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# Centre for Health Service Development

Combining Realism with Rigour

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## The CHSD Board of Directors

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Community Representative

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Executive Dean, Graduate School of Business  
(University of Wollongong representative)

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Director  
CHSD

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CEO, Peoplecare health fund

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CHSD Staff Representative

### **Professor Tony Worsley**

Faculty of Health and Behavioural Science

## Director's Report 2010

Welcome to the CHSD Annual Report 2010, the 16<sup>th</sup> and final report in a series starting in 1995. In 2011 we will be moving into a new stage of our development when we launch the Australian Health Services Research Institute (AHSRI). While CHSD will continue, it will do so as a research centre within AHSRI.

This year we look at what we did in 2010, but also take the opportunity to sum up what we have achieved over the longer term and think about what that means for how we plan for the future. This year we have taken the opportunity to present a longer view in a separate Addendum to the 2010 Annual Report, called *A Brief History of CHSD*.

### National health reforms underway

Last year we noted how the 'reform hiatus' created a period of limited funding opportunities while the Commonwealth and the States and Territories put their various evaluations and R&D investments on hold until the implications of the reforms (particularly the announcements on national health funding reform) were better known and understood.

As a result in 2010 we were still managing a set of interesting projects that were more time-limited and there were fewer that were longer term. Of the 27 projects we undertook in 2010, 8 will continue into 2011 and we picked up some new projects that will continue into 2011 and beyond. One of these is big enough to require the secondment of existing expert CHSD staff as well as the employment of new statisticians, casemix experts, administrative and management support.

Following a successful bid by CHSD, the *National Casemix and Classification Centre*

(NCCC) is the most recent addition to the CHSD. CHSD was awarded the contract by the Department of Health and Ageing in April 2010 to develop the Australian Refined Diagnosis Related Group (AR-DRG) Classification System.

The contract is to develop and release the 2012 Australian Refined Diagnosis Related Group (AR-DRG) Classification System that consists of the Australian Modification of the International Statistical Classification of Diseases and Related Health Problems (ICD-10-AM), the Australian Classification of Health Interventions (ACHI), and the Australian Coding Standards (ACS).

In the middle of 2010 there was a change of Prime Minister and the national emphasis of reform shifted more towards primary care and aged care, while keeping the hospital funding reforms in place. So by the end of 2010 it became clear that health reform, although more modest in its aims than under the Rudd plans, was well underway and it was also clear that CHSD was well positioned to be in the thick of it.

As the attached *Brief History* shows, we are able to draw on experience from our theme of classification of patients across settings and in developing casemix models – now called Activity Based Funding (ABF).

To make good use of what we have learned, the CHSD produced a series of short papers on ABF throughout 2010, designed to explain some of the key issues surrounding the Rudd/Gillard hospital reform plans. Our goal in writing these papers was to make a balanced contribution to the complex debate about how Australia's health care system should be reformed. The papers are accessible on the CHSD website:

<http://ahsri.uow.edu.au/chsd/abf/index.html>

How the proposed new national authorities for performance, pricing and prevention will work together, and how they will fit with established national programs and strategies, will be key issues in 2011 and beyond. How will the new authorities determine competing priorities within the available pool of funds? These are all good questions that CHSD and our associated Centres and collaborators are well placed to help answer.

Consequently in the coming period, the relationships between these new health reform arrangements and the existing Health Care Agreements and the National Partnership Agreements can be expected to generate more projects in the area of casemix (ABF) development, especially in the 'ambulatory', rehabilitation, palliative care and community settings.

There are a number of lessons for health reform from our many years of work in health services research and planning as the various new national authorities come on line. It is inevitable that national, state and local priorities will shift around and program re-alignments will take place and it is also clear that 'continuity' across the care continuum and across settings and 'integration' between agencies will be key concerns.

### Examples of Evaluation Projects in 2010

In 2010 we had the chance to evaluate a small but interesting whole of government integration model close to home in the southern suburbs of Wollongong. The model promotes integrated case management across NSW government and non-government human service agencies, with local and Australian Government involvement. The aim of the project is to

contribute to the well-being of families with multiple and/or complex needs who have exhausted other avenues of support. (<http://ahsri.uow.edu.au/chsd/ssicm/index.html>).

As various government programs adjust to being funded from a smaller number of consolidated sources, how will they assess value for money, and how do we know if programs are working better together? If they are all evaluated in different ways and conclusions drawn at varying levels of analysis, then real progress in reform will inevitably be slower. The standardising of what information is collected and organising for it to be collected in routine practice in local settings is where our CHSD experience stands out as being useful. It will be important that we make good use of our work in areas such as best practice models in aged care, ambulatory rehabilitation, palliative care, effective interventions for carers and promoting the health of children. The lessons are already being used more widely.

The National Palliative Care Strategy has sponsored a set of standardised tools for quality improvement and monitoring patient outcomes, including the routine collection of comparable data through the PCOC data set and national surveys (<http://www.pcoc.org.au/>). We have also contributed to research capacity building in the palliative care sector by an evaluation toolkit that was funded under the National Palliative Care Program ([http://ahsripub.uow.edu.au/publication/2004\\_pubs/palliative%20care\\_evaluation\\_guide\\_CHSD.pdf](http://ahsripub.uow.edu.au/publication/2004_pubs/palliative%20care_evaluation_guide_CHSD.pdf)); and a guide to navigating palliative care research through the issues to be addressed when seeking ethical approval: ([http://ahsripub.uow.edu.au/publication/2004\\_pubs/palliative%20care\\_ethics\\_CHSD.pdf](http://ahsripub.uow.edu.au/publication/2004_pubs/palliative%20care_ethics_CHSD.pdf)).

For national programs with relatively well advanced quality and R&D systems such as palliative care, mental health, rehabilitation, dementia, continence and so on, their own dedicated development strategies still need to continue. Different service types have their distinct goals of care and tools to measure progress towards achieving those goals. CHSD experience in building workable systems for intake assessment, care planning, quality improvement and outcome measurement is highly relevant within a more 'flexible' funding environment.

### **Lessons about improving outcomes in health and community care**

The success of health reforms will still depend on tools for improving technical efficiency in hospitals, but will also depend on ways of improving the dynamic and allocative efficiency of 'out of hospital' models to reduce demand for hospital beds in the longer term. Hospital demand management in the longer-term means focusing 'upstream', so that population health interventions and prevention strategies can be built into local services that go across the care continuum.

A good example of these strategies for health gain is the five years of continuing work we have done for programs promoting child health in Victoria, now incorporated into the *Victorian Child and Adolescent Monitoring System* (VCAMS). This work was undertaken in support of the Child Wellbeing and Safety Act 2005, after which the Victorian Government endorsed 35 outcomes for Victoria's children which were known to be of most importance to their present and future lives.

The system is under continuous active development and a searchable electronic resource is available on the Victorian Education Department's website. The

indicators updated by CHSD in 2010 included seven adolescent indicators linked to prevention of school disengagement and promotion of success for young people at risk of leaving school early, and in addition, updates were provided for four child and adolescent indicators:

- Hospitalisation rate for asthma
- Low birth weight
- Proportion of children with emotional or behavioural difficulties
- Proportion of families who are food insecure.

VCAMS provides a comprehensive overview of the way in which the service system, the community and the family all interact to determine the wellbeing of children, and provides a sound basis for government planning and intervention. The catalogue is available via the web at:

<http://www.education.vic.gov.au/healthwellbeing/childyouth/catalogue/default.htm>  
[www.education.vic.gov.au/oecd/catalogue\\_of\\_evidence.html](http://www.education.vic.gov.au/oecd/catalogue_of_evidence.html)

A project for NSW Ageing and Disability allowed us to consolidate our experiences in working on the various building blocks in community care and health outcome measurement in 2010. The particular focus of this project was a stock take of what is known about outcome measurement in both the health and community care sectors.

These are not separate sectors when looked at from the point of view of an individual who requires assistance to maintain their health and independence at home and lessons from both sectors are useful. Common or better-integrated systems that are adapted to accommodate more of the client's own viewpoint (as distinct from a program management point of view) can support the

policy aim of personalising or individualising service responses.

[http://www.adhc.nsw.gov.au/about/research/completed\\_research](http://www.adhc.nsw.gov.au/about/research/completed_research)

Population health planning is built on the common assessment of needs, a stock take of service capacity, the analysis of gaps, and strategies for promoting, protecting and maintaining health. The planning agenda is initially about getting information at local levels to make a host of new and re-vamped systems work more effectively.

This all means that in health services and system-level research we have accumulated considerable strengths and have major strategic advantages at this point that we have to consider very seriously how to best use.

Building a new CHSD 'platform' and multi-centre structure was on the agenda at the end of 2010, with the aim of institutionalising our gains and consolidating our national and international profile as well as our state, regional and local roles.

