

## Service Model for Consultation-Liaison Psychiatry in Victoria

July 2016

working  
with the  
community

### Executive Summary

Consultation-Liaison Psychiatry (CLP) teams provide the mental health services for those patients admitted to Victorian general hospitals who require greater expertise than can be provided by the parent unit. A minimum of 1% of general hospital admissions require specialist mental health services. Adequate mental health services are required in order to provide quality care, ensure patient flow and maintain safety.

CLP funding through the Victorian Department of Health and Human Services' (DHHS) mental health branch has remained stagnant over the past 20 years despite major growth in acute health services. The resulting inadequacy in CLP has resulted in poor quality care, increased length of stay, preventable behavior disturbance and unsafe discharge planning. Without development and reform, the situation will further deteriorate.

The underdevelopment of CLP is related to:

1. The mental health branch and acute health each having an expectation of the other to develop services, leading to decades of stalemate.
2. The lack of 'visibility' of CLP within key data sets whereby the increased service demands, decreased responsiveness and capacity limits remain hidden.
3. The absence of a model for service development involving both acute and mental health that demonstrates activity and quality and can respond to changes and growth within the acute health system.

A cohesive and sustainable model for the provision of mental health services in Victorian general hospitals needs to address these factors.

In response to the problems in the delivery of mental health services in Victorian hospitals, the Royal Australian and New Zealand College of Psychiatrists (RANZCP) convened a Consultation-Liaison Psychiatry Reform Group (the Reform Group). The Reform Group comprised representatives of DHHS, RANZCP, the Australian Psychological Society and the Australian College of Mental Health Nurses.


The Reform Group developed a new model for service delivery of CLP in Victoria.

The key principles of this model are:

1. Adequate mental health services be available to all Victorian public hospital patients.
2. Mental health services at general hospitals be delivered by CLP teams.
3. The minimum capacity of a CLP team is proportional to the hospital size and activity. (Minimum capacity equates to 1% of admissions/1.8 clinical EFT per 100 beds).

The key actions recommended by the Reform Group were:

1. The development and implementation of a uniform statewide data set for CLP.
2. The development and implementation of an activity based funding model for the provision of minimum baseline CLP service delivery in all level one and two general hospitals and that this model is compatible with Independent Hospital Pricing Authority's 'Mental Health Phase of Care' in its proposed Mental Health Care Dataset.
3. The allocation of 0.5% of Weighted Inlier Equivalent Separation funding to mental health services in general hospitals.

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4. The development and implementation of a framework through which hospitals can contribute additional mental health resources within a cohesive and accountable system of mental health care.
  5. That a pilot be undertaken at a selection of Victorian hospitals as a pathway towards statewide implementation.

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## 1. Statement of Purpose

Consultation-liaison psychiatry (CLP) teams provide mental health care for general hospital inpatients that require immediate expert care.

Unlike other consultation services in the general hospital, which are funded through acute health, CLP is funded by the DHHS mental health branch. This funding has remained stagnant over the past 20 years despite major growth in acute health services. The consequence is that currently CLP services in Victorian general hospitals are grossly inadequate, leading to poor quality care, increased length of stay, preventable behavior disturbance and unsafe discharge planning.

In response to the problems in CLP, the RANZCP convened a Consultation-Liaison Psychiatry Reform Group (the Reform Group). The aim of the Reform Group was to develop a new model for service delivery of CLP in Victoria.

## 2. Psychiatric Disorders in the General Hospital

The prevalence of mental disorder is higher in the general hospital than in the community. At any time, up to 20% of hospital inpatients have a diagnosable mental disorder. Of these, a minimum of 1% of patients require immediate specialist mental health input.

All types of mental disorders are present in the general hospital. Mood and anxiety disorders are most common, especially in patients with cancer, terminal illness, chronic physical illness and pain. Delirium and/or dementia occur in a third of patients over 65. Bipolar disorder, schizophrenia, anorexia nervosa, and personality disorder are overrepresented due to poorer health outcomes, and accidental and intentional injury.

Many patients with mental disorders in general hospitals are already receiving treatment or can be managed adequately by the primary admitting unit. The capacity of general units to manage management of mental disorders is enhanced by the activities of CLPs, especially in liaison activities.

The inadequate management of mental disorders in the general hospital is associated with a range of negative outcomes. These include:

- increased length of stay
- repeat admissions
- increased health care costs
- decreased physical health outcomes
- poor treatment adherence
- behavioral disturbance and serious incidents, including inpatient suicide.

## 3. Consultation-Liaison Psychiatry: What does it do?

### 3.1 Overview

CLP is the multi-disciplinary service which assesses and manages major psychological problems and psychiatric disorders in general hospital inpatients.

The most common reasons for referral to CLP services are for:

- depression and anxiety
- suicidality
- confusion
- behavioral disturbance
- psychosis
- advice about current psychotropic medications.

In adult hospitals, about half of the patients referred to CLP services in the general hospital are aged 65 years or over.

Within pediatric hospitals, CLP services are provided to those patients aged 0 to 18 years and their families. The most common reasons for referral to pediatric CLP are eating disorder symptomatology, psychosomatic symptoms, anxiety and lowered mood.

