘outcome(s) funding’, ‘outcome-based funding’, ‘output funding’, ‘results based funding’ ‘through-put funding’
- ‘resource based funding’.

Searches with these keywords yielded a large number of articles that named funding models in use across a number of community service settings in Australia and overseas. Some of these areas included human services, child services, mental health, aged care and education. Examples of the funding mechanisms being used by these community services will be discussed in Section 3.

## 2. Background

The policy context of this project is the Australian Government’s commitment to address the issue of homelessness during the next decade as set out in *The Road Home: A National Approach to Reducing Homelessness* (Australian Government, 2008). Under the Supported Accommodation Assistance Program (SAAP) the primary focus of specialist homelessness organisations was originally to provide supported accommodation for the chronically homeless or crisis accommodation for the temporarily homeless. Under SAAP 5 and as outlined in the National Affordable Housing Agreement (NAHA) and the National Partnership on Homelessness, there will be a stronger emphasis on prevention and on connecting homeless people to housing, education and employment services. Key roles will be to prevent homelessness, to connect homeless people with mainstream organisations, and to provide support designed to ‘break the cycle’ of homelessness.

This will require a significant change in and diversification of the roles of specialist homelessness services. Under the new policy framework, and as developed under SAAP 5, specialist homelessness services will undertake one or more of the following roles:

- Prevention and early intervention;
- Outreach support to clients in transitional housing;
- Long-term support to clients in permanent, stable housing;
- Connection of clients to mainstream services and programs in housing, health, education, employment, and social support;
- Provision of crisis accommodation and support.

This has required a number of changes in the priorities and capabilities of specialist homelessness services including:

- Development of closer working partnerships with mainstream organisations;
- Development of closer working partnerships with one another;

- More effective assessment of clients to determine the service mix, level and length of support required;
- Greater emphasis on case management of clients;
- Improved coordination using information technology to enhance deployment of services and inter-agency referrals;
- Greater emphasis on achieving and measuring client outcomes.

A reform agenda of this magnitude requires a number of integrated change strategies. Many of these are outlined in *The Road Home*. They include expanding alternative funding models, changes in the services and culture of mainstream organisations, improved service networks and agreements at the local level, more explicit case management, enhancing the skills and career paths of workers in the sector, improved relations between government and the non-government sector, national accreditation and service standards, and a service charter for people who are homeless.

As part of this reform agenda, the Australian Government has signalled its intention to work with the states and territories to review the methods of funding homelessness services. Specifically, the commitment is to undertake a ‘casemix’ pilot trial to ‘better quantify the actual costs of supporting high-needs clients and test whether additional outcome-based performance payments can improve both employment and housing outcomes for people who are homeless’ (Australian Government, 2008:41). It is this commitment that underpins the literature scan undertaken here.

It is widely recognised that government funding methods can have considerable impact on the nature, quality, volume and outcomes of services provided by non-government providers, and that funding methods can have unintended as well as intended consequences. There is a wide range of service funding mechanisms available including indirect subsidies through the taxation system, deficit financing, matched grants, per capita payments, purchase of service agreements, subsidies of various kinds, individualised funding and formula based funding. The tendency across government programs has been to match funding arrangements as closely as possible to the ‘reasonable’ costs of providing services and to link funding, as extensively as possible, to outputs and outcomes. There has also been an impetus to avoid unintended consequences such as incentives to over-servicing or under-servicing. Issues of accountability, reporting and transparency are also of central importance in developing funding arrangements.

Casemix or case based funding approaches have been used most extensively in Australia and internationally in the health system for the funding of services provided in hospitals, rehabilitation services and other health settings. Case based funding has also been used in other areas of health and community service provision such as the Job Services Australia. The core characteristics of casemix approaches to funding of services are:

- Classification of all interventions/treatments as a basis for determining the repertoire and number of services provided by an organisation;
- Ascription of all episodes of intervention/treatment to a category within the classification system;
- Predetermined pricing of all types of procedures/interventions within the classification;
- Emphasis on cost efficiency, effectiveness, cost control, and equity in funding amongst service providers.

The relevance of casemix or case based funding to the objectives enunciated in *The Road Home* is apparent. The Australian Government is aiming to achieve an emphasis on prevention of homelessness, transitions out of homelessness and reductions in the rate of return to homelessness, rather than the prevailing emphasis on provision of crisis accommodation. It aims to achieve more effective assessment of client needs and circumstances and to place greater emphasis on case management and the achievement and measurement of client outcomes. A well constructed casemix or case-based funding system may well provide incentives and disincentives that, in conjunction with other measures, may achieve these transitions.

Nevertheless, a number of questions can be asked about the feasibility and desirability of applying casemix technologies to specialist homelessness services. These include:

- Is it possible to 'standardise' homelessness services to the degree required for casemix funding?
- What measures of client outcomes are appropriate?
- Can casemix funding provide adequate incentives to ensure that services are provided to clients with highly complex needs and can the issue of 'creaming' (providing services to clients most likely to have positive outcomes for minimum input) be addressed?
- How will interventions that do not achieve their desired outcomes be treated?
- What will be the overall impact on the funding levels of homelessness services?

These and related issues will be addressed in the report.

### 3. A review of the literature on casemix

The allocation of public funds, particularly those that adopt a casemix or case based approach, is the focus of this section of the literature scan. In searching databases for the term 'casemix' a large and dense literature was uncovered. The articles and websites almost exclusively related to the health sector, or more specifically, hospitals. A smaller, yet equally useful literature was found in relation to ambulatory care, rehabilitation and aged care. No articles were found that described homelessness, either in Australia or overseas, funded through a casemix approach. The absence of academic articles and limited reports and websites that described the mechanisms for funding homelessness organisations or agencies in Australia in detail was a particular challenge.

A significant number of terms to describe funding models, cognate to casemix, emerged from the literature review. Terms included outcome, output or performance models, results based or unit cost funding and the term flexible funding. In reviewing the material from the literature scan, similarities between the funding models, including casemix were apparent. For example, funding models adopted a formula or classification approach to the allocation of resources. However, the review indicates that the terms used by agencies to describe funding models are not necessarily discrete or clearly defined. Casemix therefore needs to be understood in the context of the broader approach to resource allocation known as formula funding.

This section addresses and discusses four main topics: 1) approaches to the allocation of resources to service provider organisations; 2) formula funding as an approach to distributing resources, including how formula funding encompasses the casemix funding model; 3) cognate funding models as other approaches to formula funding in community service settings; and 4) benefits and constraints of casemix as an approach to formula funding. This section concludes with examples which demonstrate how casemix and the cognate funding models are applied in different settings. Where possible, each example includes the context, approaches to funding allocation, method of payment, assessment or measurement of outcomes and evaluation.

#### *Approaches to resource allocation*

It is common for governments to fund organisations in the community or private sector to deliver services, rather than providing them as direct public services. The separation of the purchase and provision of services is sometimes known as the purchaser-provider split (Bailey and Davidson, 1999). A number of arguments are often advanced in favour of arrangements of this kind. For example, it is argued that such arrangements make it possible for government agencies to define service delivery outcomes in transparent agreements or contracts; to create competition between providers, thereby promoting efficient and equitable distribution of services; and to ensure that the client or end user becomes the focus (Ryan et al., 2000). However, the outcomes of providing services through the

community and private sectors depend on a number of factors including the ways that funds are allocated and distributed by the purchaser to providers. Possible mechanisms include:

1. **Political patronage:** Funding is distributed primarily on the basis of political considerations such as rewarding supporters or responding to voting patterns (Agyemang, 2008).
2. **Historical precedent or incremental budgeting:** providers are “simply given the same percentage annual increase in their level of funding.” (Mayston, 1998:38).
3. **Bids/tendering or performance:** Funds are allocated on a competitive basis through contracts which outline the performance criteria of service delivery. (Bailey and Davidson, 1999).
4. **Actual spending:** Where finances are allocated “according to how much localities actually spend.”(Smith, 2007:4).
5. **Activity-led:** “Activity-Based Costing is a management accounting tool that can be used to determine the level of expenditure that is associated with the achievement of a given target level of service delivery or service outcome.” (Mayston, 1998:50).
6. **Formula funding:** Talib (2001:57) describes formula funding “as a mechanism for the transfer of resources from government recipient bodies using an explicit distribution methodology” to the service provider. The “methodology is based upon disaggregated calculations designed to ensure that transferred resource depends upon certain measured current characteristics of recipients” (Heald and Geaghan, 1994:268).

Formula funding is increasingly a preferred approach to allocating funds to a service provider organisation (Smith, 2007).

### ***Formula funding and cognate approaches***

#### *Formula funding*

Casemix is an example of a funding model which uses a formula to determine how funds are allocated to different service provider organisations. One of the most useful literature sources reviewed was *Formula Funding of Public Services* by Smith (2007), which focuses on the financing of public services from both a theoretical and practical perspective. Many of the other formula funding references that were sourced and reviewed provided concise explanations of the approach from the perspective of allocating resources to schools and higher education institutions in the United Kingdom. These references have all been listed in the Subject Bibliography.

Formula funding is a mechanism for allocating resources “founded on explicit calculations” (Agyemang, 2008:7). Smith (2007:5-7) explains that resource allocation equations are characterised by four primary principles: the devolved delivery of public services, adequate data, performance criteria, and an incentive to maintain the financial allocation implied by the formula. These principles are discussed below.

#### Devolved delivery of public services

The delivery of the public services must, to some extent, be devolved from the purchaser. As Smith (2007:7) explains “...the devolved entities are then responsible for using the funds they receive either to purchase or provide the intended public services, or to devolve the funding to more local institutions.” This principle ensures that there is separation between the purchaser and provider (Heald and Geaghan, 1994) which responds to the desire for more efficient use of resources by reducing purchase costs through monitoring and information demands on the purchaser (Smith, 2007). It also creates a scenario where objective criteria can be used to determine where funds will be allocated (Edwards et al., 1996, Mayston, 1998).

#### Resource allocation equation

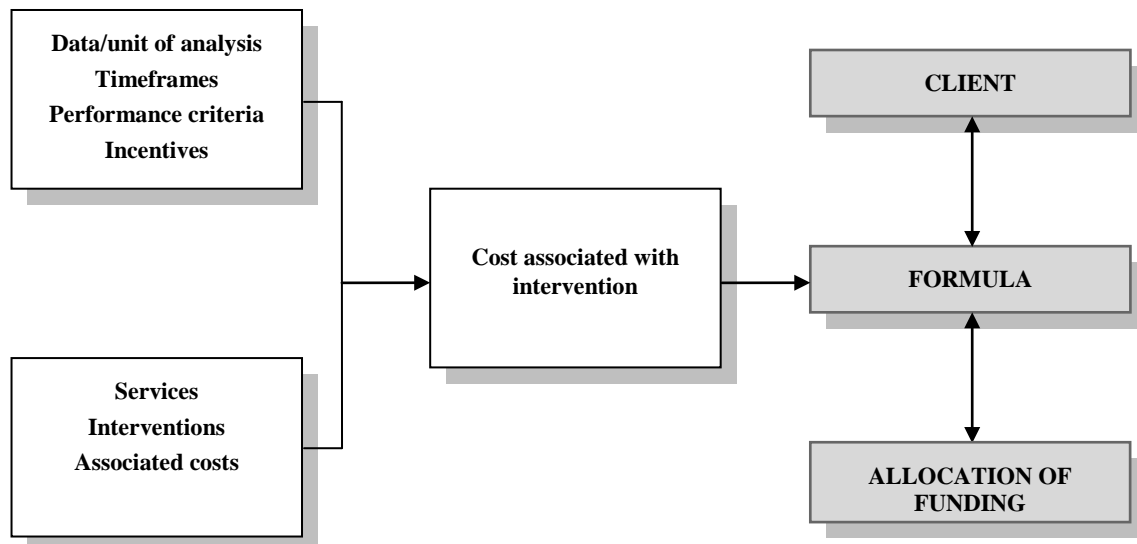
It has been previously noted that formula funding, as a mechanism for transferring funds objectively to devolved service providers, is fundamentally a calculation (Agyemang, 2008). There is no single calculation or formula that determines funding; rather these need to be constructed for every application based on the recipients receiving a service. Therefore the system for allocating resources is relative to the area of service provision to which it relates (Talib, 2001). The development of a resource funding equation must begin with abundant data across organisations offering a particular service (Smith, 2007). The data may relate to the characteristics of recipients, the types of services required, the timeframes needed or the administration costs involved. It is the patterns created by the longitudinal data that allows a functional and accurate formula to be developed. A formula or calculation should be able to incorporate a majority of recipients with similar characteristics because “the ‘resource-earning’ power of a particular characteristics depends not just upon the absolute value for a particular recipient but also upon the values of that characteristics for all recipients” (Heald and Geaghan, 1994:268). The calculation should also include performance criteria against which the delivery of services can be judged by the purchaser (Smith, 2007). Performance criteria might include the number of recipients with a particular characteristic to receive a service in a given timeframe. Finally, as Smith (2007:7) explains that for the approach to work “...there must exist some incentive to adhere to the financial allocation implied by the formula” . The resulting formula can provide “as much or as little prescription, regulation and control” (Talib, 2001:57) as desired by the purchaser and the organisation framework within which it exists.