## Acknowledgments

The CHSD gratefully acknowledges the support of Professor Judy Raper, Deputy-Vice Chancellor (Research) and Professor John Glynn, Executive Dean of the Graduate School

of Business. At NSW Health we want to thank Dr Richard Matthews, Deputy Director-General, Strategic Development.

As usual our thanks go to our staff and associates for their hard work in the Centre in 2010. Rob Gordon as Deputy Director and Elizabeth Cuthbert as Business Manager do an excellent job in support of the Centre and the staff throughout the year. The members of the CHSD Executive Management Group and the Board of Management continue to contribute to the quality of our work by offering their ongoing guidance, advice and support.

Thanks also to the service providers and consumers, and the organisations they represent, who collaborated in our programs and projects, used our research, and provided us with constructive advice in the day to day work of our Centre.



Professor Kathy Eagar  
Director, CHSD

## Our 2010 research themes, programs and development projects

In keeping with our overall approach to understanding the complexity of the health system, the Centre has consistently used its own classification framework to describe our work program. We use six integrating themes to characterise most of the research carried out by the CHSD and as a way to map the variety of projects undertaken by the CHSD into coherent patterns.

The themes are characterised by the keywords of improving health service delivery, organisation and performance, care coordination and integration, outcomes research, policy development, management of need and demand, funding models, and the classification of consumers.

Classifying our work by themes also guides our strategic thinking and direction, as well as helping us understand our strengths and look for new areas of influence in health and community care policy and practice. That allows us to track how our focus shifts over time and to maintain an overview of our body of research and development work.

The work within the themes includes both programs and projects, driven by current health and community sector priorities and selected after consideration of the skills and interests of the CHSD team. This mix of priority and investigator-driven activity has served us well in maintaining both continuity and relevance in our work programs.

By promoting longer-term consistency the Centre can also recruit new staff in a better planned way and manage its workloads through the shorter-term trends in the availability of interesting projects and cope

with the inevitable variations in the content of the work that is on offer at different times.

Particular highlights in 2010 are hard to choose, given that so many of the programs and projects are significant. Continuing programs and developmental projects are well represented. AROC and PCOC continue to evolve in their chosen directions and other continuing work that builds from what has been done previously are the yearly assessments of school leavers with disabilities looking for Post School Programs and the CareSearch evaluations.

Aged care and dementia figure strongly in 2010. The long term evaluation on best practice in residential aged care (EBPRAC) has provided staff with useful experience and a basis for a higher degree. AHOC has done significant work in social isolation measures and aged care assessment. Its project on ACAT tools will be useful for linking to community care in future and it continues the work it has been doing in continence as part of the national strategy.

Other areas are where we are making progress towards standardisation in circumstances that are not conducive (yet) to finding funding for building a long term program. This is particularly the case in carer research and community care outcomes where we managed a project to summarise a decade of work and formulate a list of outcome-related data elements capable of being collected routinely in the community care sector.

Our projects and programs in 2010 are listed in Table 1 below:

**Table 1 List of CHSD Programs and Projects**

CENTRE PROGRAMS AND PROJECTS 2010	THEMES					
	HS delivery, organisation & performance	Care coordination & integration	Health care outcomes	Health policy & management	Health & community care financing	Casemix classification across settings
<b>PROGRAMS</b>						
Australian Centre for Clinical Terminology and Information	x					x
Australasian Occupational Science Centre	x	x				
Australian Health Outcomes Collaboration	x	x	x			
Australasian Rehabilitation Outcomes Centre	x	x	x	x		x
National Casemix and Classification Centre	x				x	x
Palliative Care Outcomes Collaboration	x	x	x			x
<b>PROJECTS</b>						
ACCTI Alpha drafting ICD-11 Phase 2						x
ACCTI Advanced SNOMED training - NeHTA						x
AHOC - Small consultation projects			x			
Best Practice GP Consultancy Project (ACCTI)						x
Best Practice in Residential Aged Care	x			x		
Cancer Australia - Gynaecological Cancers	x	x				
CareSearch Evaluation (three components)		x				
Continence Outcome Measures - Validation and Clinical Translation Project			x			
Centre for Statistical and Survey Methodology Collaboration				x		
Collaboration with the SMART Infrastructure Facility	x					
DADHC - Assessment of the 2010 school leavers		x				x
Effective assessment of social isolation-DADHC			x			
Evaluation of Asthma Management Program	x	x		x		
Evaluation Dementia Quality Care initiative	x	x				
Islet Transplantation	x					
Measuring outcomes in community care			x			x
NSW AIDS RDF Review				x		
Radiotherapy - Optimal Machine Configurations	x					
Radiotherapy - Review of increasing capacity of facilities	x					
Refugee Health - Literature review	x	x		x		
Research to Practice Briefing - carer support		x				
Review of assessment tools for ACAT			x	x		x
Review and restructure of Medibank Private Rehab. programs			x		x	x
Southern Suburbs Integrated Case Management	x	x				
The effect of student placements on GP income	x				x	
Triple Care Farm - integrated intervention		x				
VCAMS		x		x		

## PROGRAMS

### Australian Centre for Clinical Terminology and Information (ACCTI)

ACCTI was established within CHSD in 2009, to consolidate our expertise on developing and using clinical terminologies and data information strategies. This is essential to support e-health initiatives and assist the health information industry.

In 2010 ACCTI has been planning a work program in this highly technical area in relation to the Australian Government's policy commitment to the development of the Personally Controlled Electronic Health Record (PCEHR), a key element of the health reform agenda.

The team can develop and tailor solutions and assist implementation of purpose-built clinical terminologies, specifically SNOMED CT, the endorsed national standard clinical terminology. The complexities of SNOMED CT can make it daunting to use in clinical settings, and ACCTI has been very active in its development, maintenance and use in Australia. It is a tool that is essential for developing a common terminology to allow the linkages that are required for electronic health records. These common applications enhance the quality and reliability of research and data collections which rely on consistent, current and reliable clinical documentation.

ACCTI also assists other CHSD programs and projects with extracting data from clinical environments for use by clinicians and researchers. The team has assisted the PCOC and AROC programs with their dataset specifications during 2010.

As well the national and CHSD arenas, Centre staff continue to be actively involved in the World Health Organisation's Family of

International Classifications Network (WHO-FIC) and the International Health Terminology Standards Development Organisation (IHTSDO). The ACCTI Manager attended the annual WHO-FIC meeting in Toronto Canada in October 2010 as part of the expert Australian contingent operating in this area of developing international health information standards.

On the development side within CHSD, ACCTI staff helped set up the National Casemix and Classification Centre (NCCC), also based in the offices of the Sydney Business School in the Sydney CBD. Three of the four staff members were seconded to NCCC for the establishment phase as recruitment and training was undertaken. More information is available at: <http://ahsri.uow.edu.au/accti>

### Australian Health Outcomes Collaboration (AHOC)

In 2010 AHOC staff worked on a set of projects on measures for assessing social isolation, the clinical validation of tools for assessing continence and patient satisfaction, and assisting the Department of Health and Ageing (DoHA) with a standardised, national approach to Aged Care Assessment.

AHOC were very pleased to obtain a Department of Human Services NSW (Ageing, Disability and Homecare) research grant in May 2009 entitled Effective Assessment of Social Isolation. This project systematically reviewed a number of measures used to assess social isolation in both community survey settings and in practice settings. A presentation on the outcomes of the project was given to the Department in May 2010. This project was completed in June 2010 and a presentation was also given at the ISOQOL conference in London in October. There have

been a number of international requests concerning this work and the report is available from the AHOC.

The Validation and Clinical Translation of the Revised Continence and Patient Satisfaction Tools project, begun in 2008, is a long term project sponsored by the Continence Outcomes Section of the Department of Health and Ageing. This project is concerned with the clinical validation of the Revised Urinary Incontinence Scale, The Revised Faecal Incontinence Scale and the Short Assessment of Patient Satisfaction Scale. This project is due for completion in June 2011. Initial indications are that instruments have excellent psychometric properties in both clinical and population health settings. A presentation on the Revised Urinary Incontinence Scale was given at the ISOQOL conference.

Further work was undertaken for the Aged Care Assessment program of DoHA to select instruments and items that would be useful to include in a standardised, national, approach to assessment by Aged Care Assessment Teams or Services.

Jan Sansoni collaborated with the Menzies School of Health Research on Utilising the SEIQoI-DW to Evaluate and Enhance Indigenous Programs in the Northern Territory and presented this work at the ISOQOL conference. This work was of particular interest to Scandinavian colleagues who are undertaking similar projects with their indigenous peoples and collaboration is continuing.

Contact with our international collaborators continued in 2010 and Dr John Ware agreed to visit Australia in May 2011 to work with the AHOC in presenting a number of health outcomes seminars across Australia during

2011. More information on AHOC is available from the AHOC website:

<http://chsd.uow.edu.au/ahoc>

## **Australasian Occupational Science Centre (AOSC)**

An important aim of AOSC is to promote to the general public, health care practitioners and public health policy makers an occupational perspective of health which focuses on what makes and keeps people well. The Centre is based the Shoalhaven region and works in the field of Occupational Science, which is an inter-disciplinary field concerned with the study of human occupation in relation to health in daily living, including the social policies, culture and geography that govern human occupation.