### **3.2 Scope of practice**

#### ***Consultation (Assessment and management)***

CLPs respond to referrals from medical/surgical wards. The patient is assessed at the bedside where a diagnosis is made and a management plan is formulated. Feedback is provided to the referring team. The patient is reviewed as required and post-hospital psychiatric follow-up is arranged. Organising psychiatric or psychological follow-up is often challenging, especially in rural settings, and can be a source of delay in discharge.

Some patients are subject to the Mental Health Act. The psychiatrist may also be required to give substitute consent for medical or surgical treatment.

The CLP provides psychological expertise and support to medical ward teams in the care of mentally disturbed patients. This includes a role in the support of staff that have been traumatised by distressed and mentally impaired medical patients, including verbal or physical abuse or assault.

#### ***Liaison***

Liaison is the building of professional relationships between CLP services and individual general hospital units. In a liaison role, CLP staff attend unit meetings, clinical reviews, case discussions and educational activities. The CLP clinician in liaison role aims to facilitate early identification of referrals, improve mental health awareness and skills and provide support in the management of complex care of patients. CLP members also act as a resource to the hospital for mental health related projects, education and policy development aimed at improving patients' mental health care.

Liaison attachments are most useful in subspecialty areas with high degrees of comorbidity and complexity (for example: spinal, transplantation, neurology, cancer streams, HIV, gastroenterology, renal, pain).

It is estimated that typically about 50% of CLP staff time is spent in education and liaison work, with the remainder in primary consultation.

#### **Specialised psychological interventions**

CLPs provide brief psychological interventions for acute distress, especially in trauma, intensive care and oncology settings.

## **Nursing**

CLP nursing has developed out of the recognition that the needs of nurses managing patients with mental health problems were not being met. Most major teaching hospitals now have mental health nurses, but the positions are not distributed equitably. The Australian Nursing and Midwifery Federation has lodged a claim for CL nurses in all Level One and Level Two hospitals across the state - the outcome of which will impact on the CL reform process.

## **Training**

Team members provide training on general hospital staff and students on mental disorder, behavioral disturbance and use of the Mental Health Act.

## **Research**

CLP is commonly involved with collaborative research within the general hospital.

### **3.3 Multidisciplinary Staffing**

#### **Medical**

Consultant psychiatrists specialising in CLP and psychiatry trainees provide foundation expertise in CLP. Their medical background allows for assessment of both the physical and psychological elements of patient problems.

#### **Nursing**

Over the past 15 years, CLP nursing has developed a role in consultations in the care of patients that challenge the knowledge, skills and confidence of the staff, particularly the nursing staff. Significant cost savings, improved patient care and referrer satisfaction have been demonstrated.

The CL nurse can provide assistance in cases where:

- mental health care needs are intense or challenging for generalist nurses
- symptoms are difficult to manage in a general ward
- the patient has a significant systemic impact
- the patient is in hospital long term and requires supportive counselling and monitoring
- 1:1 nursing care for disturbed mental state ('specials') is required
- the patient has been transferred from mental health inpatient settings (including forensic services)
- a person is under the Mental Health Act
- the patient requires electroconvulsive therapy
- education is required.

The CL nurse can assist in the formulation of collaborative management plans for patients with complex and comorbid health problems. In addition, the CL nurse provides expert mental health nursing input into the organisation on mental health related education policy development, projects and research.

#### **Clinical Psychology**

The clinical psychologist in CLP assesses patients and provides specialised psychological interventions. This is particularly useful in patients in whom the psychological disturbances are affecting their physical health. These include patients with eating disorders, substance abuse, pain, or in relation to severe physical trauma, or chronic and disabling medical conditions. Their role may include the formulation of collaborative management plans for patients and the provision of support to family and carers. They may provide focused individual psychotherapy or group or couple therapies and may assist in developing behavioral management plans.

## **Management**

The manager supports the employment of the clinicians and facilitates the relationship with other parts of the general and mental health care systems. The manager may have a particular role in facilitating the transfer of patients to mental health beds.

## **Administration**

Administrative support is required for Mental Health Act processes, collection of data, facilitating communication, supporting quality assurance and program development.

## **4. Other Mental Health services in the General Hospital**

In some general hospitals, clinical psychology is delivered as a component of allied health. These services are often available to a limited number of units at restricted times. In a few cases, clinical psychologists are embedded in particular units.

Neuropsychology may be available to neurology, geriatrics and head injury units. Clinical Neuropsychologists provide the assessment of cognitive disorders on the basis of standardised and validated tests. This enables:

- differential diagnosis of psychiatric/neurological disorders or subtypes of neurological disorders
- characterisation of a cognitive profile to assist with management planning, client-appropriate interventions and carer understanding
- assessment of cognitive competency in a medico legal setting
- achievement of precise baseline measures to assist with documenting change over time or with regard to treatment.

## **5. Consultation-Liaison Psychiatry in Victoria**

CLP services in Victoria are funded through the mental health branch of DHHS. The role and activity of CLP is not well understood within the mental health branch and has not been seen as a priority. The infrequent expansions of CLP services have been ad hoc.

