Health
South Eastern Sydney
Local Health District

COAG Enhancement Program Allied Health Summary Report: General Rehabilitation

November

2011

This summary report has been designed to critically evaluate the effectiveness of Council of Australian Governments (COAG) funding enhancements to the Rehabilitative Medicine Unit at Prince of Wales for the period of March 2010 to September 2011. Recommendations of improvements for future service delivery and data reporting are provided.

Prince of Wales Hospital

Prepared by Steven Wood, Senior Physiotherapist, Prince of Wales Hospital

ACKNOWLEDGMENTS

Main Contributors

Steven Wood
Senior Physiotherapist
Acute Rehabilitation Therapy Programme

Bianca Kinnear
Senior Occupational Therapist
Intensity of Therapy Programme

Jade Stockill
Speech Pathologist
Outpatients Programme

Other Contributors

Clare Quinn
Manager – Speech Pathology
SES LHD (Northern)

Bill Brennan
Manager – Physiotherapy
SES LHD (Northern)

Margaret Holyday
Manager – Nutrition and Dietetics
SES LHD (Northern)

Andrew Murray
Nurse Educator
Rehabilitation Medicine POWH

Alison Cochrane
Performance Management and Information Unit
SES LHD (Northern)

CONTENTS

6.0 SUMMARY OF ACHIEVEMENTS

6.1 COAG Key Performance Indicator

6.2 Intensity of Therapy Programme (ITP)

6.3 Acute Rehabilitation Therapy Programme (ART)

6.4 Outpatients Programme (OP)

7.0 RECOMMENDATIONS

8.0 TABLE OF ABBREVIATIONS

1.0 EXECUTIVE SUMMARY

This is the first of a series of reports designed to detail the performance of Council of Australian Governments (COAG) Sub Acute Allied Health funding enhancements in General Rehabilitation at Prince of Wales Hospital (POWH). This document does not report on the performance of the Aged Care or Spinal Rehabilitation categories, which also fall under the Rehabilitation Sub Acute Care Type in SPARC.

General Rehabilitation accepted the COAG enhancements in the form of three programmes: Intensity of Therapy (ITP), Acute Rehabilitation Therapy (ART) and Outpatients (OP). The programmes have been introduced in stages from March 2010, following consultation between the Director of Rehabilitation and Allied Health Heads of Department.

COAG determined that the formal key performance indicator (KPI) was to provide a 5% increase sub acute activity by incrementally for four years from 2009/10 FY. This report outlines the programme-specific outcome measures that have been developed to provide a more detailed reflection of the contribution of Allied Health in enhancing the performance of the General Rehabilitation category.

Overall, the programmes have achieved:

- better utilisation of sub acute General Rehabilitation beds through decreasing length of stay (9.15% between 09/10 and 10/11) and increasing number of separations (10.7% between 09/10 and 10/11)
- improvement of patient Functional Independence Measures (FIM) within the sub-acute General Rehabilitation ward
- significant number of patients avoiding admission to sub acute rehabilitation through facilitating early discharge home from the acute setting - 27.4% patients discharged to a residence between February and September 2011
- an estimated saving of 624 Rehabilitation Bed Days (equivalent to 2.8 beds at 90% occupancy)
- decreased outpatient waiting list times

Several recommendations are made for future actions, at a local health district, facility and discipline level.

2.0 BACKGROUND

Nature of COAG Funding

COAG funding was provided to the former SESIAHS in 2009/10 for the enhancement of sub acute services over the next 4 years. This funding is tied to an increasing of sub acute activity by 5% per year from 2009/10 across the care types of:

- Rehabilitation (including General Rehabilitation, Aged Care Rehabilitation, Spinal Rehabilitation)
- Geriatric Evaluation and Management (GEM),
- Palliative Care

General Rehabilitation accepted funding enhancements in the form of three programmes:

- Intensity of Therapy (ITP)
- Acute Rehabilitation Therapy (ART)
- Outpatients (OP)

Funding was provided to POWH progressively since March 2010. COAG funding was quarantined and allocated through a collaborative approach between Allied Health Heads of Department and Rehabilitation Physicians as to how this was allocated to each stream and discipline.

The total FTE Enhancements across the three programmes is summarised in the table below.

Position	FTE
Staff Specialist	0.30
Physiotherapist	1.83
Occupational Therapist	2.40
Speech Pathologist	1.00
Dietitian	0.50
Psychologist	0.27
Social Worker	0.52
Allied Health Assistant	0.85
Total FTE	**7.67**

The demand for rehabilitation services continues to grow with the latest national data revealing a growth of 6.3% (2008), with further significant growth expected over the next two decades. Research also reveals that an increased length of stay in an acute setting directly relates to an increase in length of rehabilitation required (this group doubled between 2006 and 2008)" [1]

[1] NSW Rehabilitation Redesign Project Report 2011

Key Performance Indicators

COAG determined that the formal key performance indicator (KPI) was to provide a 5% increase in sub acute bed throughput incrementally for four years.

However, this indicator does not reflect the specific outcomes of the three General Rehabilitation COAG funded programmes (ITP, ART, OP).

Therefore, this report details improvements in General Rehabilitation outcomes and programme-specific indicators for the 2010/2011 Financial Year.

Description of Local Rehabilitation Models of Care

COAG enhancements were provided in a three stage rollout to facilitate the development of the Rehabilitation Models of Care:

- Acute Rehabilitation Therapy
- Intensity Therapy Program
- Outpatients

3.0 MODEL 1 : INTENSITY OF THERAPY PROGRAMME (ITP)

3.1 Description of Model of Care

The primary objective of this model of care is to accelerate patient functional recovery in a rehabilitative setting through enhanced intensity of therapy, with the overarching goal of decreasing rehabilitation length of stay.

This programme directly contributes to the Key Performance Indicator, as set by COAG, of a 5% increase in rehabilitation bed throughput annually over four years.

COAG funding was quarantined for 15 out of the 20 beds within the Rehabilitation Unit at POWH – Parkes 1 West. It is noted that no additional beds were allocated to the Rehabilitation Unit.

Patient selection for recruitment into the programmme is based upon those patients who are identified by the multidisciplinary team who:

- are predicted to benefit from additional therapy to improve functional independence and outcomes
- are likely to progress through to discharge in shorter time frames with additional therapy

The Intensity of Therapy Program has achieved in the 2010/2011 FY:

1. Decreased average length of stay
2. Increased number of separations
3. Improvements in Functional Independence Measures (Outcome KPI)
4. Increased effectiveness in General Rehabilitation

FIM is the current measure of complexity for sub acute services.

3.2 Recruitment Considerations

Recruitment commenced in July 2010 and was completed by October 2010. The distribution of staffing is demonstrated in the table below.