Projects in 2010 included a pilot study of Shoalhaven seniors' time use. The aims were to collect information for understanding and promoting healthy ageing and to examine cultural occupational differences when comparing the Australian sample with a matched Swedish sample.

Another project in the local region was called 'Creating futures by bridging the education gap: Developing the Indigenous Tutorial Assistance Scheme (ITAS) program on the Far South Coast.' The aims of this project were to increase awareness and understanding of ITAS among the Indigenous and non-Indigenous community on the Far South Coast, create opportunities for increasing enrolments and mentoring and improve cultural sensitivity. The project was conducted in collaboration with DEEWR, Regional Development Australia (Far South Coast), the Woolyungah Indigenous Centre at UOW and Wesley Mission Batemans Bay.

AOSC also worked with the dairy industry, an important employer in the region, on the

deployment and use of radio-frequency identification (RFID). RFID is a technology that uses radio waves to transfer data from an electronic tag through a reader to identify and track the object for supply chain transformation, however, very little has been written about the deployment and social and occupational implications of RFID in the dairy industry. The exploratory study was to map out a strategy for researchers interested in RFID technology.

Invited teaching by AOSC during 2010 was completed at the University of Magallanes, Punta Arenas and the University of San Sebastian, Santiago in Chile, the University of Newcastle and Charles Sturt University in NSW, and international conferences and visits in 2010 included the World Federation of Occupational Therapy Congress, in Santiago, Chile, Dalhousie University, Halifax, Nova Scotia, Canada and the Canadian Society of Occupational Scientists and Society for the Study of Occupation USA joint symposium, held in London, Ontario, Canada in October 2010.

Visitors to AOSC in 2010 were Dr Ingeborg Nilsson from Umea University, Sweden and Robert Pereira, a PhD Candidate from the Centre for Research in Social Inclusion, Macquarie University.

More information can be found on the AOSC website: <http://shoalhaven.uow.edu.au/aosc/>

## **Australasian Rehabilitation Outcomes Centre (AROC)**

AROC was established as a sub-centre of the CHSD on July 1, 2002 and has five roles:

- A national 'data bureau' that receives and manages data on the performance of rehabilitation services in Australia.
- The national 'benchmarking centre' for medical rehabilitation.

- The national certification centre for the Functional Independence Measure (FIM™) instruments (designed to measure functional needs and outcomes).
- An education and training centre for the FIM™ and other rehabilitation outcome measures.
- A research and development centre that develops research and development proposals and seeks external funding for its research agenda.

AROC Membership remained steady throughout 2010 and by the end of the year there were 172 Australian inpatient rehabilitation units and 25 New Zealand units with AROC membership. Throughout 2010, AROC continued to provide reports to member facilities and to the AROC management structure within routine schedules. The AROC 2009 Calendar Year Benchmarking Reports were generated in March 2010 and provided to members shortly afterwards. The Financial Year 09/10 Benchmarking Reports were generated and distributed in early September 2010.

The AROC Management Advisory Group meetings were held four times during 2010 (two face-to-face meetings in May and November, and two Teleconferences in February and August). There were also four Scientific and Clinical Advisory Committee meetings held throughout the year (two face-to-face meetings in April and October, and two Teleconferences in February and July).

The AROC Annual Report 'The state of rehabilitation in Australia in 2009' was published with 2009 data and was made available in 2010. This report includes summary data for all 2009 episodes, by impairment, and by AN-SNAP class within each impairment group. The report also identifies and comments on trends and

issues in rehabilitation. In 2010 AROC published the inaugural *Ambulatory Report*. This report contained ambulatory data from January to December 2009 and is a descriptive report, given the low volume of ambulatory data at present, but this data still showed some very interesting trends. There were also four 'Data Matters' newsletters produced during 2010. All of the newsletters and reports published in 2010 are available on the AROC website.

In 2010, AROC also contributed to the development of a National Rehabilitation Strategy. The process was facilitated by Australasian Faculty of Rehabilitation Medicine (AFRM) of the Royal Australasian College of Physicians. The work on the strategy resulted in the formation of an Australian Rehabilitation Alliance comprising representatives of all clinically related rehabilitation stakeholders.

November 2010 saw AROC hold the first follow-up benchmarking workshop for Fractured Neck of Femur (hip fracture or '#NOF'). The participants at this workshop evaluated the achievements of the sector against the original outcome targets set by the first #NOF benchmarking workshop in 2007 and then amended the targets as they deemed necessary. The updated targets were published in order to be implemented in February 2011.

Other important activities in which AROC was involved during 2010 included:

- Supporting the Victorian Department of Health in their project to roll out the FIM™ as the outcome measure of choice for all rehabilitation and GEM episodes in Victoria.
- The *Amputee Benchmarking* workshop which was held in March, followed by publishing an agreed adjunct dataset for collection by Amputee Units.
- Began development of Version 4 of the AROC Inpatient Dataset.
- Began development of a Paediatric Rehabilitation Dataset, with the majority of paediatric rehabilitation clinicians participating in an initial development workshop in Christchurch, New Zealand, in March 2010.
- Continued to work with the developer who has commenced building a new IT System for AROC. When implemented, this system will have some member-friendly features such as a web-based data entry front end (that will largely replace SNAPshot), and an ability for facilities to directly access their own data and a number of standard benchmark reports.
- Presented AROC related papers at a number of conferences, and gave numerous other presentations to parties interested in, or involved with, AROC.

More information about AROC can be found at the AROC website:

<http://ahsri.uow.edu.au/aroc>

### Centre for Applied Statistics in Health (CASiH)

CASiH was formed at the end of 2010 in recognition of the key role played by CHSD's statisticians in maintaining the quality of the products in the various other programs as well as in the Centre's many research and evaluation projects. CASiH also has the capacity for consulting work and joint projects with other parts of the university.

Members of CASiH have expertise in all areas of applied statistics, including classification development, time series, statistical modelling, regression analysis in its many guises, survey design and analysis and experimental design.

## National Casemix and Classification Centre (NCCC)

The NCCC became an important addition to the CHSD programs in 2010. It was formed following the successful bid by CHSD to develop the Australian Refined Diagnosis Related Group (AR-DRG) Classification System. The NCCC was awarded the contract by the Dept of Health and Ageing in April 2010 to develop the 'AR-DRG System' that consists of the Australian Modification of the International Statistical Classification of Diseases and Related Health Problems (ICD-10-AM), the Australian Classification of Health Interventions (ACHI), and the Australian Coding Standards (ACS).

The core research and development team for this large program of work was established during July and August 2010. Progress in the complex set of inter-related elements has been complicated, but within our expectations and by the end of 2010 the main elements of the work program were well underway and most had been achieved:

- The development of an NCCC website that allows on-line submission of proposals to improve the classification system from key stakeholders. It is also a key communication tool for the Centre, with the ability to both receive and respond on-line to queries regarding the current classifications, and facilitate the wider distribution of project updates and Frequently Asked Questions.
- Technical and clinical advisory groups have been established for both ICD-10-AM and AR-DRG classifications, and covering a wide range of key specialty areas. The clinical areas of focus highlighted and currently under review by multidisciplinary groups are diabetes, bariatric surgery, paediatrics and neonatology.

## AR-DRG development – supporting products

Other products of the NCCC are geared to keep this technical area well supported with access to timely and useful information. The website was enhanced to provide an on-line purchasing option for the Australian classification products (see AR-DRG Product Sales below). A tool for the delivery and use of the ICD-10-AM classification system in electronic form is to be developed during 2011 and will be released towards the end of that year.

The Casemix and Coding Matters Newsletter is an important link to publications of interest to users of ICD-10-AM/ACHI/ACS such as Questions & Answers around State/Territory coding queries and responses, Frequently Asked Questions from Education Workshops, and various Errata, updates and clarification documents.

The online Public Submission platform is available via the NCCC Information Portal (NIP). The Public Submission platform can be used to report typographical errors, indexing issues etc, as well as, more major requests for new codes, review of standards, etc.

## AR-DRG – Product Sales

The NCCC has a major role in support of Australian health services and some international health systems in their use of casemix classification and coding systems. This support involves the management of licenses and a continuous level of demand for timely distribution of the various products. The management of these product sales is an important and continuous part of the NCCC infrastructure.