There has never been a framework that establishes the aims, role or scope of practice of CLP. There is no method of matching CLP to the growth in acute health services.

CLP is block funded to each hospital. This funding is historical, inadequate and unindexed. Admissions to general hospitals have increased by at least 30% over the past 10 years without expansion of CLP services. In addition, CLP funding has not been included when new medical services are opened, for example, when additional obstetrics services at Sunshine and new intensive care beds at Melbourne Health were opened.

The block funding of CLP has discouraged the development of funding models from within acute health. It is assumed by acute health that the psychiatric care of an inpatient will be funded by the mental health branch. Concurrently, the mental health branch has adopted a position of not expanding services, in part as a strategy to force the hand of the hospitals or acute health to fill in the gap. This stalemate which has been ongoing since the 1990s is the core driver of the current and unsustainable situation and pays scant regard to community members admitted to hospitals in need of CLP services.

The over-stretching of CLP has led to the closing of CLP clinics. CLPs are unable to follow up the patients they have seen during their admission. In addition, patients with complex comorbid physical and



psychiatric problems managed by the hospital, often using high levels of resources, cannot be seen. These patients are not seen at community clinics and substantially add to the health care costs in the acute hospital.

One positive development in CLP has been CL nursing. CL nursing has been effective in reducing 1:1 nursing costs, developing mental health related policies, processes and educational programs (for example aggression, 1:1 nursing, restraint and risk management) and improving the capacity of hospitals to deal with behavioral disturbances.

## **6. Consequences of inadequate CLP in Victoria**

### **Decreased Quality of Care**

The gap in assessment and management of psychiatric comorbidity in general hospital patients leads to:

- delayed recovery
- decreased physical health outcomes
- poor treatment adherence
- behavioral disturbance and serious incidents
- increased risk of self harm and inpatient suicide
- perpetuation of stigma.

The adverse consequences also extend to the patient's family and carers.

### **Increased Costs**

The gap in assessment and management of psychiatric comorbidity in general hospital patients leads to increased costs through:

- increased length of stay
- repeat admissions
- delayed discharge though slower recovery or delayed transfer to mental health services
- over servicing of patients with abnormal illness behavior
- lack of cohesive management in patients with co-occurring complex psychiatric and physical illness.

## **7. Evidence for the Benefits of Consultation-Liaison Psychiatry Services**

There is extensive literature on the benefits of CLP. One example is a study of a CLP model tested in a 600-bed general hospital in the United Kingdom. The service led to:

- marked reductions in length of stay
- marked reductions in readmission rates
- substantial savings in terms of bed-days (estimated savings of ~14,000 bed-days over 12 months, or ~38 beds per day).

Most of the savings were observed in elderly patients, particularly in geriatric medicine wards.

## **8. Guidelines for baseline services in CLP**

The Queensland Government was the first state to develop a model of care in CLP. They recommended:

- 3.5 FTE per 100,000 of population with 1.8 FTE per 100 beds
- higher CLP staffing rates in specialised settings.

The Victorian Branch of the RANZCP has made the same recommendation as the minimum level at which safe and competent CLP services can be maintained.

## **9. Aims of CLP reform in Victoria**

The aims of CLP reform are to:

- achieve a minimum standard for CL services for acute hospitals
- achieve uniform standards for reporting CLP activity and quality
- develop a system to maintain and develop CLP services alongside changes in the acute health system.

## **10. Proposal for CLP reform in Victoria**

### **10.1 Provide adequate mental health services to all Victorian public hospital patients**

All inpatients of general hospitals have a right to adequate mental health care. Therefore:

- existing health services (acute and subacute) should be able to demonstrate adequate mental health services
- new services should include mental health care as a core component of their service delivery.

### **10.2 CLP teams sit within the Area Mental Health Services (AMHS)**

Mental health services to the general hospitals are provided by CLP teams. The placement of CLP within the AMHS promotes:

- collaboration and continuity of care with community and inpatient mental health services
- discipline specific professional development and support
- clinical governance and quality improvement within mental health frameworks.

CLP teams should act in partnership with hospital units, allied health, emergency, mental health services and community partners.

### **10.3 CLP team is multi-disciplinary and proportional to the hospital size.**

#### **10.3.1 Baseline**

The CLP service should have the capacity to assess and manage at least 1% of admissions.

The clinical staffing required to provide this capacity is 1.8 EFT per 100 beds.

The recommendations for multi-disciplinary per 100 beds staffing are\*:

- 0.4 Consultant Psychiatrist
- 0.7 Psychiatry registrar
- 0.2 Clinical Psychologist\*\*
- 0.5 CL nurse

\* In different settings, variations in the make-up of the multi-disciplinary team may be appropriate. This allocation would equate to at least a full time position at level one and two hospitals.

\*\*This does not include the provision of neuropsychology services

The nursing allocation could allow for seven day a week CL nursing in major hospitals depending on local needs.

Infrastructure will be required for the running of a CLP outpatient clinic in each general hospital.

Non-clinical resources will include:

0.2 Team Manager

0.2 Administration support

### **10.3.2 Enhanced Service Delivery in Specialist Settings**

In areas of increased need (Appendix 4), the numbers and complexity of cases are increased.