Position	FTE	Commenced
Physiotherapist	0.53	April 2010
Occupational Therapist	1.00	April 2010
Dietitian	0.10	October 2010
Psychologist	0.10	April 2010
Social Worker	0.21	October 2010
Allied Health Assistant	0.35	April 2010
Total FTE	**2.29**	

3.2.1 Issues Which Had an Impact on Service Delivery

Physiotherapy

- periods of leave, secondary to uncovered maternity leave and staff resignation, resulting in a short fall of 1.0 FTE staff member between February 2011 to July 2011. The ITP physiotherapy program continued to operate six days per week during this time, however, intensity of therapy may have been impacted upon during this period.
- resignation of the ITP Physiotherapist in June 2011. Service was maintained by increasing hours of another part-time physiotherapist, moving from six (6) to seven (7) days per week service from July 2011.

Occupational Therapy

- uncovered maternity leave resulted in a 1.0 FTE vacancy between March and December 2010. This staff member returned part time, resulting in a 0.58FTE vacancy.

3.3 Service Development

3.3.1 Physiotherapy

Increased intensity of therapy was achieved through expanding the number of days available per week for Physiotherapy from five to seven day service.

Prior to COAG enhancements:

- patients frequently received approximately one hour of physiotherapy per day, Monday to Friday, in accordance to current research recommendations by Kwakkel et al (2004) of a minimum of five days therapy per week.
- this target was not achieved at times due to ADOs and public holidays

Implementation of COAG enhancement has:

- developed a six days per week programme from April 2010 to June 2011. This would also provide new services during the hospital-wide ADO and Saturday.
- achieved best practice of a seven day rehabilitation service from July 2011 following staff realignment

3.3.2 Occupational Therapy

Increased intensity of therapy was achieved through decreasing the clinician to patient ratio from 1:7 to 1:5, thereby increasing the amount of face to face time per patient.

Current treatment guidelines (National Stroke Foundation, 2010 and Kwakkel 2004) identify that Occupational Therapists are required to provide one hour of active therapy practice every day for five days a week.

Prior to COAG enhancements:

- patients did not consistently receive approximately one hour of therapy per day, Monday to Friday, in accordance to current research recommendations by Kwakkel et al (2004) of a minimum of five days therapy per week.

- this target was not being met due to:
    - ADOs and public holidays
    - the patient ratio not accommodating non-clinical responsibilities eg. equipment applications to ENABLE

Implementation of COAG enhancement has:

- enabled a five day per week service in accordance with research standards
- provided for a clinician to patient ratio of 1: 5 in line with current Australian Faculty of Rehabilitation Medicine (AFRM) and AROC staffing guidelines
- increased intensity of therapy
- more comprehensive evidence-based therapy through:
    - cognitive and perceptual screening assessments
    - targeted cognitive, perceptual and visual neglect training
    - establishment of an additional upper limb therapy group, which annually equates to an additional 156 hours of group therapy

3.3.3 Social Work

Increased intensity of therapy was achieved by decreasing the clinician to patient ratio from 1:15 to 1:13 thereby increasing the amount of time available per patient.

Prior to COAG enhancements:

- Social Work staffing resources were insufficient in the sub-acute setting.

Implementation of COAG enhancements has:

- improved the clinician to patient ratio, directly resulting in more time being available for social workers to attend to the needs of patients, family members and carers through early assessment and early intervention. This has also resulted in comprehensive and more timely feedback to the multidisciplinary team regarding issues which may impact on patient care, rehabilitation and/or discharge
- ensured that social work resources were consistent with enhancements in other disciplines thereby ensuring the ongoing effectiveness of the multidisciplinary model of care in the sub acute setting
- achieved improved continuity of care because the ITP and ART social work service components are undertaken by one clinician

3.3.4 Nutrition and Dietetics

Treating malnutrition should be a priority in the rehabilitation setting. It has been estimated that in NSW approximately 36% of patients admitted to hospitals have some degree of malnutrition, it is well documented that nutritional status declines with length of hospital stay and that there are high rates of malnutrition in rehabilitation settings. Amongst other adverse outcomes, malnutrition has been associated with increased morbidity and mortality, impaired immune function, delayed wound healing, decreased functional status and increased lengths of stay. Actively treating malnutrition has been shown to improve many of these outcomes.

Prior to COAG enhancements:

- the clinical dietitian staffing for the inpatient unit was significantly below recommendations.
- There was nil nutrition screening of patients

Implementation of COAG enhancements has:

- facilitated the introduction of a ward malnutrition screening programme and timely completion of nutrition assessment and intervention for those patients identified to be at risk
- increased Nutrition OOS to patients of Parkes 1 West by 50%

3.3.5 Speech Pathology

No service enhancements provided

3.3.6 Psychology

Prior to COAG enhancements:

- Psychology staffing was significantly below recommended levels resulting in delays to patients receiving neuropsychological testing, psychological assessment and treatment.

Implementation of COAG enhancements has:

- Enabled more timely assessment and intervention including assessment of patients' cognitive functioning and feedback to team regarding treatment approaches to optimize therapy, assessment of decision-making capacity in relation to discharge destination, advice on behaviour management to enhance participation in therapy, and assessment and treatment of anxiety, depression, and other psychological factors which might be affecting patients' ability to benefit from therapy.

4.0 MODEL 2 : ACUTE REHABILITATION THERAPY PROGRAMME (ART)

4.1 Description of Model of Care

This care setting is defined as early rehabilitation intervention by a multidisciplinary team in the acute care setting.

The primary objective of this model of care is to enhance the treatment of patients in the acute setting through providing simultaneous rehabilitation services, driven by an integrated medical and rehabilitation multidisciplinary team.

Research indicates that an increased length of stay in an acute setting directly relates to an increase in length of rehabilitation required. This patient population has doubled between 2006 and 2008.

Therefore, this model of care aims to:

- Decrease patient overall average length of stay across the acute and rehabilitation settings
- Decrease number of patients requiring a sub-acute inpatient stay
- Decrease in discharge delays due to early assessment and discharge planning
- Prevent functional decline during acute hospitalisation[2]

4.2 Recruitment Considerations

The POWH ART Team commenced recruitment in late 2010, and completed recruitment in April 2011. All clinician roles had completed recruitment by February 2011. The distribution of staffing is demonstrated in the table below. There have been no periods of significant leave since February 2011.