The NCCC distribution effort supports the current Seventh Edition of ICD-10-AM/ACHI/ACS that will be used in Australia until 30 June 2013. We are also developing

the Eighth Edition of ICD-10-AM/ACHI/ACS and AR-DRG Version 7.0, planned for simultaneous implementation in Australia on 1 July 2013. More detailed information can be found on the NCCC website:

<http://nccc.uow.edu.au/index.html>

## Palliative Care Outcomes Collaboration (PCOC)

PCOC is a voluntary quality initiative to assist palliative care service providers to improve practice and meet the *Standards for Providing Quality Palliative Care*. Its aim is to develop and support a national benchmarking system to improve palliative care outcomes. PCOC is funded under the National Palliative Care Program and is supported by the Australian Government Department of Health and Ageing.

A major achievement in 2010 was an increase in the number of services collecting PCOC data. At December 2010, 108 palliative care services were collecting PCOC data and a further 28 services had agreed to join PCOC. All other specialist palliative care services across Australia are at various stages of follow up, with most expected to join. While the actual number of palliative care services in Australia remains uncertain, we estimate that the 136 services agreeing to participate in PCOC at the end of 2010 represents about 77% of specialist palliative care services nationally. The distribution of services by jurisdiction is shown below:

### Current PCOC coverage 2010

<i>State/Territory</i>	<i>Collecting data as at Dec 10</i>	<i>Agreed to join PCOC</i>	<i>Estimated no. of PC services</i>
Southern NSW/ACT	20	21 (60%)	35
Northern NSW/QLD	40	42 (95%)	44
SA/NT	14	22 (92%)	24
TAS	3	6 (86%)	7
VIC	20	32 (70%)	46
WA	11	13 (65%)	20
<b>TOTAL</b>	<b>108</b>	<b>136 (77%)</b>	<b>176</b>

Other achievements during 2010 were:

- National and state reports were produced during 2010. The *PCOC National Report on Palliative Care in Australia* was released in September 2010 and included data from 95 services for the period January to July 2010 and analysed over 12,000 episodes of care.
- Four benchmark measures are routinely included in reports to services. Each six-monthly service report includes details of that service's performance against the benchmarks.
- A national *Patient and Carer Survey* report was completed in November 2010, based on twelve participating services.
- PCOC educational materials were updated with the assistance of a consultant who was engaged in April 2010. Educational modules on each of the clinical assessment tools have been designed for ease of use as a self-directed learning package at the service level.
- A *PCOC Version 3 Dataset* Working Group has been established and met regularly during 2010. In November 2010 a draft data set was agreed by the group and a consultation process with the palliative

care sector and government bodies was planned to begin during 2011.

- A Memorandum of Understanding between PCOC, *CareSearch*, and Palliative Care Australia's *National Standards Assessment Program* was signed with an emphasis on collaborating on change management in the palliative care sector.
- The PCOC database as at December 2010 contained data on approximately 76,000 patients with 94,600 episodes of care and 197,600 phases of care.

More detailed information about PCOC can be found at the PCOC website:

<http://www.pcoc.org.au/>

## PROJECTS

### ACCTI – Small Consultation Projects

#### Advanced SNOMED Training for NeHTA staff

SNOMED is a tool for developing a common terminology to allow the linkages that are required for electronic health records and is the endorsed national standard clinical terminology. The complexities of SNOMED CT can make it daunting to use in clinical settings and ACCTI supports its development, maintenance and use in Australia.

A two day training course for technical staff of the National eHealth Transition Authority (NeHTA) was undertaken by ACCTI in December 2010. This training was tailored specifically for NeHTA staff and involved a mix of advanced topics and applied skill enhancement exercises. Day one focussed on knowledge building in clinical terminology content and day two focused on applying that knowledge to development tasks and workflows using the recommended tool suites.

SNOMED is a tool that is essential for developing a common set of terminology to

allow the linkages that are required for electronic health records. These common applications enhance the quality and reliability of research and data collections which rely on consistent, current and reliable clinical documentation.

#### Best Practice GP Consultancy Project

This project was an excursion into general practice terminology lists, starting with 14113 original and (nearly) unique terms, covering 7558 concepts and 6555 terms that were either synonyms or descriptions. The term list was meant to serve as the software interface and provide alternative ways to search for, index or display terms to the clinical user.

One aim of this work was to understand the features, characteristics and work processes in these sorts of projects so as to be able to automate as much of the data cleaning and management as possible.

This analysis allowed us a better view of the original BP GP term set and revealed a number of features of both the original content and SNOMED CT content. The key point is that neither is perfect, but only one is a standard; it is vital not to perpetuate the 'non-standard' problem which undermines interoperability. Those features of the original which do not map, migrate or comply with SNOMED CT might still be clinically valid, might still be required, but all of these need to be carefully considered and weighed against the value of departing from the standard.

A terminology standard needs to be used and re-used by all health sector practitioners. If BP has terminology content that others do not share and do not find understandable and useful, then interoperability is not achieved.

Those issues were beyond the scope of this relatively piece of work, however, what we found reveals a large mismatch and SNOMED CT should prevail (even if it is flawed) because if we fix the flaws for one user, we fix them for every user, decreasing the maintenance burden and increasing interoperability.

### Phase 2 – Alpha drafting ICD-11

Kerry Innes, ACCTI Manager, was engaged by the Australian Collaborating Centre for the WHO Family of Classifications (based at the Australian Institute of Health and Welfare), to continue participation in Australia's contribution to the development of ICD-11.

This phase (similar to a previous phase in late 2009) involved participation in a meeting at WHO head office with other international experts in ICD classification. A joint AIHW/ACCTI paper on future human and financial resources required for ICD-11 development in Australia was a deliverable in this phase of work.

### Cancer Australia Evaluation: National Centre of Gynaecological Cancers

CHSD was engaged in 2010 to complete a program evaluation of the National Centre of Gynaecological Cancers (NCGC), a 'virtual centre' of Cancer Australia (CA). CHSD previously completed a broader evaluation study of the Cancer Australia organisation and this informed the evaluation of the NCGC.

This evaluation focused on the totality of the NCGC 'program', organised under the Centre's three over-arching objectives:

- Improving information and support for women with gynaecological cancers, their carers and partners;
- Supporting the workforce to deliver coordinated gynaecological cancer care; and

- Building the evidence base for gynaecological cancer care, including through research and clinical trials.

The evaluation assessed the impact and outcomes of the NCGC at the level of consumers, service providers and the wider cancer control system. In addition it reviewed the appropriateness, efficiency and effectiveness of the Centre in the context of government service delivery.

The final report concluded the NCGC is performing well, is addressing its key objectives, fulfilling its role and implementing its activities effectively. The report made 15 key recommendations to the CA Chief Executive Officer and NCGC Advisory Group. As a result of this evaluation, the organisation consolidated its role to improve gynaecological cancer outcomes for diverse groups of women, their carers and families. This includes reducing disparities within and between groups with the poorest health outcomes.

### CareSearch Evaluation – continuation of projects for the Knowledge Network

The CareSearch website was launched in 2004 and was initially designed to be a support and resource for specialist palliative care providers. In July 2006 the Knowledge Network Project commenced with the aim of establishing the first *Australian Palliative Care Knowledge Network*.

It was envisaged that this network would provide a 'one stop shop' for information and practical resources to serve the needs of all those providing or affected by palliative care. Following consultation across the sector, the CareSearch website was modified (in 2007) to incorporate patient and carer information and general practitioner (GP) resources. In

May 2008 the new website, *CareSearch palliative care knowledge network*, was launched. CHSD has undertaken a series of evaluations aimed at improving the useability of the site and its information content. In 2010 the evaluation covered three components of the website:

- CareSearch Nurses Information Newsletter (CNIN)
- @CareSearch Newsletter
- CareSearch Research Data Management System (RDMS)

### **The CareSearch Nurses Information Newsletter**

This evaluation used an on-line survey and semi-structured telephone interviews about the Nurses Information Newsletter (CNIN), designed to identify what would be useful for nurses to improve their practice and to gain an understanding of how nurses use the newsletter and identify any areas for improvement.

The CNIN is a tool to help nurses with day to day clinical and practice issues, providing information about evidence, research and practice in palliative care. The feedback highlighted a lack of confidence and understanding of evidence based practice concepts amongst nurses, as well as uncertainty about how to use the site's resources to solve real clinical issues.

The majority of respondents to the on-line survey reported that the Newsletter is an important resource, almost all of them had used it and the associated resources to increase their knowledge and about two thirds have used it to improve their practice. Examples were information about spiritual care, better understanding of evidence-based practice and developing care plans for home use.

The respondents who were telephoned were also very supportive of the CNIN and its identified primary role of providing evidence based information to nurses. The need to get access to reliable evidence quickly and efficiently by nurses was seen as an important and necessary function in improving practice in palliative care services.

Almost a quarter of the respondents to the on-line survey did not identify themselves as having a nursing role, suggesting that there is a considerable number of non-nursing professionals who are seeking relevant and reliable evidence about palliative care. Developing other ways of getting this information out to that group of clinicians and other professionals, such as through allied health journals, was also identified as an issue to explore.