One of the objectives of the formula funding approach is to provide the devolved entity with a budget that can be used to provide the agreed services (Smith, 2007). The amount of funding transferred between the purchaser and provider is determined by the formula or calculation. It is also "...contingent upon certain measured characteristic(s) of the recipient[s]" (Talib, 2001:57). There are however, two broad approaches whereby the resources can be allocated to the provider. On the one hand, service providers might be reimbursed for a measure of activity that has already been undertaken. Alternatively, funding may be allocated "on the expected level of activity" (Smith, 2007:5). In this case, "...funds are distributed to the institutions as a block grant and each institution has the freedom to distribute it to various departments, as they desire." (Talib, 2001:57). This is also known as a block grant (Mayston, 1998) or capitation funding method (Smith, 2007). Neither approach is free of challenges.

Initially, the formula funding approach was devised as a means of "empowerment rather than of control, the latter being exercised through hierarchical non-financial controls... rather than through the manipulation of financial incentives" (Heald and Geaghan, 1994:267). The approach is more recently associated with the allocation of public funds (Glass et al., 2002) and motivated by arguments of efficiency and equity (Agyemang, 2008, Mayston, 1998). One of the forces driving the use of this approach is the ambition of the purchaser to share the limited funds among providers who will supply services in an optimal fashion (Smith, 2007). It also presents an opportunity to share the resources objectively (Agyemang, 2008) and facilitates the abolishment of historical spending patterns as a justification for resource allocation (Edwards et al., 1996). Certainly one of the strengths of formula funding is the transparent approach offered to resource allocation. The transparent nature is brought about by a specific formula, or objective indicators, which ensure that all service providers adhere to a set of rules available within the public realm (Heald and Geaghan, 1994). Transparency in resource allocation is important in ensuring that allocations are perceived as being fair (Agyemang, 2008). Finally, a formula funding approach enables purchasers to achieve policy related objectives while remaining separate from the actual provision of services (Heald and Geaghan, 1994). It also allows the provider relative autonomy in how to use the fund within a stable framework (Talib, 2001). It should be noted that while this approach gives the provider relative autonomy, the very fact that the provider becomes accountable for variations in efficiency of services provided is an issue as autonomy can then mean differential treatment of people. This is an important point when we are considering groups with complex and unpredictable needs.

The formula based approach to resource utilisation is shown in Figure 1. As the following discussions of casemix and the cognate funding models demonstrate, the formula approach is based on the classification of client characteristics, either their diagnosis, age or support needs. Each classification of client characteristics is associated with specific interventions or services considered to be

appropriate to assist the client. In a formula based approach, it is important that the volume and cost of each service activity or intervention, for each client classification is specified and that this specification relates to an agreed performance criteria or quality standard. There is a cost involved with each service or intervention given to each client of a particular classification. It is on this basis that funding is allocated.



**Figure 1: The formula approach to funding**

#### *Casemix: An approach to formula funding*

The primary purpose of this literature scan is to detail the nature of casemix as a funding mechanism in the homelessness and community service sectors. As explained previously, searches on keywords such as casemix and homelessness produced no results. When the term 'casemix' only was used as a search term this produced a significant number of results which were predominantly associated with the funding mechanisms of hospitals. Some articles and websites also referred to the used of casemix in the areas of ambulatory care and rehabilitation. Despite the large number of results for the term casemix, seven references were particularly useful in providing explanations of casemix, as well as its application in specific settings. These references are indicated in Table 1 and the full details of the articles are located in the reference list at the end of this report.

Casemix is used to describe the type, or mix, of cases within a given service environment. Initially designed to assess and compare efficiency among hospitals, casemix was a measure to classify patients based on the "discharge diagnosis and the procedure performed" ... "it was not intended to be a method of allocating funding" (Tonti-Filippini, 1995:42). Berlowitz et al (1995:163) explain that casemix is simply "a system for placing into groups patients who are similar on some characteristic...". For example, cases such as patients might be classified "into groups which are similar according to

some characteristic, such as diagnosis” (Hutchinson et al., 1991:189). As shown in Figure 2, however, casemix is greater than a simple classification system because it also relates or links a particular group to the services required including the type and volume of intervention activities and the cost associated with such activities (Berlowitz et al., 1995, Hutchinson et al., 1991). By considering both the classification and the intervention required for each case, a casemix measure is derived, which can be used to allocate funding (Fetherstonhaugh, 1996). This highlights the importance of initially clearly specifying the service organisation’s activities for particular groups and how these relate to specific standards of care.

**Table 1: Key casemix references**

Author	Title	Application of casemix
BERLOWITZ, D. R., ROSEN, A. K. MOSKOWITZ, M. A	Ambulatory care casemix measures	Ambulatory care
DOWLING, J	The strategy of casemix	Hospital
FETHERSTONHAUGH, D.	Unravelling casemix and the networks	Hospital
HUTCHINSON, A., PARKIN, D. PHILIPS, P.	Case mix measures for ambulatory care	Ambulatory care
PALMER, G.	Casemix funding of hospitals: Objectives and objections.	Hospital
RAMSAY, M.	Casemix funding of hospitals: Ethical objections	Hospital
TONTI-FILIPPINI, N.	Blame casemix	Hospital

There is no single way to define casemix as it is a mechanism designed for specific institutional frameworks (Hutchinson et al., 1991). The casemix measure is a function of the classification of a particular characteristic, such as a diagnosis, and the service or product supplied to that ‘case’. For example, casemix measures in a hospital setting are usually developed through “highly structured protocols combining clinical inputs with analysis of established databases” (Berlowitz et al., 1995:163) – that is the measures rely upon large longitudinal datasets as well as clinical attributes. It is this benchmarking, or use of adequate data, which is central to the creation of any casemix measure (Dowling, 1995) and ensures that the measures will be effective in allocating resources both efficiently and effectively. A casemix measure must comprise a number of properties including:

- **Validity:** it must accurately measure what it claims to;
- **Homogeneity:** should include individuals with similar characteristics and service needs;
- **Reliability:** Individuals should always be placed in the same group, regardless of how the classification process is carried out;

- **Comprehensive:** it must be able to incorporate most cases encountered in the particular setting;
- **Flexible:** It is desirable for the measure to be used for multiple purposes and be adaptable;
- **Cogent:** it must make sense to its users (Berlowitz et al., 1995:162-3).

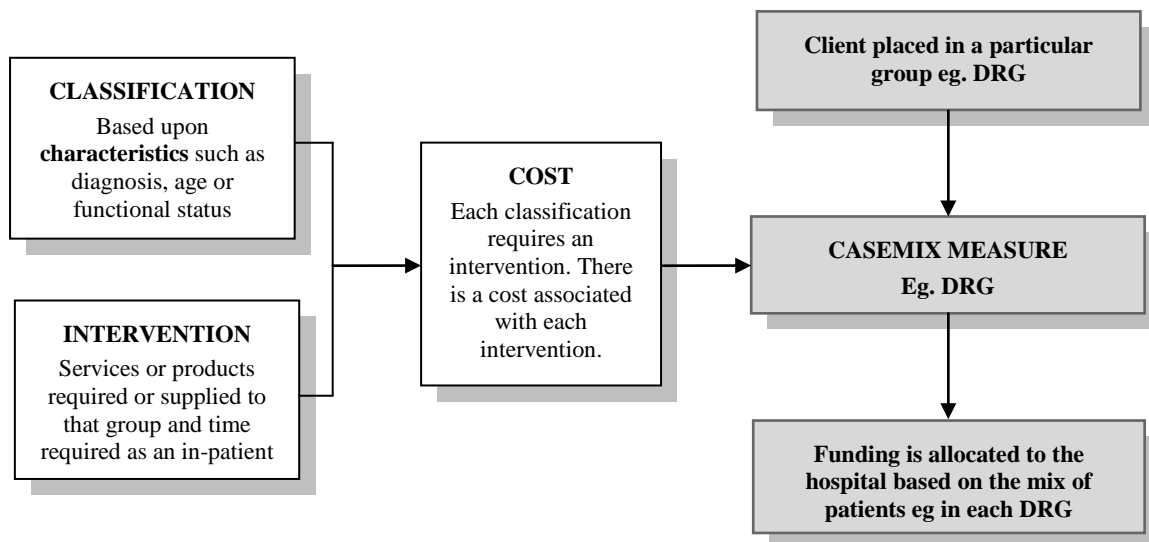
A casemix measure is an example of a funding model which uses a formula or calculation to allocate funds to devolved entities. Table 2 shows two examples of how a casemix measure might be generated.

**Table 2: Generating casemix measures or formula**

Example	Name of measure or classification	Classification			Intervention	Purpose of measure
		Unit of analysis	Input to measure	Data sources used to generate measure		
A	Diagnostic related group (DRG) XYZ	Single visit to a hospital	Primary diagnosis	Medicare	A particular procedure and time required in hospital	Patient discharge
B	Ambulatory patient groups	Single visit	Primary diagnosis, procedures, age, sex, disposition	Medicare, ambulatory database, relative value scales	Physician time or procedure	Reimbursements

As Table 2 indicates, the classification system used as a basis for the development of a case measure in Example A is called a diagnostic related group (DRG). In Australia, the DRG classification system was originally designed for inpatient hospital services and used to examine how this classification system could direct casemix funding for hospitals (Duckett, 2007). A DRG is basically a way of grouping patients with similar clinical characteristics. Much like a formula, the classifications are the result of significant data on patient diagnosis captured in individual hospitals or national datasets, for instance Medicare, and also take into account what intervention or procedure is considered to be required to achieve a particular performance standard, for example, discharge from hospital. In Example A, the DRG classification system takes into account the expected procedure, including the volume and mix of services associated with such procedure and the expected length of stay for a patient in a particular classification. Therefore, some DRGs contain patients with more complex or severe health needs that may require more complex procedures and longer timeframes in hospital than other DRGs, the assumption being that patients in the same DRG will consume similar levels of resources (Duckett, 2007). The DRG in Example A is linked to the discharge of the patient, and therefore provides a way of evaluating and comparing efficiencies of organisational activity for the same groups of patients. As Figure 2 shows, every classification and intervention is associated with a cost. Using the DRG classification system, funding is allocated to a hospital based on the number of

patients expected to be discharged with a given DRG, in much the same way that occurs in a process of formula funding. Importantly, this funding allocation is based on the relative cost of a ‘typical case’ representative of a DRG (Duckett, 2007). Case Study 1, located at the end of this section, further demonstrates how a casemix approach to resource allocation operates in the Australian health system.



**Figure 2: Resource allocation using casemix measures or formula in a hospital setting**

Ambulatory care is another setting where a casemix approach to resource allocation has been used. Ambulatory care refers to the services that health professions provide to those who are not currently admitted to the hospital (Hutchinson et al., 1991). These professionals might include doctors, community nurses, those that work in specialty group practices or community health centres and hospital outpatient departments. The funding approach of these community services is another example of where a formula, particularly the mix of cases in that formula, relates to the amount of resources allocated. The example of the funding model used for ambulatory care is useful because it shows how casemix measures can operate across different health settings offering a number of allied services simultaneously (Berlowitz et al., 1995). In an ambulatory care setting, the model or system for deriving a casemix formula varies considerably from its application within the hospital setting due to the variability of settings and procedures or interventions. Ambulatory care settings might include medical clinics, community health centers, or hospital outpatient departments (Berlowitz et al., 1995). Moreover, the services that these different ambulatory care settings provide are typically diverse, as are the number of care episodes and performance standards to which service providers work – elements which make the collection and classification of patient related data difficult (Hutchinson et al., 1991). The diversity of the services required a number of casemix measures which could include outputs such as clinical outcomes; inputs such as patient characteristics or diagnosis; or the source of

the inputs such as clinical or administrative databases although, “most measures to date have looked at resource utilization” (Berlowitz et al., 1995:164).