Enhanced CLP services should have the capacity to assess and manage at least 2% of admissions.

The clinical staffing required to provide this capacity is 2.7 EFT per 100 beds.

For example:

0.7 Consultant Psychiatrist

1.0 Psychiatry registrar

0.5 Clinical Psychologist

0.5 CL nurse

## **11. Establish responsive funding model for CLP**

The Reform Group explored a number of funding model options for CLP.

### **Option 1: Indexed Block Funding (see Appendix 4)**

Indexed block funding would link the baseline service costs to changes in admission rates.

*General Services:* The base costs (1.8 EFT staff + oncosts per 100 beds) is based on the assumption that at least 1% of admissions will require assessment and management. As rates of admissions increase, the base funding would also increase.

The performance measures for general services would be:

- assessment and management of at least 1% of admissions
- 80% of referrals seen within 24 hours
- 80% of patients transferred to a mental health bed when medically clear within 48 hours.

*Specialist Services:* The base costs (2.7 EFT staff + oncosts per 100 beds) is based on the assumption that at least 2% of admissions require assessment and management.

The performance measures for general services would be:

- assessment and management of at least 2% of admissions
- 85% of referrals seen within 24 hours
- 80% of patients transferred to a mental health bed when medically clear within 28 hours.

### **Option 2: Modified WIES funding model (see Appendix 5)**

In this model, an additional item is added to the primary diagnostic related group when an episode of mental health assessment and management occurs. The funds derived from this item are provided to the CLP service.

### **Option 3: Activity Based Funding (see Appendix 6)**

Each hospital would be required to demonstrate the presence of an adequate mental health service for inpatients and current community patients with complex medical and psychiatric comorbidity.

An adequate service would:

- be available 24 hours a day, 7 days a week
- be able to assess a patient within 24 hours
- have established processes for 1:1 nursing and behavioral disturbance
- provide liaison services including capacity building, psychoeducation, peer support and placement in high needs services (ratio of indirect clinical time = 50%)
- be able to demonstrate activity and quality through CLP data set.

Funding would be provided to each general hospital by acute health proportional to their activity.

### **Recommended Option**

The Reform Group recommends an activity based model, supported by a core data set and performance measures.

### **12. Safeguards for the adequate provision of mental health services**

There is a risk that funds for mental health care within the acute health system will not reach their intended destination. The fact that the psycho-social loading component of the WIES items does not reach mental health services in the general hospital is an example of this. A model for the delivery of mental health services in an acute setting requires safety mechanisms to address this risk.

These mechanisms include a:

- minimum baseline threshold of at least 1% of hospital admissions receiving direct mental health services
- requirement that at least 0.5% of WIES is spent on the delivery of mental health services in acute and subacute care settings
- demonstration of adequate mental health services by each hospital (acute and sub-acute) as a component of their annual reporting.

### **13. Establish Performance Measures for CLP**

The development of adequate mental health services in general hospitals would be facilitated by the collection, analysis, reporting and review of a uniform data set. This data would comprise measures of activity and performance which can be reported at team, hospital and statewide levels.

Data would be drawn from existing data sets where possible (see Appendix 7).

The data set addresses the lack of visibility in current reporting and in the proposed Activity Based Funding Mental Health Care Data Set (ABF MHC DSS). Within the ABF MHC DSS, the CLP service would be a Mental Health Phase of Care (MHPC) arising from a new episode of care or as part of a current ambulatory or admitted episode. The CLP MHPC would be linked to specific interventions as defined by Mental Health Intervention Classification codes.

Examples of activity measures are:

- cases seen
- contact hours.

Examples of performance indicators are:

- timeliness - % of cases seen in 24 hours
- discharge planning - % of cases seen within 24 hours being fit for medical discharge
- time to transfer to mental health bed - % transferred with 48 hours
- successful follow up post discharge: % seen within 7 days.

#### **14. Framework for Hospital Development of CLP services**

The development of adequate mental health services in general hospitals would be facilitated by a framework to be used by individual hospitals. This framework would include:

- the principles of care of mental disorder in the general hospital
- a review of current services
- a process for determining local needs
- determining gaps in service delivery
- developing a plan for service development in collaboration with medical and surgical units
- developing uniform data collection and performance indicators
- developing and maintaining a system of quality review, reporting and service development.

#### **15. Evaluation**

Evaluation of CLP services should be conducted as part of evaluation of the general hospital. Evaluation might involve activity and quality in the provision of mental health services, responses to changes in the general health care system, gap analysis, and stakeholder surveys.

#### **16. Cost Benefit Analysis**

A cost benefit analysis for the provision of a minimum standard of CLP was conducted (see Appendix 8). The analysis used local data wherever possible. The analysis identified many potential areas of savings related to CLP\*, but chose to focus on the most robust mechanisms, namely:

- reducing length of stay
- the cost of 1:1 nursing\*.

The cost and benefits were calculated for each professional group and summed according to the proposed multidisciplinary make-up of the CLP teams (Table 1). It is important to note, however, that the efficacy of each role is dependent on the multi-disciplinary team.