The telephoned respondents suggested that the in-depth coverage of a topic on a regular basis such as monthly or quarterly may be a useful addition to the current content. The occasional need for a login and password made it not as simple as they would have liked. Another idea was a self-contained version of the CNIN that could be printed out and distributed to an audience that did not have regular access to the internet.

### **The @CareSearch Newsletter**

The @CareSearch Newsletter is produced monthly and is emailed to all registered users of the CareSearch website (in 2010 this number was approximately 1,750). It is also available as a PDF document from the CareSearch website. The purpose of the newsletter is to update the palliative care community on the latest developments relating to the website.

The survey was designed to test the impact and effectiveness of the newsletter and identify possible areas for improvement.

Over half of respondents preferred to receive the newsletter as a stand-alone PDF so it could be printed and shared, with the preferred size between 1 and 4 pages

Less than half of the respondents reported that the newsletter had enabled them to make changes in palliative care practice, and of these, only a third (about one eighth of total respondents) reported that they had been able to use the information from the @Caresearch newsletter to change practice within their service. This is consistent with the literature which indicates that passive dissemination of information tends to be ineffective with, at best, only small changes in practice. About one third of respondents thought that the newsletter needed to change but few suggestions were made on how to do this.

### The Knowledge Network Research Data Management System

This evaluation project was an on-line survey and semi-structured telephone interviews about the Research Data Management System (RDMS). The RDMS is a multi-site research platform that has been developed to support research work within palliative care by providing access to a tool that:

- Enables the online design of data collection forms and questionnaires
- Allows for web-based and email-based form completion
- Enables data entry from multiple sites with a single co-ordinating site
- Provides for basic reporting of results with features such as percentages, graphs, and tables
- Allows export of data to other programs such as Excel, Access or SPSS.

The platform was launched in 2005 and in 2010 had approximately 250 registered users accessing over 100 active surveys or forms in use in various research projects. The

RDMS supports research groups working in all Australian jurisdictions, some of which have international partners. The platform is used for clinical trials, feedback surveys, audit activities and workforce related activities.

Feedback from the on-line survey was very positive about the RDMS, with 90% saying they would recommend the RDMS to others. Respondents were pleased with the support provided by the CareSearch team to users when they needed assistance. So, part of the success of the RDMS was attributed to the support provided by the team to responding to user problems and issues, especially with a workforce that has not traditionally been "data-aware".

### Continence Outcome Measures – Validation and Clinical Translation Project

The National Continence Management Strategy (NCMS) has funded a number of major research studies relevant to the outcomes evaluation of continence conditions. This work built on research undertaken for the project *Refining Continence Measurement Tools* (Sansoni et al., 2006). The Revised Urinary Incontinence Scale (RUIS) and the Revised Faecal Incontinence Scale (RFIS) were found to have excellent internal consistency reliability (RUIS 0.91, RFIS 0.89) in a large community sample.

However, a limitation of community survey data is its derivation from subjective reports of incontinence symptoms collected in face to face interviews, rather than from confirmed clinical diagnoses. This restricts the *range* of responses to incontinence items, particularly for the more severe levels of symptoms. Therefore it was necessary to trial the revised continence measures in a

range of clinical settings in follow-up field trials. The 2010 study was designed to address this issue by field testing the revised scales in eleven clinical settings across Australia.

The relationships between the revised instruments, type of treatment, clinical feedback and patient satisfaction were examined. Additional reliability data were collected from post-test patients in order to examine the test-retest reliability of the instruments over a two week period. Data analyses indicated that the RUIS and the RFIS have excellent psychometric properties. The RUIS and the RFIS performed well in clinical settings demonstrating good evidence that these instruments were sensitive to changes in continence status as a result of treatment, making them suitable for outcome evaluation.

The use of such measures can provide effective feedback to clinicians concerning the effectiveness of their treatments, can facilitate the systematic review and monitoring of patients, and assist in identifying ways to improve practice.

### **Centre for Statistical and Survey Methodology (CSSM) Collaboration**

The CSSM (<http://cssm.uow.edu.au/>) is a centre of excellence in design and analysis for complex populations. The Centre has expertise in survey design and analysis, complex data analysis and estimation methods, experimental design and analysis, data mining, spatial and small area statistics, statistics in quality, privacy and confidentiality, combining and analysing data from different sources, bio-informatics and statistical education.

The Collaboration was on a project for the New Zealand Ministry of Health to estimate

alcohol consumption based on the analysis of data from the New Zealand Alcohol and Drug Use Survey (2007).

### **Collaboration with the SMART Infrastructure Facility**

This was an internal consulting project within the University with the SMART Infrastructure Facility (SMART stands for 'Simulation, Modelling, Analysis, Research and Teaching' <http://smart.uow.edu.au/about/index.html>). The project was about modelling public transport utilisation in Sydney, based on the applied use of statistics. It showed that other Centres in the University can benefit from the depth of statistical knowledge that has built up inside CHSD and with the Centre for Statistical and Survey Methodology.

### **DADHC – Assessment of the 2010 School Leavers**

ADHC has been providing assistance to school leavers with disabilities since 1993. The aims are to improve employment outcomes for participants (Transition to Work) or, for those who are not able to move to employment, to help in the development of life skills to increase the participant's independence (Community Participation).

CHSD each year provides a summary of the assessment information collected by teachers on the applicants and recommendations regarding the applicants' eligibility for and support level in the ADHC post school programs. Results from previous years are provided for comparison.

The assessment tool includes a variety of functional assessment items; a functional overview as well as more detailed questions in the domains of domestic function, self care and behaviour.

The results for the 2010 cohort of applicants have been found to be consistent with those in earlier years:

- The 2010 applicants displayed the same hierarchy of acquisition of functional skills as applicants from previous years. This means that assessing independence on a few well-chosen skills, as in the assessment tool used by ADHC, provides information on other skills as well.
- Functional scores on all domains for the 2010 cohort were similar to those of previous years.

An additional analysis undertaken in 2010 looked at those applicants who had a disability in the autism spectrum. These applicants are more often assigned to Community Participation than the rest of the cohort, but this is consistent with the expressed expectation of moving on to work in the future.

As well as the assessment scores there is an appeals process, giving applicants an opportunity to provide other information that may influence their eligibility for support. By continually monitoring the process, the tool and the reasons for appeals, ADHC is able to work for the best possible outcome for school leavers with disabilities.

### **Effective Assessment of Social Isolation – Department of Ageing, Disability and Home Care**

The aim of this project completed by AHOC was to review the scientific and practice literature on instruments used for the effective assessment of social isolation for community care clients, and for enabling outcomes assessment of therapeutic interventions designed to reduce social isolation. The particular target groups for this project are the elderly, young people with disabilities and their carers.

From this review the best instruments used to assess social isolation were recommended, including adaptations that might be required (e.g. item modification, field testing, and the development of rating scale and simplified English versions). The report identified the most promising instruments to use and the recommendations included consideration of the best way to implement assessment and outcome evaluation measures for social isolation in routine practice.

The report is available through the CHSD and Department of Human Services websites:

<http://ahsri.uow.edu.au/chsd/socialisolation/index.html>

[http://www.adhc.nsw.gov.au/\\_data/assets/file/0007/236329/Social\\_Isolation\\_Report.pdf](http://www.adhc.nsw.gov.au/_data/assets/file/0007/236329/Social_Isolation_Report.pdf)

### **Encouraging Best Practice in Residential Aged Care**

The Centre was funded for the evaluation of the Encouraging Best Practice in Residential Aged Care (EBPRAC) program over a period of three years. The aim was to improve evidence-based clinical care in government-subsidised residential aged care facilities, including those providing low-level and high-level care. The EBPRAC program represents the most comprehensive, coordinated, approach to implementing evidence-based practice in residential aged care undertaken in Australia. Previous work to implement evidence-based practice within residential aged care in Australia has been limited, generally undertaken on a small scale and within short timeframes.

The program consisted of two funding rounds over three years and concluded in December 2010. There were 13 projects that involved residential aged care facilities in 108 locations in all states of Australia. The objectives of the program included improvements for residents, improvements in clinical care, improvements for staff,

improvements in the system of residential aged care and increased consumer confidence. The program sought to take account of resident preferences, communicate changes required by the projects to residents and adopt a multidisciplinary approach.

The evaluation of the program, as distinct from the evaluation of individual projects, was based on a framework to examine the delivery and impact of the program on residents, providers and the residential aged care system. The design of the evaluation was informed by a review of the literature which identified eight 'key success factors' that may influence the uptake and continued use of evidence.

An important part of the EBPRAC program was a series of six national workshops, attended by members of lead organisations and participating facilities. Dissemination about project activities was extensive, primarily at a local level but also more broadly with presentations at state and national conferences. Over 2,200 dissemination activities were estimated to have 'reached' over 200,000 people.