Position	FTE	Commenced
Staff Specialist	0.30	February 2011
Physiotherapist	1.00	January 2011
Occupational Therapist	1.00	January 2011
Speech Pathologist	0.60	July 2010
Dietitian	0.40	October 2010
Psychologist	0.17	December 2010
Social Worker	0.31	October 2010
Allied Health Assistant	0.50	April 2011
Total FTE	**4.28**	

4.3 Service Development

The ART Team has provided additional therapeutic interventions to patients:

- awaiting transfer to sub-acute inpatient rehabilitation at POWH
- awaiting transfer to sub-acute inpatient rehabilitation at sites within and outside of the SES LHD
- identified as appropriate for early intervention and potential discharge direct from the acute care setting, and thereby avoiding admission to the Rehabilitation Medicine Ward

[2] NSW Rehabilitation Redesign Project Report 2011

- requiring early rehabilitation care plans due to complex medical needs, including patients in Intensive Care and High Dependency environments
- requiring a trial period of rehabilitation to determine appropriateness for admission to the Rehabilitation Medicine Ward

4.3.1 Physiotherapy and Occupational Therapy

Research has shown that early therapy-based intervention improves patient functional recovery during acute hospitalisation. This has a positive impact on the overall rehabilitation length of stay.

Prior to COAG enhancements:

- therapy services in the acute setting were prioritised to patients acutely unwell or awaiting imminent discharge
- acute therapists' time was limited to management of acute impairments
- anecdotally, patients awaiting transfer to rehabilitation received abbreviated treatments from Physiotherapy, and limited or nil therapy services from Occupational Therapy

Implementation of COAG enhancements has:

- acute and rehabilitative modalities to be delivered simultaneously
- allowed for occupational therapy and physiotherapy to provide supplemental interventions in order to increase the intensity of therapy delivered in terms of time and occasions of service.
    - patients on average, receive daily physiotherapy from both the Acute and ART physiotherapy teams, essentially doubling previously delivered therapy levels.
    - patients on average, receive a minimum of second-daily therapy from the ART occupational therapist
- increased the scope of therapy to stroke patients in accordance to National Stroke Foundation Guidelines
- afforded an additional consultative service:
    - early rehabilitation recommendations and delivery in the Critical Care environments, particularly those in Intensive Care and High Dependency settings
    - aimed to minimise functional decline, including early commencement of pressure care management; seating protocols; equipment prescription (eg. customised wheelchairs)
- facilitated early discharge:
    - facilitation of early discharge from acute settings through additional therapy in order to prevent admission to sub-acute inpatient rehabilitation

4.3.2 Social Work

Prior to COAG enhancements:

- patients identified for rehabilitation in a number of acute wards were seen by the ward social worker on a referral basis only.
- patients may not have been referred to social work until the patient was in sub acute setting. If referred, these patients may not have been accorded priority due to other clinical demands on available staffing resources.

- a comprehensive social work psychosocial assessment and, therefore, the commencement of social work interventions including work with the patient, family members or carers towards discharge planning may have been delayed until the patient was in the sub acute unit.

Implementation of COAG enhancements has:

- enabled the ART social worker to undertake comprehensive psychosocial assessments for all patients identified for rehabilitation whilst the patients are in the acute setting. This has resulted in the earlier identification of the needs and wishes of patients, carers and family members as well as the earlier identification of issues which may impact upon discharge planning.
- resulted in counselling being provided earlier for patients, family members and carers to promote psychosocial well being and preparedness for rehabilitation and discharge from hospital.
- achieved improved continuity of care because the ITP and ART social work service components are undertaken by the one clinician.

4.3.3 Nutrition and Dietetics

Prior to COAG enhancements:

- limited nutrition screening and monitoring of patients awaiting rehabilitation

Implementation of COAG enhancements has:

- provided nutrition screening of 100% patients on the rehabilitation waiting list.
- Identified that 50% of these patients are malnourished and one quarter of these had not already been identified in their acute setting.
- facilitated the development of the role of the Allied Health Assistant to implement the screening tool under the guidance of the Clinical Dietitian, which has resulted in streamlining of referrals to optimise clinician time.

4.3.4 Speech Pathology

There is a great need for speech and language rehabilitation in the acute setting for patients following stroke or other neurological insult. Aphasia, a debilitating language impairment, has been shown to affect up to 42% of patients hospitalised with stroke. It affects prognosis and rehabilitation outcomes. Research has shown that early intervention for patients with aphasia improves communication outcomes.

Prior to COAG enhancements:

- As staffing in the Acute Stroke Unit is 50% of recommended guidelines, only a limited communication therapy service was available for patients in acute wards awaiting rehabilitation. Due to time constraints and the possible severity of consequences due to swallowing impairment, acute dysphagia intervention was prioritised over communication therapy.

Implementation of COAG enhancements has:

- allowed clinicians to deliver increased communication therapy time for patients in the acute setting in accordance with research recommendations.

4.3.5 Psychology

Prior to COAG enhancements:

- limited psychology services available to patients awaiting rehabilitation due to levels of staffing, and established services within the sub acute rehabilitation unit
- Implementation of COAG enhancements has enabled early neuropsychological assessments to patients awaiting rehabilitation to:
    - Advise on treatment approaches specific to the patient's cognitive impairments, either acute or chronic, to optimize therapy delivered.
    - Advise on behavioural management plans to enhance current levels of care provided in the acute setting
    - Early capacity assessments to enhance discharge planning
    - Determine a patient's readiness to participate appropriately in a sub acute inpatient rehabilitation program, and facilitate patient compliance

5.0 MODEL 3 : OUTPATIENTS PROGRAMME (OP)

5.1 Description of Model of Care

This care setting is defined as multidisciplinary therapy delivered in an outpatient setting.

Enhancement was provided to:

- enable a structured outpatient rehabilitation programme
- ensure the continuation of care following a stay in the acute or rehabilitation setting
- enable transfer of care at an earlier date from the sub-acute rehabilitation unit to private dwellings
- facilitate discharge from the acute setting, thereby avoiding admission to sub acute rehabilitation

5.2 Recruitment Considerations

Funding for ambulatory care services was available from March 2010.

There have been no significant periods of leave for Physiotherapy or Speech Pathology since that time.

The Occupational Therapy position was unfilled in June and December 2010, and January and April 2011 due to unplanned periods of leave and vacancies. Occupational Therapy hours were redirected to the outpatient role from June 2011 until September 2011 when it became vacant again due to maternity leave.

The distribution of staffing is outlined in the table below.

Position	FTE	Commenced
Speech Pathologist	0.40	March 2010
Physiotherapist	0.30	April 2010
Occupational Therapist	0.40	May 2010
Total FTE	**1.10**	

5.3 Service Development

No specific guidelines were provided to govern the enhanced ambulatory care services. General referral guidelines were developed on a discipline specific basis. These included:

- An open referral system (i.e. referrals are accepted by medical, allied health, nursing, and community practitioners).
- Patients have current rehabilitation goals (i.e., for physiotherapy, speech pathology or occupational therapy)
- Patients are able to attend outpatient appointments at Prince of Wales Hospital

Discipline specific intervention was provided based on the best practice evidence available. Multidisciplinary team work and case conferences were conducted on an ad hoc basis depending on individual patient requirements.