\* The cost of reducing hospital stay through improved treatment of comorbid mental illness has not been included due to the complexity of this calculation. The benefits of the many other roles and services provided by CLP are not calculated. The calculations are estimates and will vary according to local patient and service characteristics.

**Table 1: Cost benefit CLP EFT 1.8/100 beds.**

Category	Class	Description	EFT/ 100 beds	Cost benefit
Nursing	NP51	RPN GRADE 5	0.5	\$30,000
Medical Officer	HM27	Registrar Year 03	0.7	\$7,700
Sessional Clinical	HN57	Specialist Year 09	0.4	\$5,100
Allied Health	PL3	PSYCHOLOGIST GR3 YR3	0.2	\$6,500
Administration	YC88	Grade 1	0.2	\$19,700
Manager	NP51	RPN GRADE 5	0.2	\$4,300
			Total	<b>\$73,300</b>

## 17. Pilot Project

The Service Model for CLP requires development and testing.

Further development is required in:

- the optimal data set and methods of collecting
- integrating data sources to create reports
- the framework for hospital funded services.

Testing needs to occur in:

- the burden of data collection, entry, recovery
- evaluating the strengths and weaknesses of ABF models.

A risk analysis will be required to pre-empt major negative impacts, including the potential for service reduction.

## 18. Conclusion

CLP is just one of a number of specialist consultation services in the general hospital. These services are vital to efficient and effective management, reducing length of stay and limiting readmissions. In order to provide the optimal benefit, these services need to be placed in systems which require them to demonstrate their activity and benefits, but also support their activity and quality alongside changes in demand and throughput. This is no more the case when dealing with the management of mental disorders within the general hospital. Progress in this area has been inhibited by outdated divisions between mental and physical health and a lack of understanding of the complexity and role of CLP services. The consequence is that services are currently unable to adequately address the immediate need of hospital inpatients with direct impacts on efficiency and patient outcomes. The opportunity exists for a system redesign, which addresses current deficiencies and is responsive to future challenges.

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## **Appendix 1: Stakeholders**

Victorian Department of Health and Human Services – Mental Health Division

Royal Australian and New Zealand College of Psychiatrists

Australian College of Mental Health Nurses

Australian Psychological Society



## **Appendix 2: Committee Members**

Associate Professor Steve Ellen (co-chair) – Alfred Hospital

Associate Professor Alex Holmes (co-chair) – Royal Melbourne Hospital

Professor David Castle – RANZCP Vic Branch

Dr Jeremy Couper – Peter McCallum Hospital

Dr Scott Eaton – Bendigo Health

Mr Matthew Hercus – DOH

Dr Sarabjit Loyal – Western Health

Dr Tony McHugh – Australian Psychological Society

Associate Professor James Olver – Austin Health

Ms Julie Sharrock – Australian College of Mental Health Nursing

Dr Carol Silberberg – St Vincent's Health

Ms Michelle Harris – RANZCP

Mrs Joy Forster - Peter McCallum Cancer Institute

### Appendix 3: Committee Timeline

	Event	Action
<b>August 2014</b>	RANZCP Working Group for reform in Victorian Consultation Liaison Psychiatry Model of Service	Formulate proposal for reform document
<b>February 2015</b>	Publication of "Proposal for reform in Victorian Consultation Liaison Psychiatry Model of Service"	Engage major stakeholders
<b>February 2015</b>	Meeting RANZCP Vic Branch	Formation of government multidisciplinary working group
<b>May 2015</b>	<p>Convening of working group</p> <p>Goals</p> <ul style="list-style-type: none"> <li>• Define a model for CLP in Victoria</li> <li>• Define a core data set for uniform data collection CL in Victoria</li> </ul>	Action goals
<b>July 2016</b>	Production of final model	<p>Ratification at RANZCP Victorian Branch Committee</p> <p>Approval at RANZCP's Executive Meeting</p> <p>Presentation to DHHS</p>

## Appendix 4: Indexed Block Funding

Indexed block funding would link the baseline service costs to changes in admission rates.

### **General Services**

The base costs (1.8 EFT staff + oncosts per 100 beds) is based on the assumption of 1% of admissions.

As rates of admission increase, the base funding would increase.

### **Specialist Services**

The formula for specialised units reflects the higher levels of need and complexity based on Australian and international literature.

The base costs (2.7 EFT staff + oncosts per 100 beds) is based on the assumption of at least 2% of admissions.

#### **Table A1: Specialist units requiring higher levels of baseline staffing**

- |                             |
|-----------------------------|
| 6.1 Cancer services         |
| 6.2 Transplant services     |
| 6.3 Trauma services         |
| 6.4 Spinal services         |
| 6.5 Pain services           |
| 6.6 Rehabilitation services |
| 6.7 Renal Services          |
| 6.8 Geriatric services      |
| 6.9 Neurology               |
| 6.10 ICU                    |
| 6.11 Obstetrics             |
| 6.12 Pediatrics             |
| 6.13 Statewide services     |

## Appendix 5: WIES funding and CLP

In the casemix system, funding for each inpatient episode of care is calculated with reference to the primary diagnostic related group (DRG).

### **Option 1: CLP Funding through primary DRG**

The correlation between the primary DRGs and mental health (CLP) contact is very low (table A2). Less than 10% of cases have a primary mental health DRG. Allocating CLP funding to individual primary DRGs is not an effective model.