Sustainability is probably the most challenging aspect of any program. Use of a sustainability tool to measure ten factors that have been shown to influence sustainability indicated an increased likelihood of project activities being maintained, when results at the end of each project were compared with the results at the beginning of each project. Sustainability will depend more on factors within each facility (e.g. the presence of leadership and management support), rather than what was done by each project.

The factors most consistently identified by lead organisations and staff from

participating facilities as 'key' to successful implementation were a receptive context for change (including leadership), adequate resources and stakeholder engagement. Being able to 'see' the benefits of change, either for residents or staff, was an important motivator for staff to either implement or maintain a change in practice. <http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-bestpractice-program-ebprac.htm>

## Evaluation of the Australian Asthma Management Program

In late 2009, the CHSD was selected to evaluate the National Asthma Management Program (AMP) as well as to provide support and assistance to each of the funded initiatives within the Program. The use of evaluation frameworks helps to standardise and at least to 'harmonise' the data collected by the projects so they are more capable of learning by comparisons and building their own outcome measurement systems.

The overall purpose of the AMP evaluation is to assess progress in addressing the effectiveness, appropriateness and efficiency requirements of the program, with the initial stage being formative with the emphasis on the implementation and progress of projects.

This is where CHSD has made good use of a long track record in rural palliative care, care planning, rehabilitation, hospital avoidance programs and other aspects of chronic disease management. The use of data collection tools tailored to the projects' aims has helped them to plan their work programs around priority population groups.

The evaluation design phase in 2010 set up regular opportunities for the projects and the program managers to reflect on progress to date and identify potential improvements to projects, and to the program as a whole, though a series of national workshops, an

Evaluation Advisory Committee and regular contact with the Department. The evaluation continues in 2011 with a final report in 2012. The evaluation has its own website to allow the projects to keep up to date with the latest developments: <http://amp-evaluation.net.au/>.

## Evaluation of the Dementia Quality Care Initiative

This project is an evaluation of specific components of the National Quality Dementia Care Initiative (NQDCI), which was launched in September 2010 in Sydney at the inaugural Quality Dementia Care Summit. The Initiative provides \$3M to facilitate consumers' perspectives on dementia research priorities and processes, as well as funding a series of rapid knowledge translation projects. The aim is to address priority dementia care areas of service provision and support.

The Initiative also aims to strengthen the relationships within the federation of State and Territory members' organisations of Alzheimer's Australia, as well as with external stakeholders such as the Dementia Collaborative Research Centres, service providers and the Department of Health and Ageing. The development aim is to increase consumer perspectives in dementia research, policy and service provision.

The evaluation model is for CHSD progress reports to provide updates on the activities of the Initiative overall, as well as identifying key themes which are emerging and relevant developments arising within the broader service delivery, research and policy sectors.

There are a series of linked projects within the Initiative (QDCI): the Consumer Dementia Research Network comments on research priorities, processes and the dissemination and application of research findings, the National Quality Dementia Care Network

(NQDCN) aims to translate research findings into practice; the Service Provider Network (SPN) complements the consumer and research perspective through the provision of feedback on project applications, as well as the promotion of findings.

Some of the lessons fed back in the evaluation in 2010 were about how to incorporate the Initiative within existing processes: there are inherent tensions in the collaborative nature of the knowledge translation projects and how integration 'costs before it pays', which is a key concern particularly given the length of time required for relationship building between project participants in relation to the relatively short timeframe of projects.

Another early finding that helps to shape the evaluation is the generalisability of the knowledge translation project outcomes. The requirement for NQDCN projects in particular to have a national impact, or have outcomes that are generalisable on a national scale, may be difficult to realise given the local collaborative nature of the projects and the complexity of understanding the costs and benefits – in terms of time and money – involved in projects involving broader cross-jurisdictional boundaries.

## Islet Transplantation

Islet transplantation is a low volume-high cost procedure for treating insulin dependent diabetes. This was a brief research project to provide a model to cost islet transplantation services provided at Westmead Hospital, Sydney, St Vincent's Hospital, Melbourne and the Royal Adelaide Hospital. The work was commissioned to contribute to a submission being prepared for the Nationally Funded Centre (NFC) Program.

A number of assumptions were built into the costing model based on data currently

available on the cost of undertaking islet transplant services. The model allowed for changes in cost data to be quickly applied and amended costs produced. The model covered ten areas of direct patient clinical costs and other indirect costs like travel and accommodation, the management and operation of the Islet Transplant Program, including the costs of a transplant coordinator, administrative assistance, a clinical loading for the unit head and a small amount for information dissemination.

In the context of costing islet transplants, developing a 'per patient cost' is inherently problematic. This is because a proportion of donor pancreata processed by the islet transplant laboratories, for clinical reasons are not subsequently infused into donor recipients. For this reason, costing of the service needed to reflect a high enough volume of islet isolations and infusions to ensure the program as a whole is viable.

### **Measuring Outcomes in Community Care – DADHC Grant**

This was an exploratory study of outcome measurement in community care and described what is known about this field of research and practice. It was based on three primary sources of evidence: detailed lessons from the review of a series of linked studies by the Centre; findings from a wider review of current practice and national reforms; and targeted interviews on measuring outcomes with selected providers, clients and carers.

The community care sector is inherently complicated and each year provides services to thousands of clients, undertakes millions of processes and produces a complex array of outcomes. The sector is also at the interface between the acute care, residential care and housing sectors and requires ways

of relating its work to activities in those other sectors.

The report makes the case for outcome measurement being reliant on better ways to classify clients, based on their goal of care and the characteristics that drive their need for care and support. The ways of adopting a systematic approach were included in recommendations in the Final Report, completed in June 2010.

This is 'an exploratory study' because it describes what is known about this field of research and practice in mid 2010 and translates it into lessons for the sector.

When looking at the outcomes or effects of an intervention in community care, evidence can be summarised and evaluated both over time and at different levels:

- Level 1: Impact on, and outcomes for, clients/consumers measured at the person-level
- Level 2: Impact on, and outcomes for, providers measured at the agency or organisational level
- Level 3: Impact on, and outcomes for, the system or program level and on the target population (based on what we know about the population as a whole).

This three-level framework is used for summarising the overall impacts as part of a system of client and carer outcome measurement. Building systems that are ongoing and sustainable and useful to providers takes a long time. This work in standardising and routinising in rehabilitation has taken 15 years and in palliative care a national system is in place after about 5 years.

Based on evidence from the UK in community care, it is reasonable to expect significant

progress can be made in NSW and nationally over the next five year timescale that has been foreshadowed in the various national reform initiatives.

[http://www.adhc.nsw.gov.au/\\_data/assets/file/0005/241664/Measuring\\_outcomes\\_in\\_community\\_care\\_report.pdf](http://www.adhc.nsw.gov.au/_data/assets/file/0005/241664/Measuring_outcomes_in_community_care_report.pdf)

## NSW AIDS–Resource Distribution Formula (RDF) Review

This project is an example of a population–level intervention in the sense of being concerned with planning for resource allocation on a geographic area basis to a defined population group. It was refining a tool for resource allocation on a geographic area basis for the AIDS and Infectious Diseases Branch (AIDB) of the NSW Department of Health.

The Branch allocates funds to each Area Health Service (AHS) in NSW in accordance with the priorities and directions established by the National and NSW Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS), Sexually Transmissible Infections (STI) and hepatitis C strategies. Areas/Districts then use the funds to strengthen their capacity in the delivery of local services for people living with HIV/AIDS and related diseases.

The CHSD has been engaged by the AIDB on previous occasions to undertake a review of the model for allocating resources. Prior to 2004 the model had not been reviewed for ten years and in that time many changes had occurred to the target population as well as to the epidemiology and prognosis of HIV/AIDS. So this project is focused on technical, statistical and data management work and is a continuation of earlier research, so the Centre’s experience is a valued addition to continuity in the task of refining decision–making tools including the

NSW AIDS Resource Distribution Formula (AIDS–RDF).

The AIDS Program targets a specific population within NSW, including the priority populations identified by the NSW Department of Health, such as people with HIV/AIDS, homosexually active men, Aboriginal people, people who inject drugs and sex workers. The characteristics of these people and their health issues are different from those of the general population and hence they have additional needs.

As a result, the AIDS–RDF is used to allocate most of the AIDS Program budget to local Health Service Districts. However, the principles underlying the model are identical to those guiding the General RDF; funding is distributed amongst the Areas according to demonstrated need for services within the local population.

The 2010 project involved the analysis and revision of the 2004 AIDS–RDF models for HIV, STI and the Needle and Syringe Program (NSP), including a review of the applicability of existing and new data items. An additional aim of this project was to assess the feasibility of developing a similar model for hepatitis C services.

Models were developed for the 17 former Area Health Services (AHSs), adjusted for boundary shifts to enable direct aggregation to the (then) current 8 AHSs. Results were also derived for the 24 RDF clusters. Models for the population elements of the RDF are essentially mathematical formulae that describe the relationship between the local need for services and the activity generated within a population.