5.3.1 Physiotherapy

Prior to COAG enhancements:

- physiotherapy provided an ad hoc outpatient amputees service, often limited to one-off prosthetic reviews by the full-time inpatient physiotherapist
- AROC data (2009) identified an increased length of stay in the rehabilitation unit for the amputee population at POWH as a result of limited outpatient physiotherapy amputee services

Implementation of COAG enhancements has:

- enabled a new dedicated Amputees outpatient service
- facilitated early discharge of amputee patients from Parkes 1 West.

5.3.2 Occupational Therapy

Prior to COAG enhancements:

- there was no formal outpatient occupational service due to staffing realignment
- patients were seen on an ad hoc basis by inpatient therapists

Implementation of COAG enhancements has:

- been significantly impacted upon by staffing issues
- provided a service of maximum two days per week

5.3.3 Social Work

No service enhancements provided

5.3.4 Nutrition and Dietetics

No service enhancements provided

5.3.5 Speech Pathology

Prior to COAG enhancements:

- There was a limited outpatient service. Service was provided as an adjunct to inpatient services, as time permitted

Implementation of COAG enhancements has:

- provided a five-day therapy service for patients discharged from the acute or rehabilitation unit with ongoing communication or swallowing impairments
- significantly reduced the waiting list for outpatient speech pathology services

5.3.6 Psychology

No service enhancements provided

6.0 SUMMARY OF ACHIEVEMENTS

6.1 COAG Key Performance Indicator

6.1.1 Increase Sub Acute Bed Days

POWH has achieved an increase in sub-acute bed days by 12.5% for the 2010/2011 FY; Benchmark was established as 5%.

Summary of Individual Programme Key Performance Indicators

Individual programmes have achieved positive results for the following Key Performance Indicators:

6.2 Intensity of Therapy (ITP)

6.2.1 Decreased Average Length of Stay

6.2.2 Increased Number Of Separations

6.2.3 Improvement in Patients Functional Independence Measures (Outcome KPI)

6.2.4 Increased Effectiveness in General Rehabilitation

6.3 Acute Rehabilitation Therapy (ART)

6.3.1 Avoiding Admission to General Rehabilitation

6.3.2 Facilitation of Early Discharge Home from an Acute Ward

6.3.3 Patients Received a Measurable Increased Intensity of Therapy

6.4 Outpatients (OP)

6.4.1 Increased Number of Patients Referred to Outpatient Services to Facilitate Early Discharge from the Acute Setting

6.4.2 Decreased Waiting List Times

6.1 COAG Key Performance Indicator

6.1.1 Increased Sub Acute Bed Days

POWH, across the sub-acute care types of General Rehabilitation; GEM and Palliative Care, has achieved for the 2010/11 FY:

- 12.5% increase in sub acute bed throughput compared to the 2009/10 FY,
- The benchmark target (5% increase on 2009/10 FY) equated to 19,896 Bed Days
- POWH achieved an additional 7.5% above this, equating to 21,383 Bed Days.

The table below illustrates POWH COAG related sub acute activity for the 2010/11 FY. Data was provided by the SESLHD (Northern) Performance Measurement and Reporting Unit through SPARC.

All Care Type	Inpatient				
	Bed Day Target	Bed Day Actual	%Var from Target	Episode Actual	ALOS
C208 - Prince of Wales	19,896	21,383	7.5%	704	30.4
Total	**19,896**	**21,383**	**7.5%**	**704**	**30.4**

The bed days recorded in this report include all bed days recorded under a sub acute service category within POWH (this includes Rehabilitation in Aged Care, General and Spinal units, GEM and Palliative Service categories). The increase recorded is mostly likely associated with the opening of four (4) new spinal rehabilitation beds (two in March 2010 and two additional beds in February 2011) and the increase in type changing of palliative patients (increasing from 150 bed days recorded in 2009/10 to 858 bed days in 2010/11).

The bed base in POWH General Rehabilitation was not increased in this programme, therefore, the ITP programme aimed to increase the throughput of patients through the current bed base.

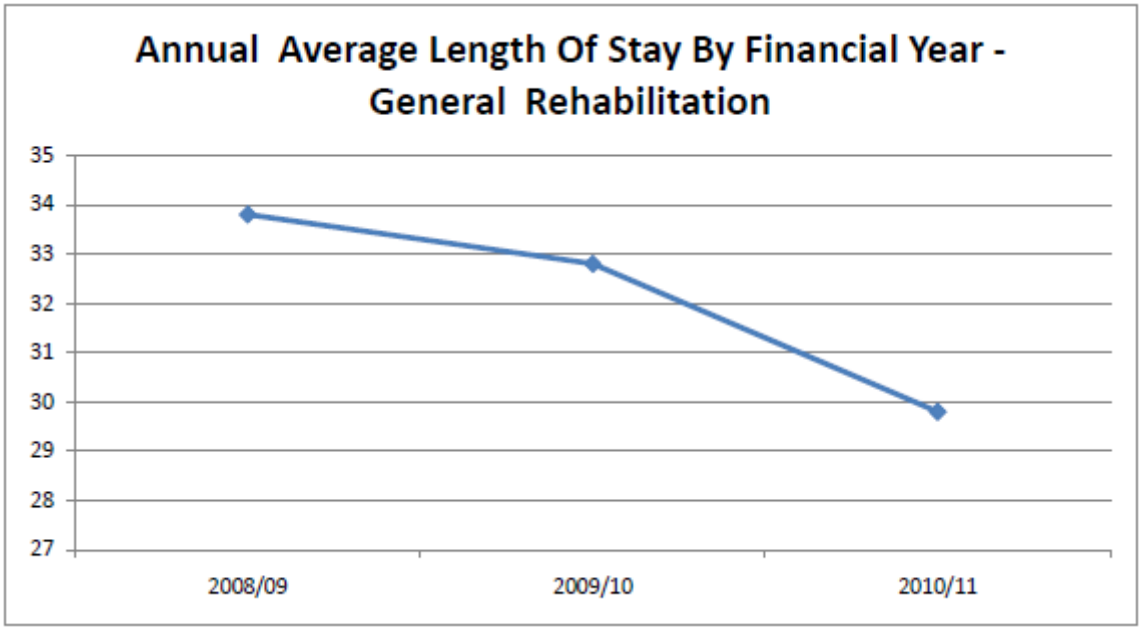
6.2 Intensity of Therapy (ITP)

6.2.1 Decreased Average Length of Stay

POWH has significantly decreased the length of stay for General Rehabilitation.