Similar to a casemix funding model in the hospital setting, those in ambulatory care are the product of a classification based on type of setting within which the intervention is provided as well as diagnostic characteristics of the patients. Both the classification and intervention are associated with a cost. It is the mix of patients seen by a service provider that determines the level of funding allocated. Example B in Table 2 depicts the “Ambulatory patient groups (APG)” classification system for measurement of casemix in an ambulatory care setting. The APG is based on a single visit where the diagnosis is determined. Based on the data from a range of sources, the intervention or service required is specified, as is the estimated cost. The APG measure of casemix determines how much the service provider should be reimbursed for a particular group of patients. One of the challenges of casemix in this context is the large volume of contacts required for people with complex needs, which raises particular difficulty concerning the collection and reporting of data required for determining casemix. The application of a casemix approach in an ambulatory care setting is presented in Case Study 2, also located at the end of this section.

The examples demonstrate how casemix, as a funding model, can be understood in the broader context of formula funding. Several distinguishing characteristics of the approach include:

1. Funding is linked to the nature, complexity and severity of individual client groups and the interventions or services considered appropriate;
2. Each bundle of services or interventions given to a client group has an associated cost determined by prior estimations;
3. Funding is therefore linked to throughput rather than outcomes-of the service;
4. Service providers are funded based on an estimation of the mix of services they agree to provide over the funding period;
5. Service providers are accountable for the number and types of services provided over the funding period;
6. Expenditure is capped for a defined episode of care; or for a specified procedure/intervention.

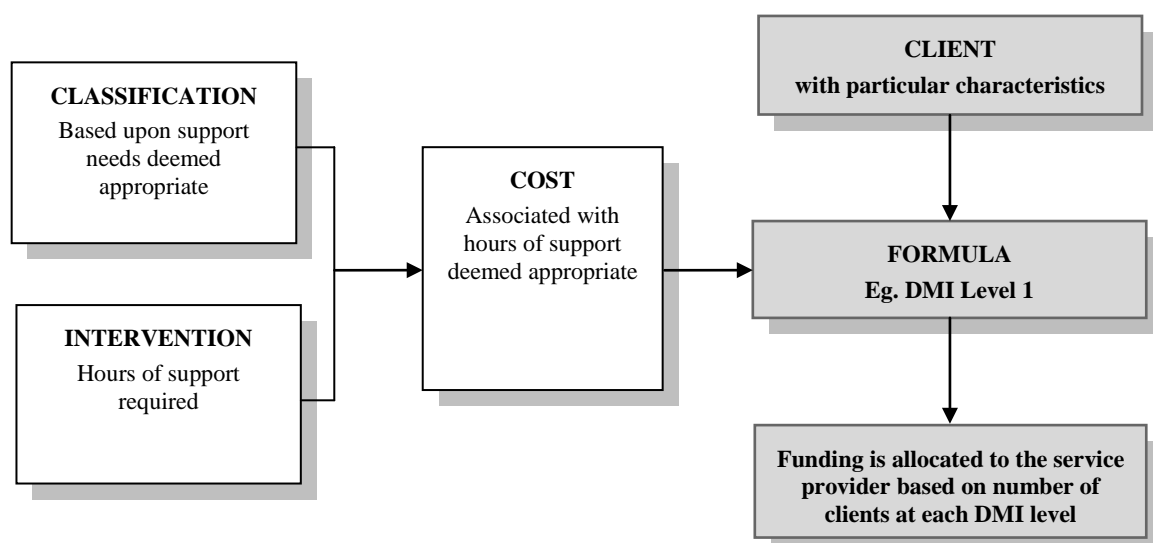
### ***Cognate models to the formula funding approach***

From examination of the casemix or case based funding used in other community service sectors, it is clear that there are many terms used to describe funding models. These terms do not appear to be

discrete or definitive funding models rather, like casemix, they are based on a formula funding approach. As Heald and Geagughan (1994:268) explain, it is easy to recognise funding models which follow a formula funding approach “... even though formal definitions look rather cumbersome.” That is, community sectors might refer to the funding models used by different names, however, they are generally characterised by a devolved delivery of public services and a calculation which determines how resources are allocated. Case-based, outcomes-based and unit cost funding models are explained briefly below. Flexible funding is another model which, although similar, is theoretically different to a formula approach. It is, however, useful to acknowledge because of the way that it is used to distribute funding to numerous service providers. From the literature scan, it is evident that the application of these models and their strengths and weaknesses are sometimes difficult to discern. Hence, the next section includes a number of case studies which demonstrate how these models have been applied within the community service sector.

#### *Case-based funding model*

The case-based funding model, not unlike casemix, allocates resources based on the mix of cases being supported by a service provider. The allocation of resources through a case-based funding model is shown below in Figure 3. A formula is derived on the basis of classification, intervention and costs. Clients are assessed and a service provider is allocated funding on the basis of the number cases within the formula. An illustration of case-based funding, located in Case Study 5 at the end of this section, which provides a useful context to understand this funding model. For example jobseekers are assessed for their support needs on a Disability Maintenance Instrument (DMI). There are a number of different levels which correspond to the hours of support which may be required. Each level is allocated a cost and service providers are allocated funds based on the number of clients they support at each level.



**Figure 3: Resource allocation using a case-based funding model**

*An outcomes-based funding model*

The terms outcome-, output-, performance- and results-based funding essentially describe the same method of community service funding and are often used interchangeably. Funding allocation under these models is based on the calculated cost of the services accessed by clients or the outcomes of the service. In these models, the primary aim is to fund a program based on the result, output or outcome experienced by those groups and individuals utilising the service. Cordon & Thornton (2003:8) explain in “the results-based funding models providers are compensated according to the measured outcome of the service they have provided. The model depends on being able to identify and measure appropriate components of targeted outcomes to which payments can be attached. In terms of human services provision, the outcomes are the impact on participants of the results of the programme.” Further, the United Way in Franklin County (1997) (cited by Julian, 2001:852) define outcomes-based funding as “the process of making funding decisions based on the ability of program providers to produce and demonstrate results that contribute to the solution of critical community problems...”.

Since the mid-1990s the focus of human services funding has shifted from an input-based funding to performance and outcomes based mechanisms (Julian, 2001) where organisations are paid for what they have provided (Dyson et al., 2000). Input-based funding models utilised prior to outcomes-based approaches involved payment based on units of service delivered, while outcomes-based approaches involve payment based on specific outcomes that are achieved (The National Supported Employment Consortium, 2001).

Outcomes-based funding is a comprehensive and systematic approach to monitoring and reporting data that can indicate the extent to which service provisions directly result in desired benefits or changes in participants (Crook et al., 2005). An outcomes-based funding model encourages an organisation or service to work more efficiently with their clients as they can be more client-focused and have more clarity about what it is they are trying to achieve (Burns and Cupitt, 2003). Measuring Program Outcomes (1996:1) (cited by Crook et al., 2005:379) define outcomes as “benefits or changes for individuals or populations during or after participating in program activities. They are influenced by a program’s outputs. Outcomes may relate to behavior, skills, knowledge, attitudes, values, condition, or other attributes. They are what participants know, think, or can do; or how they behave; or what their condition is, that is different following the program.” It is also the case that performance or outcome based mechanisms can encourage organisations to focus on those clients that are likely to demonstrate that the organisation is achieving the specified outcomes.

*A unit cost funding model*

A unit cost represents the standard cost required to provide a service or produce a product, such as the average cost of a particular health care treatment or the cost of one unit of goods. These units may be expressed in a number of ways, such as the number of individuals serviced, hours of rehabilitation, or the number of home visits. For example, a Service Agreement could require that a housing organisation supply 1,500 hours of independent living skills training to clients with a unit cost of \$27. On the basis of this agreement the organisation would be paid \$40,500 to provide this training (Summers, 1997). Therefore, instead of assigning a predetermined budget to a particular group, client or individual, unit costing allows for a mix of resources and services and allows funding to be individually developed and allocated based on the individual or groups' specific needs.

Unit cost calculations can be estimated using two different approaches (Department of Community Services, 2008):

1. Top-down approach: Assemble all direct, indirect and overhead costs then trace all direct costs to the activities. Next, allocate indirect costs to the activities. Finally, divide the total unit costs for each activity by the total number of units. Most importantly, the set of activities must be agreed upon to reflect the nature and the scope of the service provision.
2. Bottom-up approach: Rather than using actual prices or inputs, this approach develops standard unit costs based on standard input prices and level of input. This is a prospective costing method and can assist in determining why some costs vary and whether services are delivered correctly as it encourages a thorough understanding of the services. The resource profile is developed for each activity using best practices, input cost assumptions are estimated and then the total unit costs are divided by the number of units.

At the outset, these funding models may each appear unique and unconnected. To demonstrate the consistencies between them, Table 3 compares examples of casemix, case-based, outcomes-based and unit cost funding models with a formula funding example. In each example, it is possible to identify a formula which is based on both the classification of an intervention, the outcomes which are expected, a clear understanding of how the costs of the formula are calculated and a payment to the devolved entity. The examples all reflect the principles of the formula funding approach. All of the case studies referred to are detailed in full at the end of this section.

**Table 3: Understanding cognate funding models in terms of a formula funding approach**

Name of funding model	Formula	Casemix	Case-based	Outcome-based	Unit-cost
<b>Example</b>	Case Study 4	Case Study 1	Case Study 5	<b>Case Study 6</b>	Case Study 8
<b>Context</b>	UK education system	Hospital	Disability employment network	NY State office of Mental Health	Higher education Ireland
<b>Formula</b>	Student and school characteristics	DRGs	DMI	Based on consumer needs	
<b>Unit of analysis or classification</b>	Based on student population and school characteristics	Diagnosis, treatment and time in hospital	Level of support considered to be needed	Level of support considered to be needed	Subject, faculty and type of enrolment
<b>Services provided or intervention</b>	Education at an appropriate level for a given age	Treatment	Assistance in obtaining and maintaining employment	Assistance in obtaining and maintaining employment	Education in a particular faculty
<b>Outcome of service or intervention</b>	An education	Discharge	8 hours of work per week for 13 weeks	Employment retention (various milestones)	A degree
<b>Basis for cost of formula</b>	Number of students in attendance	Mix of weighted DRGs	Number of clients at each DMI level	Paid on achievement of each milestone	Number of students by subject, faculty and type of enrolment
<b>Method of payment to devolved entity</b>	Annually in March	Prospective	Prospective and ongoing	Ongoing	Retrospective

### *Flexible funding models*

The final model, that emerged while investigating resource allocation to community service providers, was flexible funding. Although theoretically different from the formula funding approach, flexible funding is relevant to the aims of this literature review. Flexible funding, like a formula approach, responds to the complexity of clients' needs or outcomes and in doing so, may be a useful approach for allocating resources to the homelessness sector. As reiterated in Figure 4, formula funding equates to the number of clients, or cases, with a given set of characteristics to whom a service is provided and is based on the cost for a 'typical client' representative of the group. In contrast, flexible funding allows multiple resources to be pooled and allocated in response to client needs or complexities. Put simply, flexible funding allows for a more adaptable response to an individual or group's assessed needs. This approach to service delivery means that support packages can be tailored to the individual or group and can be more strengths-based and creative (RPR Consulting, 2002). Flexible funding can also be utilised as an individualised funding mechanism and is used in this way by a variety of community services including juvenile justice, education, disability and employment. Agencies such as these utilise flexible funding in two primary ways:

1. By allowing agencies and case managers to use their funding in a way that “effectively uses resources and is based on incentives for achieving desired outcomes” (Department of Children's Services, 2007:2) by allowing them to access services when a need first arises, rather than at a time of crisis.
2. By providing families (or individuals) with a budget that allows them to choose and purchase services from a menu of permitted service options that they believe will be of most benefit to them. This enables families to tailor their services in a way that best suits their needs (Department of Mental Retardation, 2008).