Allocations were adjusted for private sector activity, with an agreed discount applied. Some patients are treated in one AHS but live in another, so adjustments for flow have to be made. The hepatitis C allocation was based on hepatitis C notifications, the Health Needs Index, drug-related offences and the number of needles and syringes distributed.

The unavailability of routine data collection for NSP or hepatitis C services created difficulties. Proxies were found for some variables and estimates made for others. More precise modelling for hepatitis C would be possible if there were a minimum data set that was similar in content to that used to collect HIV and STI service activity. For NSP, the implementation of a routine data collection would be unnecessarily burdensome for providers. However, snapshot surveys of clients of NSP outlets are currently undertaken twice each year. The report recommended a small number of additional items could become part of the survey and used to inform the next review of the AIDS-RDF.

## Radiotherapy – Optimal Machine Configurations

Radiation treatment is one of the fundamental tools available in cancer treatment and one of the three cornerstones of multidisciplinary cancer care, along with chemotherapy and surgery.

The NSW Audit Office conducted a Performance Audit of NSW radiotherapy services in 2009 and recommended that NSW Health assess economies of scale to assist in considering the most cost effective machine configuration and the impact on access to services. The CHSD was commissioned to undertake a targeted literature review to assist NSW Health to respond to this issue.

There is limited academic literature relating to optimal machine configurations for radiotherapy services. The search strategy found the most useful literature focused on related aspects of utilisation.

NSW Health should be able to monitor developments in radiotherapy, particularly if they impact upon costs, machine capacity, workload and throughput considerations, workforce availability and geographic access. The search strategy was therefore focused particularly to look for references to economies of scale.

Determining the optimal machine configuration for centres must balance many competing factors and the quality of clinical outcomes is one of the most useful criteria on which to base judgements. There are diverse issues that impact upon radiotherapy services planning, and many are outside the scope of this literature review. Because of the scale and scope of the project, it did not address in detail the various models used to estimate the number of linear accelerators required for given populations and treatment rates.

The literature review and recommendations are relevant to NSW locations funded under the Commonwealth Government 'Health and Hospital Fund Regional Cancer Centre Initiative' announced in April 2010. This included the funding of two bunker, single machine units in Tamworth and Nowra and a two linear accelerator unit in Gosford. A second linear accelerator has been funded for both Lismore and Port Macquarie and a third linear accelerator for Wollongong.

Multiple factors will influence decision-making for this service planning issue. This literature review provides another ingredient for the population planning 'melting pot'.

The literature review pointed out how the literature will need to be supplemented by new and emerging evidence, advances in best practice, the advice of clinical and technical experts, patient preferences and how decisions always have to be taken in the context of available public funds.

### **Radiotherapy – review of increasing capacity of facilities**

The NSW Audit Office review in 2009 also recommended that NSW Health assess options for increasing the capacity of radiotherapy facilities, which might include the feasibility and ‘value for money’ of extended hours operation. CHSD was commissioned to undertake a targeted literature review to assist NSW Health in responding to this issue.

The issues regarding the ‘extended hours’ were first considered by the Department in 1993 and a Business Process Improvement project was undertaken for radiotherapy services was completed in 2009. This demonstrated that improvements in efficiencies can be realised with existing infrastructure by improvements in operational processes and as part of planning a quality comprehensive cancer service.

There are many factors that influence the model of care and service delivery of radiotherapy, so the targeted literature review focused particularly on the feasibility and ‘value for money’ of extended hours operation. The options for increasing capacity of radiotherapy facilities fall broadly under three headings:

1. Increase the number of linear accelerator machines available
2. Work existing machines smarter
3. Work existing machines harder

Option three is the most relevant as NSW Health already has strategies underway for

options one and two. Approximately 50% of the cost of running a radiotherapy service is attributable to staff and 30% to equipment and maintenance costs. The remaining 20% includes cost inputs relating to space, materials and departmental overheads.

Radiotherapy facilities, like most outpatient departments, have traditionally based appointment times around a 9.00 am to 5.00 pm, five day working week; however some facilities are introducing extended hours to more effectively manage patient workflow. To extend the working hours means that the existing pool of linear accelerators will need to be run for longer periods.

This option is reliant on an available and appropriately skilled workforce, so the availability of staff and appropriate skills mix will be the rate limiting factor for many localities seeking to increase productivity and or utilisation of equipment, through extended hours. If the demand for radiotherapy is increasing faster than the rate trained radiographers become available, then one of the main constraints to radiotherapy capacity is the number of radiographers available.

Determining the feasibility and ‘value for money’ of extended hours operations must balance many competing factors – finding a balance between optimum patient access and the available human and financial resources is the challenge.

### **NSW Refugee Health Plan – Literature Review**

This project built on a related piece of work in 2009; a study of the health of people in immigration detention for the Department of Immigration and Citizenship. The 2010 review of the literature and current practice on models of care for refugee health was

undertaken to support the update of the Refugee Health Plan for NSW Health. It informs how models of care have been changing and how best to develop services to meet the support needs of refugees.

Once refugees' health needs are described, the key question is how best to respond to them. NSW Health issued its Strategic Directions in Refugee Health Care in NSW ten years ago to provide a framework and direction for service and strategy development in refugee health in NSW. In consideration of the significant changes in national government policies, major changes in the countries of origin of refugees and significant refugee health service developments in the last decade, a new plan for refugee health was developed to guide future service delivery.

The report and workshop involved in this project provides one plank in the planning process. Reviewing the literature on models of care across Australia and internationally informs how best to respond to the continuum of need and to guide the set of objectives, strategies and suitable measures that can be embodied in the new plan.

Government policies on refugee health within the jurisdictions and internationally should be informed by evidence from studies of the health of this marginalised and often traumatised group, as well as evidence about what works best in dealing with their needs.

The literature review is available at:  
[http://www.sswahs.nsw.gov.au/sswahs/refugee/pdf/RH\\_literature\\_review.pdf](http://www.sswahs.nsw.gov.au/sswahs/refugee/pdf/RH_literature_review.pdf)

## Research to Practice Briefing – carer interventions

In a national project in 2007–2008 designing the Carer Eligibility and Needs Assessment, CHSD expanded and clarified the useful

initial assessment information on carers' needs for support, to collect it and put into an action plan and to prompt referrals.

The next logical step after assessing is to work out what to do with what you know. In 2007 the Commonwealth Department of Health and Ageing Carers Section funded CHSD to do a *Review of Effective Caring*, summarising the evidence from published studies and systematic reviews on carer needs and the effectiveness of interventions. That review is available through the Department's website:

<http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-publicat-effective-caring-v1.htm> and it is also able to be accessed through the University's Research Online system:  
<http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1025&context=chsd&sei-redir=1#search=%22%2Beffective%20caring%22>

So while this research material is able to be electronically downloaded, it is a daunting task to get through the considerable amount of detail. It requires a *research translation* phase to make it more accessible to those who might use it – policy makers and providers of carer support services.

The first more accessible product from this body of research was geared mainly for policy-makers in an article in the journal of the Australian Institute of Family Studies (AIFS) (Williams K and Owen A (2009) *A contribution to research and development in the carer support sector: lessons on effective caring*. *Family Matters*, 82: 38–46). The AIFS role is to conduct research and communicate findings that affect family wellbeing to policy makers, service providers and the broader community (<http://www.aifs.gov.au/>).

What stands out in this research area are how the policy agenda is being driven more by the efforts of the agencies in the field than by

governments, to make better sense of what they do in providing support services. So another way to get research translated to users who are more 'on the ground' is to work with provider organisations themselves. To that end, the Benevolent Society commissioned the CHSD in 2010 to write one of its 'Research into Practice Briefings', on meeting the needs of carers. The Briefings bring together lessons learned from the literature on a topical issue in community care as a resource for those working in this sector. The assumptions we were asked to start with in preparing the *Briefing* were that carers, care recipients and service providers can share a common pool of knowledge, and given the right tools, the sector as a whole can be a lever for local service development. The result was a short and accessible publication that was produced in hard copy as well as being accessible through the Benevolent Society website:

<http://www.bensoc.org.au/uploads/documents/research-to-practice-briefing5-informal-carers.pdf>

## Review of Assessment Tools for Aged Care Assessment Teams

This was a commissioned research project undertaken by AHOC for the provision of advice concerning the development and pilot testing of a toolkit for use by Aged Care Assessment Teams (ACATs).

The 2007 National Review of ACATs recommended that Aged Care Assessment Program Officials seek expert advice to develop a set of validated, specific assessment tools and develop criteria for their use in the comprehensive assessment of frail, older people. The program managers also wished to identify some screening questions (e.g. vision, hearing, dementia, nutrition, etc) that could flag the need for a second level (or more in depth) assessment for elderly people currently experiencing, or

who may be expected to experience, difficulties in these areas.