The graph below demonstrated the average length of stay for the 2010/2011 Financial Year compared to previous years. The average annual length of stay has decreased by:

- 9.15% between 2009/10 and 2010/11 (equates to three days)
- 11.83% between 2008/09 and 2010/11 (equates to four days)



Data provided by the Performance Management Information Unit of POWH.

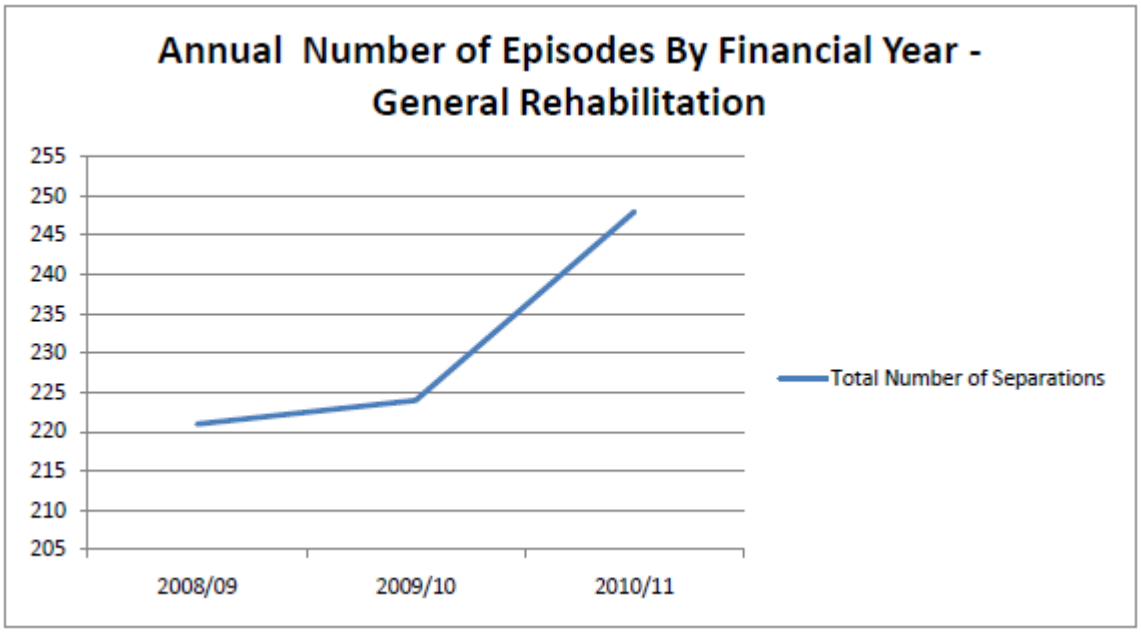
6.2.2 Increase in Number of Separations

The decrease in the length of stay has enabled an increase number of patients to utilise the rehabilitation services within General Rehabilitation.

POWH has significantly improved the number of separations annually for General Rehabilitation. The number of separations has increased by:

- 10.7% between 2009/10 and 2010/11
- 12.2% between 2008/09 and 2010/11

The graphs below illustrate the number of separations for the 2010/2011 FY compared to previous years.



Data provided by the Performance Management Information Unit of POWH.

By increasing the number of separations through the General Rehabilitation Ward the programme has increased the capacity of the hospital to care for more patients without opening additional beds.

NB: The number of separations for 2010/2011 does not take into account the number of patients that have avoided admission to Parkes 1 West due to early discharge through the ART Programme (please see section 6.3.1 for more information).

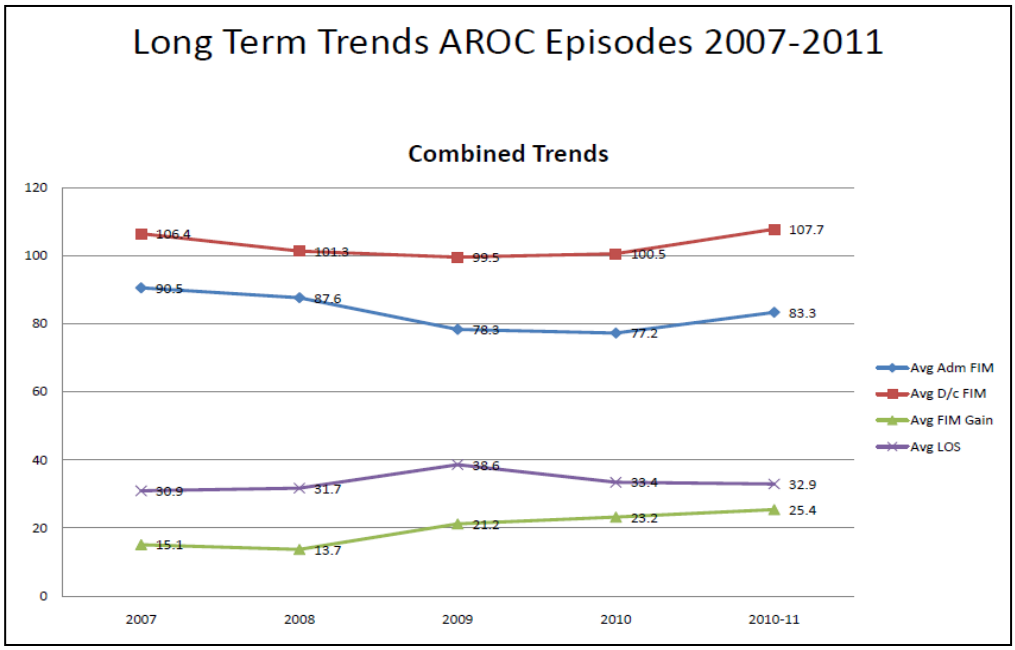
6.2.3 Improvement in Patients Functional Independence Measures (Outcome KPI)

ITP has also contributed to an improvement of FIM scores during a patient's rehabilitation episode.

AROC data trends between 2007 and 2011 are illustrated in the graph below, and demonstrate significant improvement in scores for the period prior to and following implementation of COAG enhancement in 2010. This is particularly demonstrated through an overall increased FIM efficiency (greater FIM improvements in shorter periods of time).