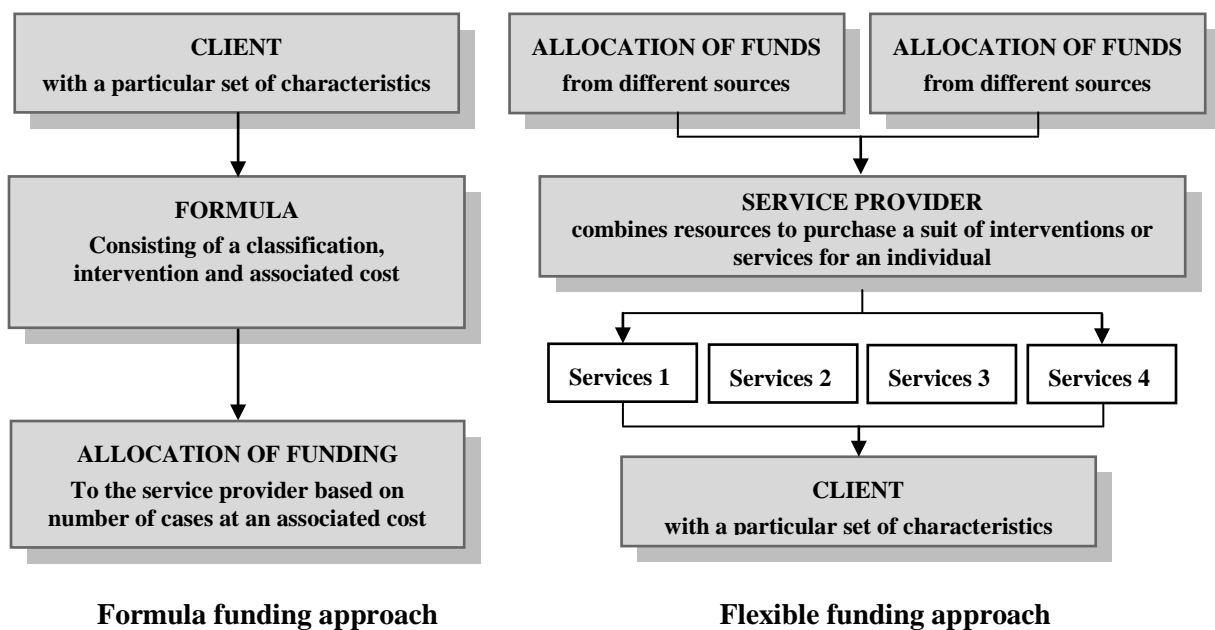


Figure 4: Formula vs flexible funding approaches

### *A critique of casemix as an approach to formula funding*

The purpose of this section is to synthesise the advantages and disadvantages of using casemix as an approach to funding allocation. As much of the casemix literature was found in the health sector, some of the strengths and weaknesses referred to may only be applicable to these settings. The primary advantages of a casemix approach to funding allocation include the incentive for efficiency and accountability of resource use, an organisational tool for management of caseloads and resources, and transparency of resource allocation and accountability for expenditure. More disadvantages than strengths of a casemix approach are reported in the literature. A key objection to a casemix approach focuses on the impact of the services or interventions experienced by the individual. This objection highlights the importance of defining clear and useful outcomes as part of the casemix formula. A further objective concerns the tensions between, on the one hand, efficiency of service provision and on the other, equity of service provision and service delivery to different client groups, particularly those who may have more complex and fluctuating needs. The advantages and disadvantages of a casemix approach to funding are discussed below. Moreover, the case studies located at the end of this section also include, where evaluations were available, a critique of the funding models. These show the advantages and disadvantages of formula funding approaches as they apply to different community sector settings.

#### *Advantages of a casemix approach to funding allocation*

##### **1. Management of available resources and payment**

Casemix can be viewed as an organisational tool that offers a form of case load management and payment management within a service provider setting (Dowling, 1995, Fetherstonhaugh, 1996, Hutchinson et al., 1991).

##### **2. Identify how resources are being used**

A casemix approach provides an opportunity to understand how resources are utilised in a particular setting or how the use of resources might be improved (Dowling, 1995, Hutchinson et al., 1991). It therefore allows an organisation to manage the demand or caseloads within the existing resources. Importantly, understanding how the resources are being utilised provides the basis for an objective measure of, and transparency to the process of, funding allocation (Palmer, 1996, Smith and O'Sullivan, 2004).

### 3. Comparison of resource utilisation

Casemix allows for the comparison of similar services in terms of both costs and outcomes to be achieved across different service providers (Fetherstonhaugh, 1996, Hutchinson et al., 1991, Dowling, 1995). Palmer (1996) argues that in allowing for comparison, a casemix approach also promotes efficiency by encouraging reductions in costs. As a result, casemix has been criticised for not representing a true measure of the service provided and for not addressing specific client needs, thus potentially failing to ensure a minimum quality of care (Hutchinson et al., 1991).

#### *Disadvantages of a casemix approach to funding allocation*

##### 1. Client outcomes

In a hospital setting, a casemix approach effectively means expenditure is capped for a defined length of stay since it is based on the number of patients discharged within a given time, known as throughput. As a result, casemix has been criticised for not representing a true measure of the service provided, or required to meet client needs, for example ensuring a minimum quality of care (Tonti-Filippini, 1995, Ramsay, 1996, Palmer, 1996). Consequently, using hospital discharge, or rather length of stay, as a measure of efficiency of resource use by hospitals has been argued to be problematic. For example, it has been argued that this approach encourages hospitals to work toward the average, to reduce length of stay and average cost per patient, and to increase throughput (Draper, 1999). As a result, patients may be discharged prematurely and without sufficient supports (Lin and Duckett, 1997). Early discharge equates to lower operating costs and therefore financial gains for the organisation, while delayed discharge means higher operating costs and the organisation incurs the financial penalty (Tonti-Filippini, 1995). This highlights the significance of the performance standards that are adopted with a casemix funding approach in all types of service settings.

##### 2. Complex cases

While casemix encourages organisations to become more efficient, it also provides a disincentive to take on more complex cases. Initially in the hospital setting, this approach was criticised for overlooking the complex and severe cases which required longer periods of hospitalisation (Williams and Shah, 1995), and for creating the conditions whereby slow to recover patients may be discharged prematurely to ensure that outcomes are met (Tonti-Filippini, 1995). Similarly, it may be the case that in an ambulatory or community setting, the more complex cases are avoided in favour of those cases that ensure timelier throughput. In this sense, a casemix approach is likely to encourage a focus on those clients who fit neatly into the formula and to provide a disincentive to respond appropriately to those more complex needs involving mental illness, ageing or disability (Fetherstonhaugh, 1996). Remote or rural centres or smaller organisations may also be unable to provide a service for the cost

indicated by the casemix formula (Australian Health and Aged Care, 1995). Moreover, in the event that the outcome targets, for example throughput of patients, are not met, funding may be decreased in subsequent years.

### **3. Classifying cases**

As noted above, one of the disadvantages of casemix is the potential for complex cases to not fit neatly into the classification or formula (Palmer, 1996). A challenge of casemix, and any formula based funding mechanism, is the development of the formula or calculation on which to classify people (Hutchinson et al., 1991, Fetherstonhaugh, 1996). A measure or formula needs to be specific enough to represent all clients, to ensure that not all clients are classified into a single group (Hutchinson et al., 1991). This requires comprehensive and precise data or information on the different types of cases that may arise in a given setting (Hutchinson et al., 1991) to ensure that the needs of more complex cases are met (National Council on Intellectual Disability, 2008).

### **4. Conflict between equity and efficiency**

The potential for conflicts between equity and efficiency is commonly highlighted in relation to casemix in hospital settings (Palmer, 1996, Tonti-Filippini, 1995). The tensions between equity and efficiency are particularly evident when hospitals are caring for complex clients, or are located in small or remote centres while simultaneously seeking to achieve efficient discharge rates. With expenditure capped for a specified episode of service and the tendency to over-emphasise efficiency, there is the potential under a casemix approach for the focus on organisational goals such as throughput to overshadow the patient or client goals and to undermine quality of care. Moreover, the approach does not fully account for the socioeconomic capacity of a region, or its capacity to deliver within a given timeframe or budget. Consequently, one of the most substantive advantages of casemix from a financial point of view is also its biggest disadvantage where clients are concerned.

### *Examples of formula funding approaches*

A number of case studies are presented in this section to demonstrate the synergies between casemix and funding models which follow a formula funding approach. Each case study begins by outlining the context for the funding model, followed by the application of the funding model, methods of payment, measurement of outcomes, and an evaluation of the funding model. In some case studies it was not possible to source information under each of these headings.

#### *Case Study 1: Casemix funding models in the context of the Australian health system*

Victoria was the first state in Australia to adopt casemix funding in the hospital setting on 1st July 1993 (Duckett, 1998). The rationale for introducing casemix funding in Victorian hospitals was to reduce expenditure whilst maintaining the level of service (Sharma, 2008). Prior to casemix funding hospital services were funded based on a global budget that was either adjusted upwards to account for inflation and new programs, or downward to account for anticipated savings (Sharma, 2008).

#### Approach to Funding Allocation

The Victorian health funding formula for hospitals incorporates a fixed component to cover hospital overheads and a variable component determined by a casemix funding approach (Duckett, 1998, Fetherstonhaugh, 1996). The casemix funding approach used here also represents a type of output funding (Fetherstonhaugh, 1996:2). As described, by Berlowitz et al (1995) in the context of ambulatory care, the output produced in the Victorian Health System is that of resource utilization (Berlowitz et al., 1995, Brook, 2009).

In the healthcare system, casemix funding models are characterised by a system of classification whereby patients with similar clinical characteristics are grouped together, principally based on their diagnosis and associated resource utilisation. The Victorian health system uses a classification system which has been revised many times since its inception; the Australian Refined Diagnostic Related Group (AR-DRG) coding system (Department of Health and Aging, 2009b). There are approximately 700 diagnoses or procedures in the current version of the AR-DRG and these can be regrouped into 23 major diagnostic categories (Department of Health and Aging, 2009a). In the Victorian Health system, each DRG has been assigned a cost value, which is known as the Weighted Inlier Equivalent Separations (WIES) (Brook, 2009). The WIES determines the amount by which the hospital will be reimbursed based on the discharge period predicted from equivalent or regular (“inlier”) cases which relates to the resource allocation. Victoria has developed its own clinical cost system to set weights by reference to records from previous patients, although other states have adopted nationally developed weights (Duckett, 1998). There are different mechanisms for determining reimbursement for atypical outlier cases (Sharma, 2008). A patient may be classified in up to 10 DRGs and each time a patient is discharged, the formula is applied by multiplying the number of discharges by the weight for the

relevant DRG (Sharma, 2008). The resulting “weighted throughput” is used to assess the output for the purposes of funding (Sharma, 2008). The health department provides funding based on the WIES and determined by the available budget (Sharma, 2008).

#### Method of Payment

According to Sharma (2008) casemix is a prospective payment system (PPS) or case based payment system.

#### Evaluation

Sharma (2008) suggests that a PPS has the advantage of sharing the financial risk between the health department and the hospital. The weighting itself is calculated by gathering data from a large number of different hospitals and it can be used reliably at any hospital because there tends to be no difference in the relative weighting within any one hospital (Brook, 2009). However the measured outcomes are related to discharge and not the quality of the treatment. There is a danger of hospitals selecting which cases to treat based on maximising the reimbursement rather than focussing on the needs of the patient (Sharma, 2008). In the past, the Victorian funding formula has been subject to criticism and because casemix funding relies on calculating averages, it may not be appropriate in all situations (Australian Health and Aged Care, 1995). It has been criticised for being an overly complex system (Australian Health and Aged Care, 1995) which relies on coding by clinically proficient coders to ensure costs of care are fully met (Robinson, 2008). However, casemix has also been credited with reductions in waiting times, efficiencies in performance and cost savings (Australian Health and Aged Care, 1995). These financial incentives are created by permitting hospitals to retain any savings resulting from a discrepancy between the DRG payment and the actual treatment costs (Australian Health and Aged Care, 1995). Additionally incentives may include bonuses to hospitals who achieve particular patient-related targets (Australian Health and Aged Care, 1995).