**Table A2: Ten most common DRGs associated with CLP contact**

		Percentage of referrals	Cumulative percentage	Specificity*
X62A	POISNG/TOXC EFF DRUGS +CSCC	7.5	7.5	0.1223
U65Z	ANXIETY DISORDERS	2.9	10.5	0.0458
A06B	TRCH&VNT-CCC OR TRCH/VNT+CCC	2.9	13.4	0.0070
X40Z	INJ,POIS,TOX EFF DRUG W VENT	2.1	15.5	0.0576
B67A	DEGNRTV NERV SYS DIS+CSCC	1.3	16.9	0.0152
X06B	OTHER PR OTHER INJURIES - CSCC	1.1	18.0	0.0252
U67Z	PERSONLTY DSRD&ACUTE REACTIONS	1.1	19.0	0.1026
U66Z	EATING & OBSESSV-COMPULSV DSRD	1.1	20.1	0.2667
U62B	PAR&ACUTE PSYCH DSRD-CSCC-MHLS	1.1	21.2	0.3636

### **Option 2: ICD mental health item added to formula**

ICD mental health items (Mental/behavioral assessment) are recorded as part of the WIES reporting. The correlation between ICD mental health items and CLP is high ( $r=0.5$ ).

A funding model based on additional funding for the ICD Mental/behavioral assessment item for CLP assessment and management would match funding to activity.

An estimation of the price allocated to this item would be \$1800. Further work and modelling would be required to confirm this figure.

### **Option 3: Proportional allocation of WIES funding**

A minimum of 0.5% of WIES funding is allocated to mental health services as part of the hospital funding agreement. This method has the advantage of establishing reliable funding which is sensitive to changes in service activity.

## Appendix 6: Activity Based Funding

Activity Based Funding would link CLP funding to direct/indirect consultation contacts.

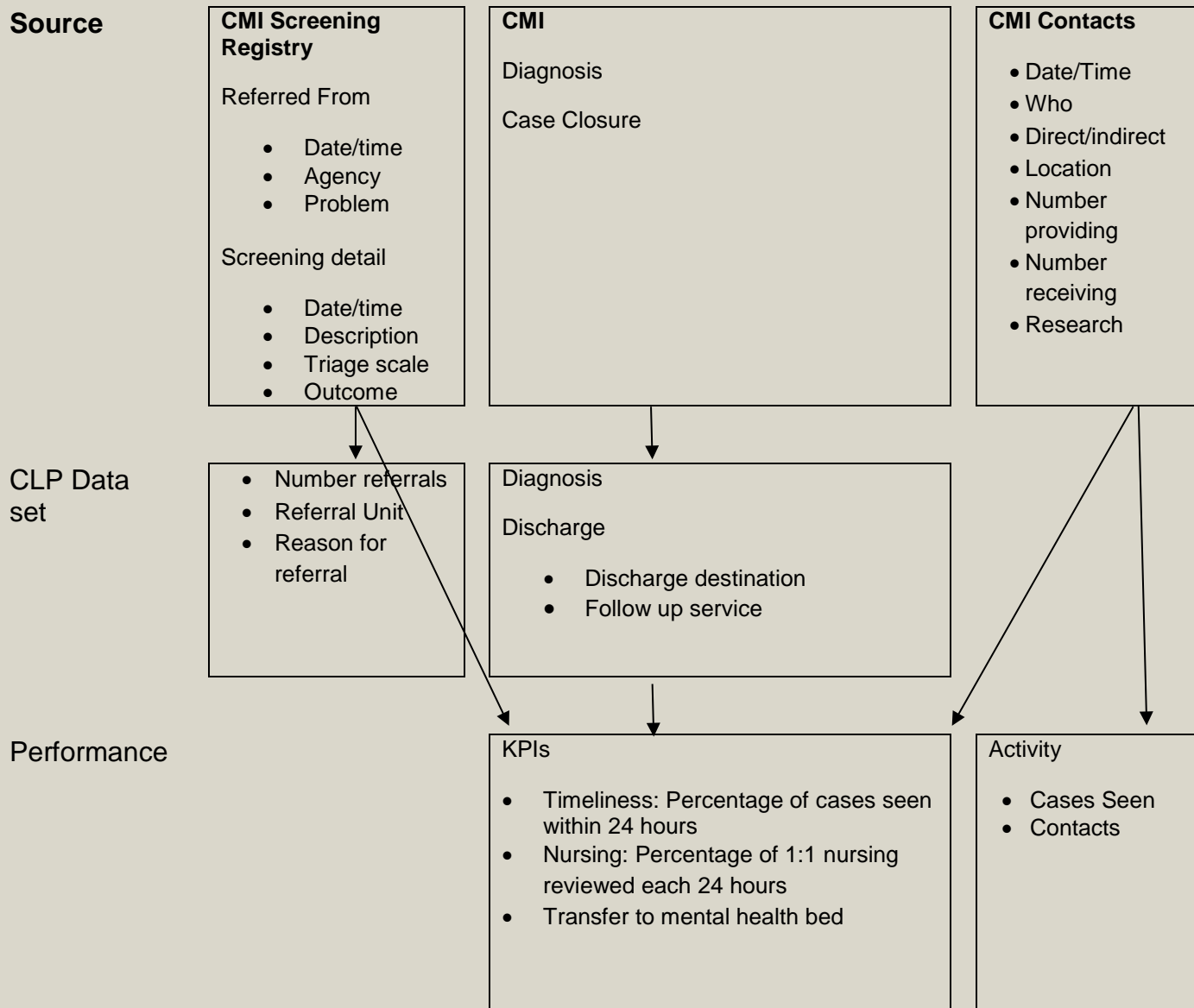
Presumptions:

- Baseline service per 100 beds.
- Average length of stay = 2.5 days.
- At least 1% admissions seen.
- Average 5 hour direct contact per case.
- Percentage of time in clinical work = 50%.
- Ratio of clinical time
  - in direct contact = 25%
  - liaison, secondary consultation = 25%.

An estimation of the formula to price allocated to an hour of contact would be \$360.00.

Further work and modelling would be required to confirm these figures.

## Appendix 7: Source and use of core data set



## Appendix 8: Cost Savings Calculations

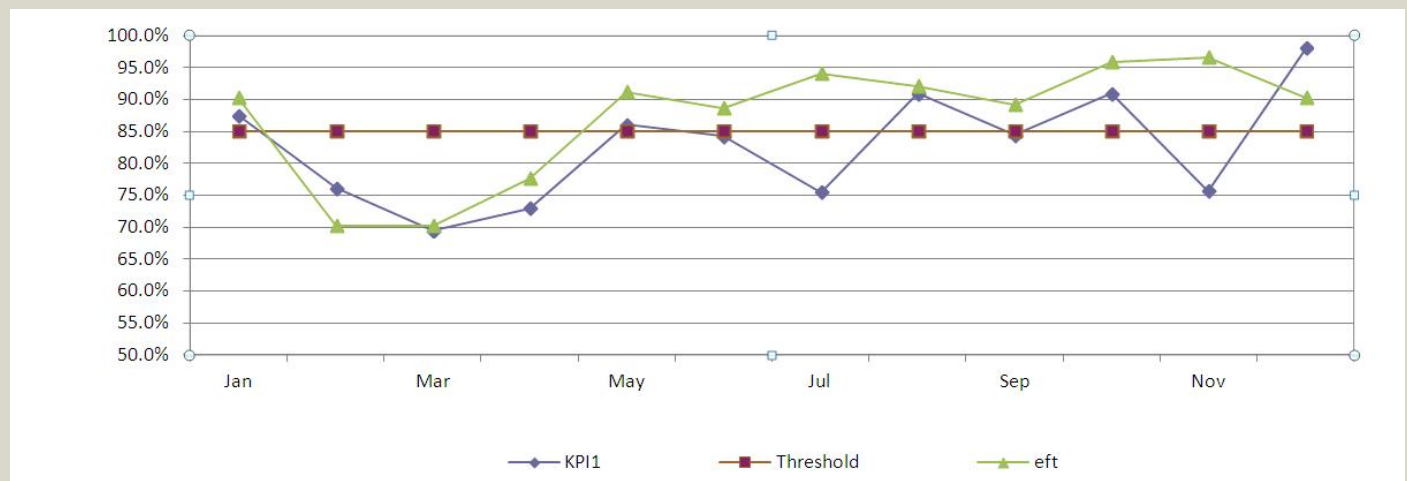
### 1.1 Medical

#### 1.1.1 Delay in assessment

Assumptions:

- All referrals need to be assessed prior to discharge.
- Failure to assess prior to discharge would fall below standard of care.
- Service staffing EFT 1.8/100 beds will achieve timeliness KPI (85% referrals seen in 24 hours).
- Service staffing EFT 1.3/100 beds (70% full EFT) associated with 70% referrals seen in 24 hours (table: A9).
- Medical EFT costs/100 beds (including oncosts and corporate costs) = \$230,000/100 beds.
- Average cost per bed day = \$750.

**Table A9: Correlation of timeliness KPI and EFT percentage (data from Royal Melbourne Hospital year 2014 -15.)**



Benefits in 1.8EFT/100 beds vs 1.3 EFT/100 beds = 60 bed days/100 beds = \$45,000/100 beds

#### 1.1.2 Delay in discharge planning

Assumptions:

- All patients admitted with suicide and/or serious mental illness (50%) need to be assessed prior to discharge.
- Failure to assess prior to discharge would fall below standard of care.
- Service staffing EFT 1.8/100 beds will achieve timeliness (85% in 24 hours prior to discharge).
- Service staffing EFT 1.3/100 beds (70% full EFT) associated with 70% seen in 24 hours prior to discharge (based on KPI data).
- Average cost per bed day = \$750.

Benefits in 1.8 EFT/100 beds vs 1.3 EFT/100 beds = 30 bed days/100 beds = \$27,500/100 beds.

### 1.1.3 Cost Benefit Analysis Medical

Cost for 1.1 EFT medical/100 beds vs 0.8 EFT/100 beds = \$69,000.