Other measures demonstrating the enhanced effectiveness of the rehabilitation process include:

- 8.2% increase in average discharge FIM scores, indicative of a higher level of independence
- 18.7% increase in average FIM gain during admission, indicative of a better functional improvement during admission
- 14.7% improvement in average length of stay



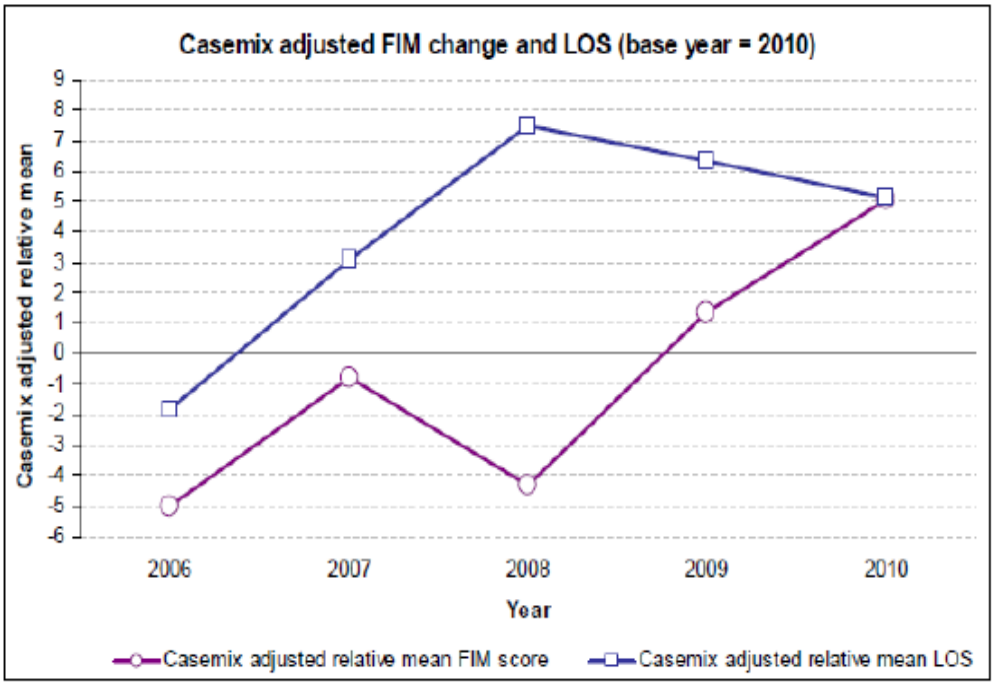
6.2.4 Increased Effectiveness in General Rehabilitation

Effectiveness of rehabilitation is demonstrated by greater FIM gain in a shorter LoS.

AROC data in 2007-2008 revealed that patients in General Rehabilitation had worse FIM outcomes with longer lengths of stay compared to its peer hospitals.

Since the implementation of COAG enhancements in March 2010, POWH rehabilitation patients achieve a greater improvement in FIM scores compared to its peer hospitals whilst continuing to decrease the average length of stay.

Length of Stay and FIM Against Benchmark for Completed AROC Rehabilitation Episodes



6.3 Acute Rehabilitation Therapy Programme (ART)

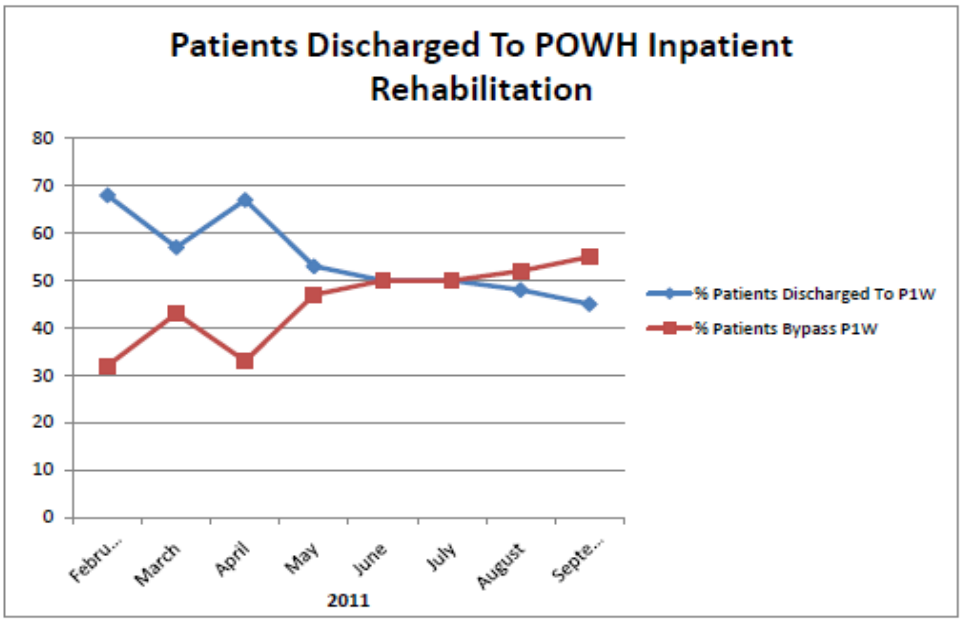
6.3.1 Avoiding Admission To General Rehabilitation

The Acute Rehabilitation Therapy (ART) team has significantly increased its efficiency of patient discharge prior to the anticipated admission to Parkes 1 West, either to a residence or other acute or rehabilitation hospital (both within and outside the SES LHD).

Prior to the commencement of ART, patients requiring rehabilitation at another facility outside of POWH often waited extended periods of time in the POWH acute setting for a rehabilitation bed vacancy, occasionally resulting in an abbreviated admission to Parkes 1 West. The ART programme has successfully implemented strategies to hasten transfers to other facilities to avoid admission to Parkes 1 West.

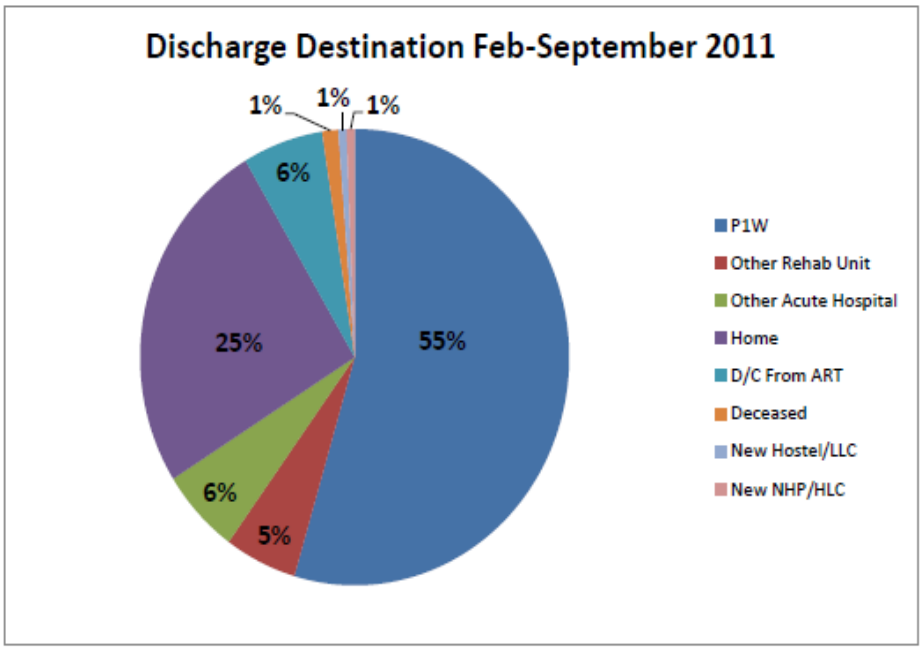
The percentage of patients discharged from POWH, circumventing admission to Parkes 1 West, and those requiring admission has reached parity within five months of complete recruitment of staff.