*Case Study 2: Casemix funding models in the context of ambulatory care*

In the 1990s, there was a shift in the United States from providing acute care in hospitals to providing more outpatient services known as “ambulatory care” (Berlowitz et al., 1995). Subsequently, new casemix models were developed that were more relevant to the many different ambulatory care settings, which included “physicians' offices, multispecialty group practices, community health centers, hospital outpatient departments, emergency departments, health maintenance organizations (HMOs), and ambulatory surgery centers” (Berlowitz et al., 1995:163). In Australia, the application of casemix principles to the funding of hospital outpatient services was introduced in Victoria in 1997 (State Government of Victoria, 2009). The aim was to achieve a profile of services, improve services, maintain efficiency, identify gaps, improve planning and develop fair systems of allocating funding to hospitals (State Government of Victoria, 2008).

Approach to funding allocation

The Victorian Ambulatory Classification System (VACS) for outpatient services is used in 19 Victorian public hospitals including the Royal Childrens' Hospital in Melbourne (State Government of Victoria, 2009). There are 47 categories that non-admitted service “encounters” can fall into. Of these, 35 are weighted as medical/surgical clinic encounters (The Royal Childrens' Hospital Melbourne, 2008, State Government of Victoria, 2009). The weights are based on information provided by VACS hospitals (State Government of Victoria, 2008) and the weighted amount is used to determine the dollar value allocated by the Department of Health Services (The Royal Childrens' Hospital Melbourne, 2008). The unweighted categories relate to the number of visits by patients to allied health services (State Government of Victoria, 2009). These are calculated at a set rate for the purposes of funding (State Government of Victoria, 2009).

Method of Payment

Similar to other examples, the use of casemix funding in ambulatory care settings resulted from the “need to develop a prospective payment system that promotes the efficient utilization of resources” (Commonwealth Rehabilitation Service, 1994:168).

Evaluation

There are several inherent problems to casemix funding in ambulatory care settings. A precise diagnosis may not be possible in the early stages and generally it is more difficult to identify the onset of the disease and hence the episode of care (Berlowitz et al., 1995). Defining the episode of care and disease onset is also likely to be complicated for patients who experience relapse (Berlowitz et al., 1995). There are also several factors that make it more difficult to obtain good output measures for quality of care in the ambulatory care setting (Berlowitz et al., 1995). For example, since different providers are likely to be involved in the provision of ambulatory care, there is likely to be greater variation recording information relevant to the type of care provided (Berlowitz et al., 1995).

Furthermore there may not be adequate incentives to code diagnoses accurately (Berlowitz et al., 1995). The success of casemix in the context of ambulatory care has been limited by inadequate administrative databases in various ambulatory care settings which also make it difficult to accurately calculate the total cost of care (Berlowitz et al., 1995). It is not clear to what extent these factors have been overcome in the Victorian ambulatory care system. However, due to variations in types of ambulatory care, it is suggested that the development of casemix models should be unique to each setting (Berlowitz et al., 1995).

*Case Study 3: Casemix funding models in the context of aged care*

Casemix funding models which differed from those used in hospitals settings were developed for aged care because medical diagnosis alone is not sufficient to meet resource requirements of the elderly in a hospital setting (Carpenter et al., 1995). For example, the elderly are often more likely to experience multiple health problems, disability and dependency (Carpenter et al., 1995). In the Quebec province of Canada, models have been developed which can be applied to elderly nursing care whether in the home or hospital environment (Tousignant et al., 2003). In America, funding models have been developed that apply particularly to home care, which has also been the subject of investigation in Western Australia (Calver et al., 2004).

Approach to Funding Allocation

The casemix measure or classification system used to allocate funds for aged care differs between countries. For example, casemix funding in some provinces of Canada uses Resource Utilisation Groups (RUG-III), which were developed in America to classify care needs of elderly clients (Calver et al., 2004). This involved a shift from a primarily diagnostic classification system to one based on the degree of disability (Tousignant et al., 2003). An alternative RUG-III model was developed for the home care situation using the RUG-III/HC (Bjorkgren, 2005, Calver et al., 2004). The RUG-III/HC incorporates various activities that form the basis for daily living (Bjorkgren, 2005). In Quebec, the preferred classification system has been the Functional Autonomy Measurement System, known as the SMAF (Tousignant et al., 2003).

The RUG-III funding model relies on inputting a Minimum Data Set (MDS) for each person (Department of Health and Aging, 2003, Hirdes, 2002). There are seven resource utilisation groups in this model and they are arranged hierarchically according to cost (Carpenter et al., 1995). The SMAF, favoured in Quebec, differs in its classification of clients according to the type of disability and uses categories that are more “clinically meaningful” (Tousignant et al., 2003). The SMAF measures functionality in five categories; mobility, communication, mental functioning and two groups measuring different aspects of daily living (Hebert et al., 2001, Tousignant et al., 2003)

Evaluation

The application of casemix across different areas of aged care demonstrates its versatility as a funding model. Resource Utilisation Groups are particularly suited to the needs of the elderly and have been validated in a number of European nursing homes (Carpenter et al., 1995). Resource Utilisation Groups aim to achieve efficiencies in a variety of areas, such as financial costs and productivity (Bjorkgren, 2005). The criticisms that apply to casemix generally also apply in the context of aged care; that the quality of care can be compromised by the focus on efficiency (Bjorkgren, 2005).

*Case Study 4: Formula funding models in the context of the UK education system*

Formula funding was introduced in the higher education sector in the United Kingdom “to give transparency and objectivity to the selectivity of resource allocation” (Talib, 2001:59) and to step away from historic patterns of spending (Levacic, 1993). In this example, the purchaser of services is the central government and local education authorities (LEAs) are the devolved entities that carry out educational objectives.

Approach to funding allocation

Funds are distributed, or “subcontracted” to individual schools. The resource allocation formula for school budgets is based on factors such as the age profile and number of students at the schools within the LEAs (Edwards et al., 1996). In this sense, the funding is based on the mix of pupils and is therefore an example of a casemix funding model. Levacic (1993) explains that 75% of the budget held by the LEAs must be distributed to schools by the number of age-weighted pupils and the central government encourages 25% to be allocated to students with special educational needs (Levacic, 1993). This is an example of potential prescriptive, or flexible, nature of formula funding approaches.

The implementation of formula funding for schools has created the opportunity for schools to develop their own tailor-made budgets as each school develops its funding formulae in consultation with their LEA. In November of each year the budget undergoes formal review by the respective LEA (Surrey County Council, 2009a). Whilst the factors used in the formula are prescribed by statutory regulation, schools can liaise with their LEA to determine which of these criteria they want to use in their own funding formula and how these criteria should be weighted (Bracknell Forest Council, n.d.). Surrey County Council (2009b) list the main formula factors included in their formula funding processes and such factors include pupil led funding (e.g. number on roll), site specific factors (e.g. floor area, tree maintenance) and school specific factors (e.g. significant change in pupil numbers, rent, rates).

Whilst formula funding is employed to allocate resources for specific purposes, schools are given the ultimate decision making rights when it comes to deciding how to spend the money they are allocated. However, funds must be spent on general purpose items and must adhere to the conditions of the Council’s Scheme for Financing Schools (Bracknell Forest Council, n.d.). Historic data largely determine the value of funding attached to Formula Funding Factors and this data is updated annually to ensure that inflation and other budget developments are taken into account (Bracknell Forest Council, n.d.).

## Evaluation

### Benefits of formula funding

- Formula funding can highlight discrepancies in factors such as number of teachers (Levacic, 1992)
- Promotion of cost efficiency over time (Levacic, 1992)
- The potential to be a fully transparent method of funding (Heald and Geaghan, 1994, Agyemang, 2008)
- Formula funding represents an objective method of resource allocation (Heald and Geaghan, 1994, Agyemang, 2008)

### Constraints of formula funding

- Schools with ‘undesirable’ factors such as a high proportion of disadvantaged pupils are the ones most likely to experience budget losses (Levacic, 1992)
- Smaller schools (both primary and secondary) are more likely to experience budget losses than larger schools (Thomas & Bullock, 1992) (cited by (Levacic, 1992).

## Summary

Whilst formula funding can be seen to be a more transparent and cost efficient method of funding education institutions there are issues that cannot be overcome. The funding of education institutions remains a political issue and the power of governments cannot be overcome. For example, in higher education institutions in the UK the government still determines student fees, meaning that formula funding can only go so far in determining the income they receive (Heald and Geaghan, 1994).

However, formula funding represents a significant step away from historical funding in which institutions and agencies are simply allocated a budget (or dollar value) related to that received in previous years, whilst taking into account inflation and market changes.

*Case Study 5: Case-based funding in the context of disability employment networks*

The Disability Employment Network is a program within the Australian Department of Education, Employment and Workplace Relations which aims to assist job seekers with a disability to obtain and maintain employment. This program is delivered by a number of organisations around Australia (Department of Education Employment and Workplace Relations, 2007). Block grant funding was the previous mechanism for financing the disability employment network. It was a relatively opaque funding mechanism and funding to organisations was not matched to individual support needs (Department of Education Employment and Workplace Relations, 2006a:45). The case-based funding arrangement was established ‘as part of a broad reform agenda for disability employment assistance and rehabilitation services’ (Department of Education Employment and Workplace Relations, 2006a:8). The aims of the reformed disability and employment agenda were to:

- Boost employment outcomes
- Enhance access and choice in employment for people with a disability
- Render funding arrangements more equitable and more closely related to the support needs of service users
- Provide the Australian taxpayer with higher levels of accountability (Department of Education Employment and Workplace Relations, 2006a:8)

Approach to funding allocation

In contrast to the previous funding arrangement “case based funding is a concept which links individual support needs to one of four funding levels” (Department of Education Employment and Workplace Relations, 2006b:2). “Job seekers with disabilities are classified to match [the] funding [required by the individual] to the number of support hours that are needed” (Department of Education Employment and Workplace Relations, 2006a:31). Funds are then distributed to service providers on the basis of the number of clients at each funding level.

A Disability Maintenance Instrument (DMI) is used to classify clients into one of four case based funding levels, where Level 1 requires the lowest individual service (Department of Education Employment and Workplace Relations, 2006a). The instrument measures the clients support needs in terms of:

- Social and behavioral assistance
- Cognitive assistance
- Vocational assistance
- Physical assistance and personal care
- Communication abilities
- Workplace environment assistance

- Special assistance
- Other assistance
- Variable assistance (Department of Education Employment and Workplace Relations, 2006a:32).

The purpose of the funding classification process is to ensure that each service provider receives appropriate funding for the service users. Clients can be reassessed if there are changes to their support needs or if the FaHCSIA deem it necessary (Department of Education Employment and Workplace Relations, 2007).

#### Method of payment

Case based funding payments are made to service providers to help job seekers with disabilities find and maintain employment. Payments are based on the relative support needs of those job seekers and include payments that provide incentives for durable employment outcomes. As shown in Table 4, service providers are allocated funds as soon as they begin to assist a new client. Core funding is then paid in advance for 12 months so that the service provider can assess and support the client in seeking and maintaining employment. Once the outcome (8 hours of work per week for 13 weeks) has been achieved, the service provider is then paid on a monthly basis with a maintenance fee. This fee is based upon a calculation or DMI which determines the cost of providing support to an individual at a particular level. Additional funding may be accessed in some circumstances, for example for extra personal assistance, apprenticeships or supporting those in rural and remote areas. This new funding model was thought to be able to “address the inequity and lack of transparency in existing block grant funding arrangements and would apply to both open and supported employment services” (Department of Education Employment and Workplace Relations, 2006a:8)

#### Assessment or measurement of outcomes

Service providers are required to support clients to obtain and maintain employment and they have achieved this outcome when the client has done so for a minimum of 8 hours/week for 13 weeks.