Benefit for 0.3 EFT medical/100 beds vs 0.8 EFT/ 100 beds = \$72,500.

Cost benefit for 1.1 EFT medical/100 beds vs 1.3 EFT/100 beds = \$12,800.

### 1.2 Nursing

Assumptions:

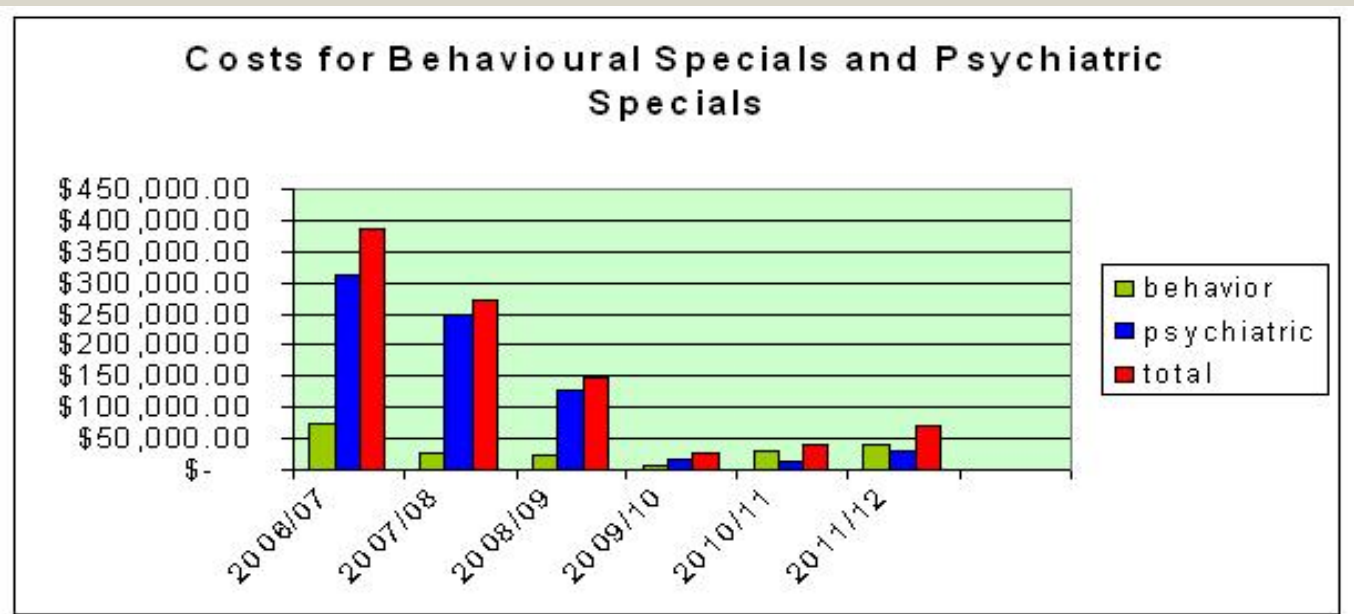
- All nursing specials seen within 24 hours.
- Reduction in 1:1 nursing of 80% occurs over first three years (figure A9.2).
- CL nursing position is only effective as component of a CLP multi-disciplinary team.

Cost for 0.5 EFT nursing/100 beds vs 0 EFT/100 beds = \$79,000.

Benefits for 0.5 EFT nursing/100 beds vs 0 EFT/100 beds = \$109,000.

Cost benefit for 0.5 EFT nursing/100 beds vs 0 EFT/100 beds = \$30,000.

**Figure A9.2: Reduction in cost of 1:1 nursing at Royal Melbourne Hospital following commencement of CL nursing in 2005.**



### 1.3 Psychologist



Assumptions:

- Psychologist involved in the formulation and review of management plans for top five patients/100 beds with abnormal illness behavior leading to recurrent hospital admissions.
- Patients with abnormal illness behavior (diabetes, asthma, chest pain of unknown origin) have 20 days admission per year.
- Effective management planning leads to 50% reduction in hospital admissions.
- Average cost per bed day = \$750.

Cost for 0.5 EFT psychology/100 beds = \$31,000.

Benefits of 0.5 EFT psychology/100 beds = 150 bed days = \$37,500.

Cost benefit for 0.5 EFT psychology/100 beds = \$6500/100 beds.

#### 1.4 Manager

Assumptions:

- 14% of referrals require transfer to an acute mental health inpatient service.
- Transfer occurs within 48 hours in 80% of cases.
- Absence of manager role leads to at least one day of delayed transfer in 50% cases.

Cost of 0.2 EFT manager/100 beds = \$16,700.

Benefits of 0.2 EFT manager/100 beds = 28 bed days = \$21,000.

Cost benefit for 0.2 EFT manager/100 beds = \$4300.

#### 1.5 Administrative

Assumptions:

- Essential administrative tasks take 0.2 sessions per 100 beds.
- Essential tasks (including Mental Health Act paperwork) will be performed by other staff in the absence of administrative staff.

Cost of 0.2 admin per 100 beds = \$16,700.

Cost of 0.2 time averaged among multidisciplinary clinicians = \$36,000.

Cost benefit 0.2 admin per 100 beds = \$19,700.