- Initially, 70% of patients serviced by the ART team still required admission to Parkes 1 West.
- As of August 2011, less than 50% of patients serviced by ART required an admission to Parkes 1 West, demonstrating effectiveness of the service with over 50% of patients bypassing admission to the POWH Sub Acute Inpatient Rehabilitation ward.



Of these patients, significant numbers were discharged home (25%) as seen in below graph (further information is available in section 6.3.2)

The ART team has discharged 165 patients from its service between February and September 2011, as outlined in the graph on the following page.



6.3.1.1 Facilitation of Early Discharge Home from an Acute Ward

As per section 6.3.2

6.3.1.2 Facilitation of Discharge to Other Facility

Prior to commencement of the ART team, patients awaiting discharge to a rehabilitation facility outside of POWH (within or out of area) anecdotally spent significant periods of time waiting in the acute setting.

The ART team has facilitated earlier discharge of these patients through consulting with the Acute treating team to:

- change practice through organizing transfer of the patient under acute care in the final destination, rather than awaiting a rehabilitation bed to become available. This has accounted for 10 out of the 165 (6%) patients serviced by ART team.
- provide Rehabilitation care plans to the Rehabilitation Units to further support early discharge. This has accounted for 9 out of 165 (5%) patients serviced by the ART team

6.3.1.3 Trial Periods of Rehabilitation

Trial periods of rehabilitation were utilised to determine a patient's appropriateness for admission to a rehabilitation unit, under the guidance of the Rehabilitation Physician, which has helped optimise patient selection for sub-acute rehabilitation beds.

This has accounted for 10 out of 165 (6%) patients serviced by the team that have avoided unnecessary admission to a sub-acute inpatient rehabilitation facility.

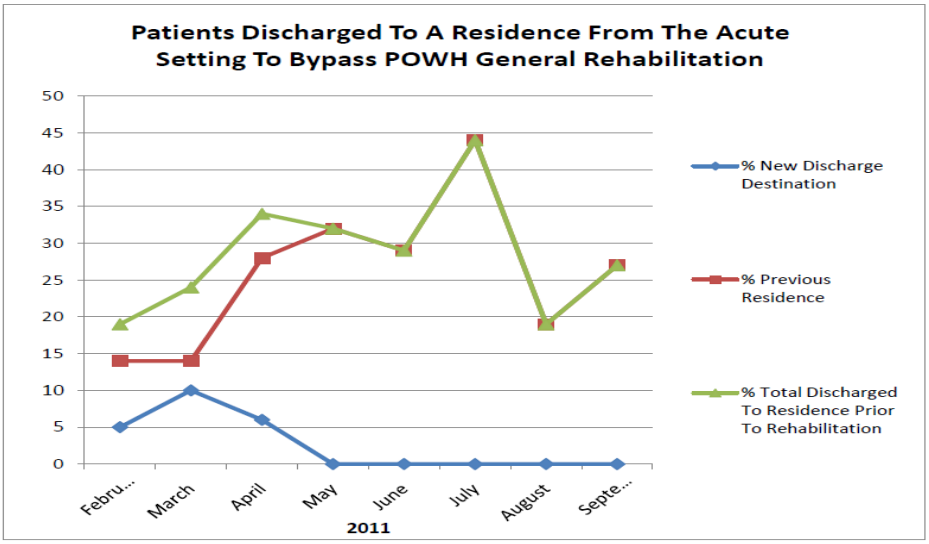
A patient was deemed unsuitable based upon multidisciplinary clinical reasoning, including:

- unable to participate in a rehabilitation program due to cognitive and physical restraints
- non-compliance with therapy
- plateaued improvements despite an increased intensity of therapy

6.3.2 Facilitation of Early Discharge Home from an Acute Ward

A significant number of patients have been discharged home prior to admission to sub acute rehabilitation.

A total of 46 patients were discharged to a new or previous residence between February and September 2011, thereby avoiding admission to sub-acute inpatient rehabilitation.



Of the total patients (n=165) serviced by ART between February and September 2011:

- 2.4% patients were discharged to a new residence, equating to less than one per month
- 25% patients were discharged to their previous residence, equating to approximately five per month
- 27.4% patient were discharged to previous or new residence, equating to approximately six per month
- Estimated saving of 624 Rehabilitation Bed Days (equivalent to 2.8 beds)

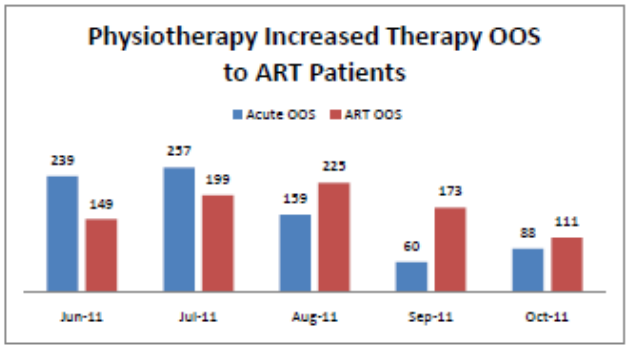
If a given patient continued on to be admitted to sub acute inpatient rehabilitation and was allocated 14 days of their predicted rehabilitation admission (which is less than half the average length of stay for rehabilitation patients at POWH in 2010/2011), then early discharge facilitated by the ART team has provided an estimated saving of 624 bed days. This is equivalent to 2.8 rehabilitation beds (at 90% occupancy).

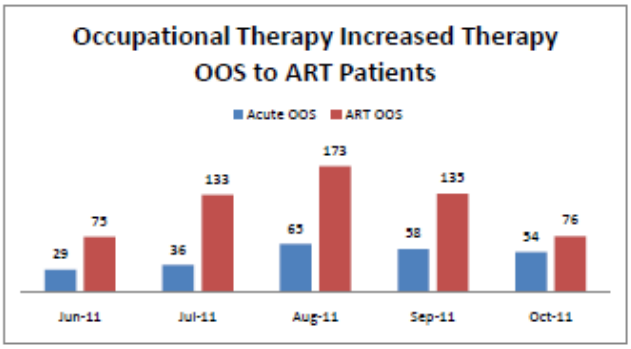
6.3.3 Patients Received a Measurable Increased Intensity of Therapy

Patients received increased intensity of therapy from all Allied Health services.