Table 4: Case based funding fee structure

Components	Details	Description/mechanics	Outcomes/milestones
<b>Core fees</b>	<b>Intake fee</b> as soon as they start to assist a client	Paid as soon as they start to assist a new client	Client accepted by service provider
	<b>Employment assistance fee</b> (or pre-DMI)	Provided in advance for up to 12 months to assist the client to obtain and maintain an employment outcome	Client to obtain and maintain employment for a minimum of 8 hours/week for 13 weeks
		Once the client has reached the employment outcome the DMI is then completed by the service provider who details the services and support that they have provided to the client	
<b>Employment Maintenance fees</b>	A simple fee structure of monthly ongoing support fees for as long as workers remain supported by the service	Based on funding levels 1 – 4 as decided by the DMI	Continue support to assist clients remain in employment
<b>Additional fee types (on top of core fees)</b>	<b>Work based personal assistance</b> (claimed as required)	Additional support for clients who required Work based Personal Assistance – can be provided internally or outsourced.	Support a client who needs assistance with eating, feeding or medical interventions
	<b>Incentive for Australian apprenticeships</b> (claimed as required)	Paid on completion of outcomes	4 weeks at new workplace, 13 weeks and each subsequent year
	<b>Rural and remote incentive</b> (Offered based on degree of remoteness as determined by ARIA)	Not based on clients, rather in recognition of distance	None
	<b>High cost worker payment</b>	A grandfathering arrangement which carried over from previous funding arrangement for high support requirements for clients greater than level 4.	None

(Adapted from Department of Families Housing Community Services and Indigenous Affairs, 2007)

### Evaluation

#### Benefits of case-based funding

- A good relationship is developed between the providers and the job seekers. For example “Many providers assist clients to obtain goods and services, with 61 per cent of providers indicating that they have driven more than half of their current clients to interviews and/or training” (Department of Education Employment and Workplace Relations, 2007:92);
- The majority of providers indicate that they have become accustomed to a more outcomes-based model, and suggest that the payment of milestones and outcome fees has led them to

focus more intensively on achieving sustainable employment outcomes for clients (Department of Education Employment and Workplace Relations, 2007:94).

#### Constraints of case based funding

- The level of administrative work for service providers increased (Department of Education Employment and Workplace Relations, 2007);
- There is a risk that providers will take into account the likelihood of a client achieving the outcomes and the cost of providing support before accepting them i.e., by focusing on groups that cost less to support (Department of Education Employment and Workplace Relations, 2007, National Council on Intellectual Disability, 2009);
- Assessment instruments benefit mainstream clients and do not always meet the needs of more complex clients (Department of Families Housing Community Services and Indigenous Affairs, 2007:93, National Council on Intellectual Disability, 2009);
- The funding system does not take into account “the actual costs incurred for undertaking job search and development, job placement and on the job training, and on-going support” rather the system works on an average which means that some specialist services may become impractical to continue (National Council on Intellectual Disability, 2009);
- Benchmarks should be transparent and reported upon (National Council on Intellectual Disability, 2009);
- The funding system requires a central government department to “facilitate, in partnership with other services, the development of model decision guidelines [on which] to base internal decisions of ongoing support: (National Council on Intellectual Disability, 2009:7).

*Case Study 6: Outcome, output, performance based funding in the context of mental health*

The United States is committed to ensuring that individuals with mental health conditions are given the opportunity to contribute to society and be involved in the workforce. However, research conducted by US departments found that such individuals were continuing to be underrepresented (Gates et al., 2005). Following subsequent inquiry by policy makers, focus turned to funding mechanisms, with outcomes-based reimbursement programmes being one such methodology that aims to improve employment outcomes for individuals with psychiatric disabilities.

The New York State Office of Mental Health undertook a trial period of performance-based contracting between December 2000 and December 2002 in which seven social service agencies were contracted by the Office to provide employment services to individuals with mental health conditions. A performance-based contracting milestone structure was established with incremental steps toward the goal of maintained competitive employment at which point providers would be reimbursed. Throughout this demonstration period recruitment was continuous. Key outcomes included time to placement, placement in employment, and job retention.

Approach to funding allocation

Six performance-based contracting milestones were developed and were utilised as incremental, reimbursable steps toward the ultimate goal of sustained employment. Reimbursement occurred at each milestone at different rates. To increase the incentive to sustain employment, the later milestones (e.g., sustaining employment for six months) were weighted more heavily than the earlier milestones (initial placement, and job skill acquisition).

In an attempt to discourage agencies from taking on consumers who were deemed easier to serve or had less severe mental health conditions, the New York State Office of Mental Health developed and funded a system that paid agencies 20 percent more for such consumers.

All service requirements had to be met at each of the six milestones for the agency to receive their reimbursement. In addition, agencies had to undergo full audits of their records to verify the service delivery. For example, initial replacement requirements included developing a career plan and providing job training.

Assessment or measurement of mechanism

Gates et al (2005) collected qualitative and quantitative data throughout the trial period to assess the efficacy of this performance-based contracting system in gaining employment for the consumers, and in assisting them in sustaining their employment. Their study revealed that 63% of clients were successful in acquiring jobs, and 73% had retained their jobs at the end of the demonstration, which Gates et al (2005) report as being comparable to other best-practice models. The researchers state that

outcomes-based funding may encourage services providers to work with clients early on in the process, assist them in acquiring jobs that they actually want and to work more efficiently with other agencies. However, they also recognise that outcomes-based models may also result in providers assigning clients to inappropriate jobs due to the pressure felt as a result of the funding mechanism. Such a pitfall would potentially result in job losses due to poor job fit.

### Evaluation

Outcome -based funding is used extensively throughout vocational rehabilitation (VR) schemes in the United States (Novak et al., 1999). In an article that discusses the diversity of results-based funding approaches to supported employment, Novak et al (1999) discuss the potential benefits and constraints of employing this funding mechanism in supported employment programs:

#### Benefits of outcome/results-based funding:

- Increased emphasis on specific, desired outcomes
- Increased accountability
- Improved service delivery resulting in increased cost efficiency
- Greater consumer choice and satisfaction

#### Constraints of outcome/results-based funding:

- May create disincentives to employ those with the greatest disabilities
- Services need to be truly individualised
- Consumers may be placed in unsuitable roles so that the milestone can be reached and the provider reimbursed

*Case Study 7: Results based funding in the context of child support in third world countries*

In 2002, the Novartis Foundation, along with the Swiss Agency for Development and Cooperation (SDC) and the Swedish International Development Cooperation Agency (SIDA), founded the Regional Psychosocial Support Initiative (REPSSI). The initiative is a renowned authority in advocating for, and providing assistance to, children, youth, families and communities affected by poverty, HIV/AIDS, and conflict in southern and eastern Africa. Psychosocial support (PSS) is provided to these groups through culturally appropriate methods and collaborative partnerships with the ambitious aim of enabling governments and civil societies to provide for the psychosocial wellbeing of 5 million children and adolescents across 13 countries in south and eastern Africa by 2010 (Novartis Foundation for Sustainable Development, 2006b).

REPSSI collaborates with 140 nongovernmental agencies across 13 countries to train course leaders and develop manuals and courses. It also works with the governments of the 13 countries (which include Malawi, Namibia, Angola and Zimbabwe, amongst others) with the aim of making PSS an integral part of social policy (Novartis Foundation for Sustainable Development, n.d.).

The Novartis Foundation notes that the World Bank has been championing the notion of results-based funding since 1993 and the foundation highlights the growing focus by governments on funding mechanisms that are based on concrete outcomes or results, rather than simply on the number of services provided (Novartis Foundation for Sustainable Development, 2006a).

Approach to funding allocation

Psychosocial care and support are given to eight key childcare program areas that directly or indirectly serve children:

1. Pediatric anti-retroviral (ARV) programs
2. Schools and children's education systems
3. Emergency response
4. Feeding
5. Home based care and early childhood development programs
6. Community development programs
7. Poverty reduction strategies
8. Children's empowerment programs

REPSSI is then compensated based on the outcomes achieved by those individuals that are serviced as part of the initiative. Such outcomes may include an improvement in a specific health condition, a reduction in the number of diagnosed HIV/AIDS cases in a specific region or the number of children receiving vaccinations. A detailed description of exactly how the initiative is funded and how the

reimbursement process is carried out is not provided (Novartis Foundation for Sustainable Development, 2006a).

### Evaluation

#### Benefits of results-based funding

- Increased provider accountability – a salient issue for Governments and funding providers that want to see measureable results
- Increased efficacy by focusing services on specific outcomes
- Greater incentive to achieve faster and improved outcomes for citizens
- Outcomes can provide proof that the incentive is making a difference

#### Constraints of results-based funding

- Deciding upon how to measure a service can be problematic (e.g. it can be very difficult to provide concrete evidence of a drop in tuberculosis cases in numerous countries)
- Novartis states that results-based funding is seen by some as “awkward” and that it is frequently resisted for political reasons
- Monitoring of outcomes is potentially dangerous for governments that rely on financial compensation and thus may result in the doctoring of outcomes. Independent agencies may need to be commissioned to undertake monitoring in certain areas.

### Summary

With governments increasing the pressure on agencies to provide discrete, measureable program outcomes, outcome-based funding represents a mechanism by which these results can be monitored and more efficiently measured. Aid delivery represents a significant tool in the fight against third world poverty and a mechanism that can measure the outcomes of the services provided is crucial.

*Case Study 8: Unit-cost funding in the context of higher education*

Unit cost funding mechanisms, used internationally in education (Strehl et al., 2006), provide a 'unit' cost per student based on such factors as course subject and enrolment type. In 1990, the Higher Education Authority (HEA) in Ireland announced unit costing as its new funding mechanism for all universities to assist in setting cost-efficient levels of funding for different academic subject groups. In turn, institutional budgets would be determined (Trinity College Dublin, N.D.).

Approach to funding allocation

The HEA conducts an analysis of individual returns from universities and subsequently advises the institutions of the extent to which their unit costs exceed or fall below the average costs in a given year. Trinity College states that the framework is still in the transition phase between fund allocation using historical baselines and the full implementation of the unit cost funding mechanism.

Costs are derived from the institution's recurrent financial year expenditure and are allocated to courses based on:

1. *Direct costs* – are primarily pay costs distributed to courses in relation to contact hour data, based on teaching and supervision hours, laboratory classes and seminars/tutorials. Academic staff pay costs are also direct costs, as are other costs such as equipment budgets and technical pay.
2. *Allocated costs* – are those allocated to departments based on usage. They include library non-pay and other academic services.
3. *Apportioned costs* – are costs allocated to courses based on the ratio of the number of students on a particular course to the total number of students at the institution. These costs also include library pay, central administration and student facilities costs, amongst others.

Subjects are also grouped into categories used by all institutions in the system:

- Arts/Law
- Commerce/Business
- Science
- Engineering
- Medicine

These subjects are then further broken down in to the following student categories:

- Full-time undergraduate
- Part-time undergraduate in (a) Arts/Business and (b) Science/Engineering/Medicine
- Postgraduate research

- Postgraduate taught

Student numbers in the unit cost return are reconciled against the final student numbers for the relevant year (which will have already been returned to the HEA). Final student numbers are submitted by the universities to the HEA in June/July of the relevant academic year.

Method of payment

Unit cost returns are submitted on 1st June of the following academic year. All students on all courses, including self-financing courses, are included in the unit cost return with the exception of certain courses which fall outside the system for reasons of their particular funding arrangements.

*Case Study 9: Unit-cost funding in the context of assisting older people*

In 2004, the *Older People's Inquiry into 'That Bit of Help'* was commissioned by the Steering Group of the Joseph Rowntree Foundation Older People's Programme to identify examples of 'That Bit of Help' or, in other words, those low level supports that assist elderly individuals in remaining independent and contributing to society (Curtis and Netten, 2006). Following a substantial debate, the Inquiry members decided upon the 'Bakers Dozen', in reference to the 13 most important supports for the elderly, and then prioritised them based on the extent to which they believed they would impact older people's lives. Schemes providing such services as home maintenance, transport to and from places such as hospitals and shopping, assistance at home with tasks such as cleaning and doing laundry, and care workers making paid visits at night were at the top of the list, although services lower down the list, including transport to lunch clubs and outings and assistance in pet care, were still considered important.

Approach to funding allocation

Unit costs are estimated for each 'Bit of Help' using information from the scheme. Each scheme is funded by a specific mix of sources by particular local organisations meaning that costs may vary depending on the region. Volunteer time, although crucial to almost all schemes, has not been included in estimates as volunteers do not carry costs.

Method of payment

Funding for these examples of 'That Bit of Help' has come from a range of sources, including central government initiatives, public health budgets and the business community. However, not all of the 13 support schemes have been properly evaluated and the impact on users' quality of life and independence should be measured to assess the efficacy of the programme.