Patients received a measurable increased Intensity of Therapy from Physiotherapy, Occupational Therapy and Dietetics services from June 2011 onwards, made available through the implementation of the Cerner Allied Health System (CAHS).

- Physiotherapy:
    - Usual treatment as recorded by Acute Therapists ranged from 60-257 OOS, and 32-41 minutes per OOS on average
    - Supplemental therapy provided by the ART therapists ranged from 111-225 OOS, and 42-51 minutes per OOS on average
    - Total therapy time has increased by 69-330%
    - Total OOS has increased by 62-288%
- Occupational Therapy:
    - Usual treatment as recorded by Acute Therapists ranged from 29-65 OOS, and 49-57 minutes per OOS on average
    - Supplemental therapy provided by the ART therapists ranged from 75-133 OOS, and 49-64 minutes per OOS on average
    - Total therapy time has increased by 165-375%
    - Total OOS has increased by 140-369%





- Nutrition and Dietetics:
    - Provide an average of 25 OOS per month to ART patients (compared to a baseline of zero)
    - Provide an average of 50-55 minutes therapy per OOS

Baseline data, prior to the commencement of the ART service, regarding the amount of therapy delivered to patients whilst on the Rehabilitation Waiting List is unable to be obtained.

The Allied Health Management Information System (AHMIS) did not afford clinicians the scope to collect data on the level of therapy provided by the Acute and ART therapists. Thereby, an exact figure on the increased intensity is unable to be provided up until May 2011.

Anecdotally, prior to the commencement of ART funding, usual care for patients awaiting transfer to the rehabilitation ward was to receive limited or no therapy services due the prioritisation of clinical services to acute care and imminent discharge patients.

Limitations of the data:

- Business rules across Allied Health were not clearly established until June 2011in terms of allocating time against acute rehabilitation patients. These rules now state that any allied health intervention, regardless of the treating therapist, must be classified as *COAG: Acute Rehabilitation* once this patient is accepted by the Rehabilitation Physician. Unfortunately, data prior to June 2011 is likely to be compromised and only reflective of the ART therapists' interventions, and not all Allied Health interventions.
- From this, we are unable to establish a baseline of "usual" treatment, which would be the treatment delivered by acute therapists, and therefore, unable to calculate the increased intensity of therapy as a percentage. We are able to report on time and OOS delivered by the ART team only.

6.4 Outpatients Programme (OP)

6.4.1 Significant Number of Patients Being Referred to Outpatient Services to Facilitate Early Discharge from the Acute Setting

The enhancement to outpatient speech pathology services has facilitated discharge from the acute setting for patients with ongoing swallowing and communication impairments. Source of referrals for patients requiring outpatient Speech Pathology services between July 2010 and June 2011 is outlined in the table below.

Referral Source	No. of Patients	% Total Referrals
General Acute	28	26
Subacute Inpatient Rehabilitation	20	18.5
Acute Rehabilitation Team	20	18.5
Outpatient Specialist (i.e. ENT)	28	26
Outpatient Allied health	12	11
	108	**100**

- 44.5% of patients referred to outpatient Speech Pathology services were referred directly from the acute setting, thus potentially bypassing an inpatient rehabilitation hospital admission.
- Physiotherapy has not formally recorded the referral source to the outpatient service.
- Occupational Therapy has received 96 new referral since May 2010, and has serviced 65.8% of these.

6.4.2 Decreased Waiting List Times

Clinical indicators regarding efficiency of service have been maintained for Speech Pathology from January 2011 – June 2011.

- 90% of inpatient referred to the COAG Speech Pathologist have had an outpatient appointment scheduled prior to their inpatient discharge, thereby facilitating their transfer of care.

- **85%** of general outpatients referred to the COAG Speech Pathologist have been contacted for an appointment within 1 working day of receipt of referral.

Since the introduction and training of a 0.3 FTE outpatient Physiotherapist:

- Waiting list has been reduced by 50%, to initial contact within 1 week.
- Improvements in AROC scores for the Amputee Classification between 2009/10 and 2010/11

Amputee Classification	2009/2010	2010/2011	Change
Average Length of Stay	70	35	35
FIM Change (points)	22	22	0
Co-mobidities (%)	70	90	20
Complications (%)	50	65	15

AROC data demonstrates that the amputee population, compared to previous years, has a higher percentage of co morbidities and complications, and is achieving the same result in considerably less time.

7.0 RECOMMENDATIONS

7.1 Local Health District Level

- Document business rules across SES LHD to standardise COAG data collection for Allied Health.

- Liaise with other sites across SES LHD that have received COAG enhancement funding for General Rehabilitation to discuss:
    - differences in utilisation of funding and the distribution to each discipline per programme
    - various performance measures developed locally
    - investigate the impact of different service models on key performance indicators
    - potential changes locally to further enhance performance

- Benchmarking of activities across former SESIAHS sites with COAG enhancements.

7.2 Facility Level

- Explore the possibility of implementing several "fast track" beds in the General Rehabilitation ward, designed to:
    - accommodate patients that have an estimated discharge date of less than seven (7) to ten (10) days, following review by the ART team.
    - allow for rehabilitation episode funding to be attained for those patients who were previously discharged from acute setting
    - decrease the LoS for patients within the acute episode

- Recruitment of an Allied Health Data Manager to enhance allied health data and data reporting.

- Establish services to facilitate admission to Parkes 1 West on ADOs to increase number of admission bed days annually

- Formalise an analysis of the General Rehabilitation waiting list

- Investigate the application of the patient flow portal in the General Rehabilitation ward to identify and quantify delays to discharge

- Ongoing review of Allied Health activity with the new Cerner Allied Health System

7.3 Discipline Level

- Implement performance, clinical and outcome measures across all disciplines per programme. E.g. collect data on source of referral and waiting list lengths for all discipline in the Outpatients programme

- Establish regular multidisciplinary meetings in the Outpatients programme, such as fortnightly case conferences with a Rehabilitation Physician

- Institute collection of FIM data for ART patients on admission and discharge to the programme

8.0 TABLE OF ABBREVIATIONS

COAG	Council of Australian Governments
ITP	Intensity of Therapy Programme
ART	Acute Rehabilitation Therapy
OP	Outpatients
SES	South Eastern Sydney
LHD	Local Hospital District
SESIAHS	South Eastern Sydney Illawarra Area Health Service
ADO	Allocated Day Off
FTE	Full Time Equivalent
LoS	Length of Stay
FIM	Functional Independence Measure
AROC	Australasian Rehabilitation Outcome Centre
CAHS	Cerner Allied Health System
AHMIS	Allied Health Management Information System
MDT	Multidisciplinary Team
GEM	Geriatric Evaluation and Management
KPI	Key Performance Indicator
AFRM	Australian Faculty of Rehabilitation Medicine
FY	Financial Year