Evaluation

The question of whether or not 'That Bit of Help' has been effective in achieving its aims has not yet been definitively answered, although formal evaluation of two schemes by external organisations has taken place. It is crucial that such schemes and supports are evaluated properly and this will require more evidence on how they are used and how they impact upon the users' quality of life and welfare. In addition, it would be important to understand whether such supports can actually delay, or even prevent, the use of expensive high-support services such as residential homes and hospitals (Curtis and Netten, 2006).

### *Examples of flexible funding*

#### *Case Study 10: Flexible funding in the context of human services*

This funding arrangement is used by the Department of Human Services (DHS) in Victoria for all agencies that receive funds from DHS. The purpose for introducing a flexible funding arrangement was to support providers “to develop services that are responsive to client needs at the local level” (Department of Human Services, 2005f:5) thereby producing improved outcomes for the client and making it easier [for the service provider] to work with government (Department of Human Services, 2005f). The approach also “Recognise[s] the capacity of funded organisations to plan for, and respond to the needs of, their client group in line with outcomes and objectives identified by [DHS]” and to “reduce the administrative effort associated with integrated services, while maintaining appropriate accountabilities” (Department of Human Services, 2005b).

Flexible funding has been used in providing services for people with complex needs and a history of homelessness. For example “Mental Health, HACC and Homelessness Assistance funds [were integrated] to support a team that offers intensive outreach, crisis support, recreation and group work” (Department of Human Services, 2005f:5).

#### Department of Human Services Flexible Funding Principles:

1. “The department is committed to increase flexibility in its funding of the service sector to improve services and reduce administrative complexity where that will improve services.
2. The department encourages proposals from service providers for the flexible use of departmental funds, both current and planned, to improve service delivery. This could include opportunities to work collaboratively with other agencies or programs to achieve shared objectives.
3. The department commits to negotiate with the service provider the parameters of planned or current flexible use of DHS funds in the context of local, regional and statewide considerations.
4. The Consultation and Collaboration Protocol and the MAV Partnership Protocol will guide the development and consideration of all flexible funding proposals.
5. The department’s service contract with the service provider will incorporate agreed flexible funding arrangements.
6. The department will use evidence gathered through flexible funding negotiations to inform its ongoing reform of program funding guidelines and business processes” (Department of Human Services, 2005a:1).

### Approach to funding allocation

Flexible use of DHS funds allows service providers to put together program funds that will supply a mix of services required by particular client groups. Flexible funding does not aim to substitute funds from one program to 'top up' another, rather it allows a service provider to:

- Combine funding from a number of distinct output groups to deliver a response or integrated service for clients.
- 'Roll-up' funding attached to related activities within an output group to deliver a response or integrated service for a particular group (Department of Human Services, 2005f)

The Department of Human Services (2005f) lists the six steps of the flexible funding process as follows:

1. "The Service Provider makes contact with the regional office about planned flexible use of DHS funds or current, informal flexible practice. Alternatively, DHS regional staff can ask the service provider about their flexible use of DHS funds during usual business contact.
2. The Service Provider and DHS regional staff members meet to discuss planned or current flexible use of DHS funds. The service provider brings information that includes: rationale, target group, service model & processes, services, staffing, funding streams involved and amounts, realised or anticipated benefits to clients.
3. DHS regional staff members liaise with the Flexibility Broker and programs about the service provider's planned or current flexible practice considering the local, regional and state service context.
4. DHS regional staff and if appropriate the Flexibility Broker and program staff, provide feedback to the service provider and reach agreement about the planned or current flexible arrangements.
5. DHS regional staff formalise the agreement in the Funded Agency Service Agreement using the Flexible Funding service plan template.
6. All stakeholders contribute to the evidence base about flexible practice: the benefits to clients and the issues to be resolved" (Department of Human services, 2005e:8).

### Method of payment

Agencies and service providers funded by DHS under the 2006-09 funding cycle are encouraged to use the flexible funding initiative to supply a mix services required by various client groups.

### Assessment or measurement of outcomes

DHS is committed to developing an evidence base that can provide information about the relationship between flexible funding and integrated service delivery. A piloting process was initiated as part of the flexible funding project and eight agencies (e.g., St Luke's Anglicare and Portland District Health) elected to participate. These agencies either agreed to develop plans for implementing the initiative or to implement strategies for more flexible use of funds.

### Evaluation

St Luke's Anglicare is a community agency that provides a variety of human services such as youth services, disability support and housing services throughout North-Central Victoria. The agency began piloting the flexible funding model in 2004 and it has reported the following benefits and challenges (Department of Human Services, 2005d):

Benefits of flexible funding:

- Simplified client pathways
- Access to all programs
- One referral point for all other service providers
- SAAP clients in particular get a 'value added' service as the project provides them with a service that is no longer simply about housing.

Constraints of flexible funding:

- Keeping the energy and vision alive for new group programs
- Managing individual and group work loads
- Reporting against the service agreement – means that statistics are still collected at a program level and the reporting tools and requirements differ.

### Summary

While flexibility throughout the human services sector became evident early on in the implementation of the flexible funding program, it has been noted that negotiating flexible funding provides a 'legitimizing environment' (Department of Human Services, 2005c) for a more formal implementation of funding flexibility. Further conclusions may be drawn at the conclusion of the 2006-09 funding cycle and the eight pilot agencies may provide more detailed reports on their experience of the flexible funding model.

*Case Study 11: Flexible funding in the context of disability services*

The Tennessee Department of Mental Retardation (DMR) has been providing flexible support services to families with children and adults who are eligible for DMR services since 1995. Such services include flexible funding allocation which allows families to choose and purchase services that they believe are of the most benefit to them. The various Family Supports provided by DMR aim to enable children and adults to live with their immediate families and to become valued, contributing members of society. The program is based on the premise that the families are the experts regarding their family member's strengths, abilities and competencies and they will therefore be in the best position to decide what services are required to assist their disabled family member. The ultimate aim is to keep the family member in the home and out of residential care.

Approach to funding allocation

Families are given two options in how to manage their flexible funding:

1. Stipend – Families are given a specific allocation to directly purchase goods and services from a list of allowable providers specified by the DMR.
2. Direct provider agency payments – The family can direct their allocation to the Family Support Provider agency so that they can pay for goods and services on their behalf.

In addition, the DMR also provides Intensive Flexible Family Supports (IFFS) that help families currently experiencing severe stress by providing an intense case management service that assists them in integrating a number of services to support the family member in crisis. Flexible funding allows the family to purchase additional goods or services (Department of Mental Retardation, 2008).

Method of payment

Families are provided with small individual budgets or 'flexible funding allocations' which enable them to access a wide array of services.

Summary

DMR states that all approaches and efforts associated with the implementation of the flexible funding project will continue to evolve and that continued efforts will be made to gather ongoing feedback about their family support services and the implementation and efficacy of this plan.

## 4. Approaches to funding homelessness services in Australia

This chapter reports on our review of documents pertaining to past and contemporary approaches to funding homelessness services in Australia. Academic literature on this issue is virtually non-existent so the review was extended to include searches of documents from websites of state and territory governments and non government homelessness peak bodies, phone conversations with homelessness program administrators in four jurisdictions, and a review of program documentation including funding specifications and contracts. Statistical data published by the Australian Institute of Health and Welfare (AIHW) and publicly available evaluation, research and consultancy reports commissioned by government, community sector and educational agencies were also reviewed.

### *National Funding Context*

Between 1985 and 2009, the major source of funding for homelessness services was the Supported Accommodation Program (SAAP) and the Crisis Accommodation Program (CAP). SAAP was jointly funded by the Australian Government and state and territory governments under a national agreement and CAP was a special purpose payment under the Commonwealth State Housing Agreement (CSHA). Under the new National Affordable Housing Agreement (NAHA), special purpose programs such as CAP and SAAP, have been included within a National Partnership Agreement on Homelessness between the Commonwealth of Australia and all state and territory governments. The new funding arrangements give the states more control to distribute funding. In 2007-08 funding totalling \$384 million was dispersed to over 1500 agencies across Australia (Australian Institute of Health and Welfare, 2009). This represents considerable growth from 1984-85 when national funding totalled \$43 million and from 1987 when 1139 agencies were funded (Chesterman, 1988).

While annual funding per agency in 2007-08 averaged \$245,800 there was significant variation with the lowest average annual funding per agency in Victoria (\$174,400) and the highest in Tasmania (\$392,900). Funding levels also vary by target group with agencies targeting single men having higher average funding (\$360,600) than those targeting women and children escaping domestic violence (\$273,200) and the lowest average funding (\$218,300) received by agencies targeting families (Australian Institute of Health and Welfare, 2009).

CAP provided capital funding for homelessness services in most jurisdictions, predominantly those funded under the SAAP. Annual funding to States and Territories for the Crisis Accommodation Program in 2006–07 was \$41 million. The majority of funds were to purchase, construct, renovate, maintain and lease dwellings, to provide crisis accommodation including youth shelters, women's refuges, hostels for homeless men, women and families and transitional housing options. At 30 June 2007, there were 7,518 Crisis Accommodation Program properties nationally (Department of Families Housing Community Services and Indigenous Affairs, 2009).

To achieve broader government housing and homelessness policy objectives, funding arrangements under the new National Affordable Housing Agreement and the National Partnership Agreement on Homelessness provide additional funding and greater flexibility in the use of funds than was previously the case for SAAP and CAP. States and territories are responsible for program administration and accountability is through state and territory implementation plans and agreed national performance indicators aimed at delivering strategic and flexible service responses (Department of Families Housing Community Services and Indigenous Affairs, 2009).

### *Historical funding approaches*

Program administration by individual States and Territories has resulted in divergent approaches to funding homelessness service providers which are influenced by the broader approaches to funding non-government human service in those jurisdictions. Funding approaches have also changed over time at both nationally and within states and territories.

The introduction of SAAP in 1985, integrated a number of national and state-based funding programs directed to women and children escaping domestic violence, young people, single adults and families and introduced funding through block grants. The previous programs had utilised a mix of funding models, for example the Homeless Persons' Assistance Program (HPAP) funded homelessness services primarily for single people, through subsidies on a *per bed night* and *per meal* basis.

Initially SAAP funding was provided as a partial subsidy towards cost of operating services and has progressively moved towards funding the full cost of service provision. Funding approaches over time have encompassed submission based, needs based planning and competitive tendering approaches. Funding contracts are either time limited period such as three years or ongoing, although in practice funding for most services is ongoing, unless terminated for performance or compliance reasons. The recurrent nature of SAAP funding meant that for many existing services funding levels have been indexed annually unless services applied successfully for enhancements or new initiatives when growth funding was available.

Funding levels tended to be based on benchmarks for staffing levels and costs according to the common service delivery models (e.g. crisis shelters, refuges, transitional housing, drop in services) and whether or not the accommodation has on site and 24 hour staffing. In recent years reforms to contracting processes in some jurisdictions have been accompanied by the emergence of various approaches to formula based approaches to funding (personal communications).

Different approaches to funding the accommodation or housing component of homelessness services have also developed over time. Most States and Territories use CAP funds to provide the 'bricks and mortar' for homelessness services. Approaches to funding the recurrent property costs (such as rates,

insurance, maintenance and furniture replacement) include cost recovery from SAAP pooled funds, individual services covering costs or funding through CAP. Similarly the allowable use of fees and rent collected by agencies is variable, leading to very different financial outcomes for different types of services and potential for cost shifting between SAAP and CAP. Victoria was unique in separating housing and support services except for crisis shelters and refuges, resulting in less complex funding models for homelessness support services and transitional housing providers.

Funding and contracting approaches now include a full repertoire from funding based on historical levels to formula- based funding, especially for new services. There appears to be a general trend to more clearly specifying outputs, establishing performance targets and linking funding levels to the characteristics of clients, the service delivery models and service capacity of agreed throughputs.

### ***Reform initiatives***

In recent years jurisdictions have initiated a range of funding reforms aimed at encouraging efficiency and performance and improving transparency in funding allocations. Key service delivery reforms within SAAP such as case management, common client assessment tools and service model specification provide some of the pre-conditions for more transparent funding approaches (Department of Community Services, 2007, Department of Community Services, 2009, Housing and Community Building Division, 2006).

Victoria and New South Wales in particular are well advanced in moving towards formula based approaches to funding. The following discussion of those two models is based on a review of government funding documents and information provided in phone conversations with homelessness program staff.

The Victorian approach to funding homelessness services can be described with reference to the case mix model presented in Case Study 1, 2 and 3 (also see Table 5 below). Clients are classified as either individuals or families and by applying a typology of level of need based on a model proposed by Bissett et al (1999). This typology distinguishes between medium needs and high and/or complex needs client based on assessment of the number and intensity of their needs and levels of functioning and behavioural clusters. The Victorian model further categorises interventions as either a *Crisis Supported Accommodation (CSA)* or a *Transitional Support Service (TSS)*. Throughput targets are then calculated by allocating staff/client ratios and average duration of support to classifications of clients. Funding levels are linked to calculations of funded staff positions linked to these standard throughputs. The benchmarks under this model are based on averages and are utilised by the regional contract managers as the basis for negotiating funding levels and performance targets with service providers.

**Table 5: Approaches to funding homelessness services in Victoria and New South Wales**

SAAP Example	Name of measure or classification	Purpose of measure	Classification			Intervention
			Unit of analysis	Input to measure	Data sources used to generate measure	
Victoria	<b>Level of need</b> (average or high needs)	Set targets and monitor performance	Client support periods and duration of support	Staff : client ratio and duration of support	NDC Agency reports	Service Types (crisis accommodation / transitional support)
NSW	<b>Household type</b> (single, youth, family)	Set targets and monitor performance	Client support periods or nights of accommodation	Service capacity (staff : client ratios or accommodation capacity)	Agency reports	Service type (sub-categories of : support services / supported accommodation services)

This case based approach is in place for family violence services and newly funded homelessness services in Victoria and is being progressively implemented for existing services through negotiation of service contracts. Program administrators see the model as supporting improved performance management rather than as a cost savings measure. They anticipate that full implementation of the model may increase program costs but achieve more equitable funding levels, transparency and enhanced service quality.

In NSW homelessness services are funded on a unit cost basis with costs based on the category of client and the type of service. Clients categories are youth, single adults and families while services are designated as either *Support Services* or *Supported Accommodation Services*. Support Services sub-categories include prevention and community awareness, case management early intervention and case management post crisis. Unit costs for these services are per client and funding is based on the service capacity. Supported accommodation services comprise four categories: semi-independent; transitional; crisis 24 hour on call; and crisis 24 hour on-site. The costing measure for accommodation services is per bed per night for singles and family unit night. Outcomes, performance measures and performance targets are established for each service type taking account of funding levels and service capacity.

In both Victoria and New South Wales the funding model has developed incrementally over time with each iteration reviewed and enhancements developed in consultation with service providers. The Victorian and NSW funding models share some key characteristics but have also resulted in some significant differences in approach. In part, this is a result of differences in administrative arrangements, service systems and service models. Victoria largely separated the support and

accommodation components of homelessness service delivery in the late 1990s while locating SAAP within the state housing agency. In contrast NSW has retained SAAP administration within the community services portfolio and maintained integrated supported accommodation services within SAAP. These differences are significant for funding approaches because they deal very differently with the capital costs of accommodation and use of rental revenue by homelessness services.

Differences in Victorian and NSW funding models and approaches to implementing reform highlight that each jurisdiction has a unique history and culture in the funding relationships between government and funded services and that homelessness services are embedded in local homelessness and human services delivery and funding and contexts.

In summary, key features of formula based funding models are evident in a number of jurisdictions and are well developed in at least Victoria and NSW. Significant work has been undertaken to assess and categorise client attributes and needs. Typologies of service models have also been developed and formulae established to guide funding levels and throughput targets.

### *Discussion*

There is very little documentation that specifically deals with the beneficial or negative impacts of different funding models within SAAP. Publicly available government documents dealing with proposed funding reforms tend to focus on the benefits and objectives of the proposed new approaches rather than providing evidence of the shortcomings of existing models. Much of the discussion of funding in program evaluations and community sector publications focuses on the overall quantum of funding and concerns about unmet need resulting from inadequate funding.

Issues of efficiency, accountability and quality within SAAP have been regularly canvassed by program evaluations since the 1980s (eg. Chesterman, 1988, Family and Community Services, 2000, Pamela Spall and Associates, 1999). This includes various recommendations and initiatives over the past two decades to establish performance indicators, client/staff ratios and benchmarks for costs and throughputs for the various service models (Chesterman, 1988, Family and Community Services, 2000, Pamela Spall and Associates, 1999).

Throughout the history of SAAP, concern has been expressed by service providers and identified by evaluations that the funding levels associated with low award wages and input based funding have resulted in difficulty attracting and retaining highly qualified staff across the sector. Funding initiatives to address the low skill base of SAAP staff have included training and development and salary enhancement strategies. Recent emphasis on case management and intensive support for clients with high and complex needs has increased need to employ more highly qualified and skilled staff and for

some service models, minimum staff qualifications have been imposed by funders (eg Victorian family violence program).

Other issues identified in the literature include:

- Inequity in funding levels between services depending on when they were funded with recently funded services receiving more generous levels for comparable services (Seelig et al., 2007).
- Allegations that high need, high cost clients have been excluded because services lack the staffing levels, staffing skills and facilities they require (Department of Community Services, 2007, NSW Ombudsman, 2004). This issue highlights the complex interaction between service quality, staff skills, organisation efficiency and client outcomes.

A national model for funding homelessness services may face significant barriers given the diversity in current funding approaches and the demise of SAAP as a national unifying structure for homelessness programs. Bi-lateral homelessness agreements under the NAHA are likely to result in further divergence in service delivery approaches across jurisdictions.

However, considerable effort has been invested in some states to reform funding towards transparent formula based approaches and the initiatives appear to have support from service providers. Limited documentation or evaluation has been undertaken to date of the impacts of these funding models and such evaluation may be an effective way to progress a funding reform agenda.

## 5. Conclusions and implications

A casemix approach to funding specialist homelessness services has been the focus of this literature scan. For the purpose of this report, the outcomes were divided into two broad areas:

1. Approaches to funding allocation, including casemix and case-based funding models, specifically for the homelessness sector, both in Australia and internationally. This section also considered cognate funding approaches in other community service sectors;
2. Existing funding and resource allocation arrangements for homelessness services in Australia.

This final section of the report seeks to consolidate the key findings of the literature scan and to describe the potential applicability of casemix, as a funding model, in the context of homelessness. It will also expand on the reform initiatives currently operating in Australia and comment on the applicability of casemix as an approach to funding homelessness services.

### *Casemix funding models and homelessness*

One of the primary aims of this literature review was to understand the use of casemix funding in the context of funding homelessness services. It was found that there is no single way to define casemix, as it is a mechanism designed for specific institutional frameworks (Hutchinson et al., 1991). A casemix funding model classifies the type, or mix, of cases within a given service environment. It is, however, greater than a simple classification system because it also relates or links a particular group to the services required including the type and volume of intervention activities and the cost associated with such activities. The literature scan found that casemix funding models are predominantly associated with hospitals and allied health systems. Subsequently, the reported advantages and disadvantages of using casemix are related to these settings. The reported advantages of this model include its usefulness in:

- Managing available resources and payments;
- Identifying how resources are being used, as well as how they could be use more efficiently; and
- Comparing the use of resources between organisations in a transparent and objective manner.

Conversely, the related disadvantages that emerged included:

- A lack of focus on client outcomes;
- The propensity to overlook complex and severe cases;
- The challenge posed by the need to develop adequate classifications based on comprehensive and precise data or information on the different types of cases that may arise in a given setting; and
- Conflicts between equity and efficiency.

Despite an extensive search of academic databases, government and non-government organisation websites, no articles or reports were found which described casemix as an approach to funding homelessness in either Australia or overseas. The development of a model of casemix funding is reliant on robust and comprehensive data bases which provide detailed information about the nature and volume of activities carried out and the cost associated with such activities. Therefore, creating a model of casemix for funding that is applicable to the area of homelessness, where the settings and service activities are multiple and inherently complex, will require a classification system that is capable of representing this complexity, including the range and volume of activities undertaken by various organisations and the associated costs. It is not, therefore, a model that can be easily applied to the homelessness sector without extensive research, analysis and consultation with stakeholders.

Section 3 of this report described casemix funding in the broader context of a formula funding approach to resource distribution. Defined by a devolved delivery of public services and an equation to distribute funds, the formula funding approach is an increasingly preferred method of allocating resources to service provider organisations. This approach led to an investigation of the use of formula funding models in the context of community service provision, both domestically and internationally. Community service organisations use a number of different terms to describe the manner in which funds are allocated to them. For example:

- Case-based funding in the context of disability employment networks;
- Outcome, output and performance based in the context of mental health;
- Results based funding in the context of child support in third world countries; and
- Unit-cost funding in the context of higher education and assisting older people.

The terms given to these funding models do not appear to be discrete or definitive rather, like casemix, they are based on a formula funding approach. They are generally characterised by a devolved delivery of public services and a calculation which determines how resources are allocated. Case studies were used in this report to show how these funding models can be applied to the community services sector and provide alternative approaches to resource allocation, cognate with a casemix funding model.

Section 4 reports on existing approaches to funding of homelessness services in Australia, based on searches of the websites supplemented with email and telephone contact with homelessness funding. This review identified only a small amount of documentation about funding models but discussions with funders indicates considerable progress in developing and implementing formula based approaches to funding homelessness services in some states, especially Victoria and New South

Wales. Funders in other states indicated intentions to move in similar directions. It was not possible to obtain details for all jurisdictions due to the short timeframe and scope of the study.

The Victorian and New South Wales approaches can be categorised as unit based funding models that are supported by specification of service types, categorisation of client need typologies and collection of data on service costs. The funding model reforms in Victoria and New South Wales share some similarities in general approach but are significantly different in detail such as the ways services are specified and clients categorised. This highlights the impact of each jurisdiction having a unique history and culture in the funding relationships between government and funded services and the ways that homelessness services are embedded in local homelessness and human services delivery and funding contexts.

Given the amount of progress already made in states such as Victoria and NSW, consideration could be given to evaluating the outcomes of those models with a view to building on and extending them. The next stage to the project might consider more engagement with SAAP/Homelessness state program administrators obtain in-depth and up-to-date information about changes that are taking place and lessons to date. Such an approach lends itself to interchange of ideas and approaches between jurisdictions that could inform national policy formulation.

A further consideration is the intention of the national homelessness policy agenda to significantly reform existing homelessness service delivery models. These changes will have implications for the specification of services and collection of data on costs required to implement formula based funding. In this context a pilot of casemix funding may be premature until the anticipated changes are further progressed and emerging service delivery models more clearly specified.

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## Appendix A: Additional examples of formula funding models

During the search for literature, examples of funding models were found but only a limited amount of information was available on how it was applied. These examples have been included below to demonstrate the different settings in which models, cognate to formula funding, can be applied.

### Case study: Case-based funding in the context of Jobnet Flexi Program South Australia

Community Bridging Services Inc Jobnet Employment program was designed to assist youths to find and maintain employment. The program was part of the Commonwealth Department of Family and Community Services Case Based Funding Trial in 2001. The program consists of four parts – pre-employment training, job search, Job support, on-going career development. Clients are assessed and classified into one of five levels of needs. Payments are made to the program based on individual need and by following the client it gives them a degree of choice (Brincat and Lochhead, 2001).

**Table 6: Case study of case based funding**

Payment	Outcome
Based on classification level: 75% of total payment in the first 12 months Remaining 25% once the outcome has been achieved	8 hours of work per week for six months

(Brincat and Lochhead, 2001)

### Case study: Flexible funding in the context of Department of Children's Services

In 2000, a class action lawsuit was filed against the Department of Children's Services claiming, amongst other things, untrained caseworkers, inadequate educational services, over-utilisation of emergency shelters and inadequate efforts to achieve permanency. The lawsuit ended in 2001 and resulted in significant system reform and a flow of new state funding. One of the guiding principles of this new model was the implementation of flexible funding that would allow the sharing of resources across system and community partners and would provide regional staff with more flexibility and control in the financing of services and the allocation of resources at the local level with the ultimate aim being the proactive and collaborative use of funding to offset recurring and increasing costs (Department of Children's Services, 2007).