The review examined a range of screening items proposed for ACAT assessment and a set of standard instruments that had been recommended for use for the core assessment of all ACAT applicants. Core assessment tools cover functional domains that are relevant to every ACAT assessment (e.g. cognitive function, ADL and IADL functional skill assessments). Other tools identified could be considered more appropriate for follow up or a more in depth assessment if the client is identified as having potential problems in these other areas (e.g. particular behavioural symptoms/issues).

The recommended screening items and the recommended assessment instruments for cognition and function need to be put in an appropriate form as a supplement to the Aged Care Client Record. A pilot study was recommended to be undertaken using the supplementary standardised assessment tools and items. An analysis of the data concerning the screening items and core assessment tools would then enable the refinement of these components prior to any broader implementation. Using a standard set of assessments and items will also have implications for the training of ACAT assessors and this issue is currently being considered in the context of the health reforms as well as the Aged Care Assessment Program.

## Review and Restructure of Medibank Private Rehabilitation Programs

This was a review undertaken by AROC to assist the restructuring of the Medibank Private rehabilitation program classification system. The program structure for both admitted and non-admitted programs had

developed organically and did not reflect the clinical structure of rehabilitation, and nor allow for comparison of like episodes for benchmarking purposes.

Data describing the current Medibank program characteristics was unable to be directly compared to the data held by AROC due to the complexity of the program naming conventions, and the amount of incomplete data. The recommended classification structure aligned the programs to the widely used AN-SNAP classification system as it pertains to rehabilitation.

Some discussion of possible rehabilitation funding models was also provided, with the blended payment model (a blend of a casemix and per diem funding model) being recommended as the most appropriate to be considered by Medibank.

Implementation of any new rehabilitation program structure (and associated funding model) will always require significant education for providers of rehabilitation in order to maintain good quality data. Implementing the new system will allow Medibank the opportunity to review its documentation and reporting requirements associated with funding for this type of care.

## **Southern Suburbs Integrated Case Management**

The goal of the Southern Suburbs Integrated Case Management (SSICM) project is to provide integrated case management across NSW Government and non-government human service agencies, with Local and Australian Government involvement to contribute to the well-being of families with multiple and/or complex needs who have exhausted other avenues of support.

The coverage of the project includes one of Wollongong's six substantial public housing estates which exhibit significant concentrations of households with complex issues. The coverage for SSICM is the Wollongong 2502 post code area. The selection criteria focus the project's efforts on families with significant and recurring issues of domestic violence, children at risk, housing insecurity and criminal justice issues.

The project, while small in scale (limited to 10 families within a small geographic area), is strategic in its aims, and managed within the NSW Government's Regional Coordination Program. Its first year has focussed on refining the selection criteria and testing the abilities of the local service system, through the interagency model, to respond in a flexible and coherent way to the needs of the families.

The evaluation of year one of the project showed it had established its coordination processes and templates, had achieved what it expected to achieve in its first year and is continually improving the useability of its systems. There was consistent positive feedback from the surveys of the Steering Committee members, the interviews with the Panel members (who allocate the families accepted into the program), the participants in the workshop with the Teams, and from the reports by the Coordinator. There are some indications of useful outcomes from the families that have exited the project to date.

The evaluation was small in scale and did not cover family-level information on their views of the outcomes for them. This level was not in scope due to the ethical, logistic and resource issues involved in that level of inquiry.

In summary, the judgement at each level of the three-tiered structure is that the model works. This is based on the surveyed views of the Steering Committee, interviews with all members of the Panel, the shared interagency experiences analysed at a workshop with the Teams, and (anecdotally at this early point) the outcomes for the families who have exited the project.

The project has developed and maintained a three-tier structure to address the integration issues, held together by the role of a Coordinator, who acts as an ‘honest broker’ and facilitator across the different activities of the project.

It is a practical model of local integration where the initial motivation was to bring the relevant Health programs into a stronger and more formalised relationship to other NSW Human Services, Local Government and non-government agencies in responding more flexibly to the complex needs of long term and recurrently ‘crisis-prone’ families.

The evaluation recommended that it should be possible to strategically situate SSICM as part of a ‘virtual network’ of programs promoting the full mix similar ‘integration’ models such as Family Case Management models under the Keep Them Safe initiative, the Integrated Crime Management model, as well as the growing number of coordinated or integrated care models in the health sector, in both the Local Health Networks and the proposed Medicare Locals.

### **The Effect of Student Placements on GP Income**

This research project was commissioned by the Graduate School of Medicine at UoW to investigate the ‘Rural and Regional Community Based Medical Education: the Real Costs’. The research collected

quantitative data, a Practice Demographic Survey, Student Diaries at two points in time and an extended Qualitative Interview component, also at two points in time.

The aim of the project was to collect data from consenting practices relating to:

- Patient throughput/service utilisation
- Income/billings
- Practice expenses

Data were collected over a two year period commencing in July 2008 and concluding in June 2010. The Graduate School of Medicine Phase 3 student placements commenced from mid July 2009 and concluded by mid-June 2010.

The data provided through this research was recommended to be used with caution, although the findings were consistent. There was a high level of volatility in the data and numerous confounding factors were identified, which meant that no impact could be directly attributable to the student placement.

The conclusion was that there were insufficient data to demonstrate any comparative differences between the costs and impact of long term integrated clinical placements for graduate medical students based in rural general practices with those in regional general practices in NSW, across one academic year.

### **Triple Care Farm – Integrated Intervention**

Triple Care Farm is a small accommodation and rehabilitation service in the Southern Highlands of NSW providing help to young people with mental health and substance abuse problems. The Centre has assisted the service to carry out a research project that attempts to measure the outcomes of their

activities and improve their operating procedures. This is an ongoing commitment with the organisation to assist them in improving their understanding of the impact of their activities.

## Victorian Child and Adolescent Monitoring System (VCAMS)

In 2006, CHSD was originally commissioned by the Victorian Department of Human Services (DHS) to develop a catalogue of evidence-based strategies for the health and wellbeing of children aged 0–8 years. The original catalogue was created for the Best Start program, which has a particular focus on prevention and early intervention with vulnerable families, including socially disadvantaged families, Aboriginal and Torres Strait Islander (ATSI) families, people from culturally and linguistically diverse (CALD) backgrounds, and families living in rural areas.

Subsequently, the Catalogue of Evidence-Based Strategies for improving the health and wellbeing of Victoria's children was commissioned by the Victorian Department of Education and Early Childhood Development (DEECD). In this 2010 report, revised narrative reviews and, where necessary, new catalogue entries were provided for 12 indicators originally reviewed in 2008.

The task in updating the catalogue was to check whether any relevant, new evidence had emerged in the academic or grey literature for each of the indicators being reviewed. This may mean adding a new strategy and catalogue entry for an indicator, instead of or in addition to existing strategies.

The indicators updated in this work in 2010 include seven adolescent indicators linked to

prevention of school disengagement and promotion of success for young people at risk of leaving school early, and in addition, updates were provided for four child and adolescent indicators:

- Hospitalisation rate for asthma
- Low birth weight
- Proportion of children with emotional or behavioural difficulties
- Proportion of families who are food insecure

The catalogue now has wider application beyond the Best Start program, and is a key element in the Victorian Child and Adolescent Monitoring System (VCAMS), providing practical guidance to policy makers and program developers. Nevertheless, the above goals, priorities and service delivery models remain relevant. It is available via the web at:

<http://www.education.vic.gov.au/healthwellbeing/childyouth/catalogue/default.htm>  
[www.education.vic.gov.au/ocecd/catalogue\\_of\\_evidence.html](http://www.education.vic.gov.au/ocecd/catalogue_of_evidence.html)

## Other health system contributions

Members of the CHSD undertook a number of service planning and review projects and collaborated with other research groups in 2010.

Continuing from 2009 Associate Professor Chris Poulos worked on a [Rehabilitation and Sub-acute Care Utilisation Review Research Project](#). Professor Kathy Eagar assisted a number of local groups to understand the regional service mix and opportunities for future collaboration in the Illawarra.

Reflecting the expertise and experience of CHSD staff in the academic health service research arena, Centre staff participated in

research under grants held by other institutions. Other activities in 2010 were:

- Cost-efficient service provision in neuro-rehabilitation: defining needs, costs and outcomes for people with long-term neurological conditions;
- Circulatory and Associated Conditions in Urban Indigenous Peoples;
- Improving health outcomes for Aboriginal Australians with chronic diseases through strategies to reduce systems barriers to necessary care;
- Treatment Outcomes for Young People with Co morbid Mental Illness and Alcohol & Other Drugs Problems.

## CHSD Inputs in 2010 Funding

Type	Project	Funding 2010	
<b>Goal for 2010</b>		<b>\$5,900,000</b>	
<b>Funding secured 2010</b>		<b>\$5,811,424</b>	
<b>Infrastructure</b>	UoW infrastructure	\$558,961	
	UoW Research Strength Funding	\$211,889	
	<b>Total infrastructure</b>	<b>\$770,850</b>	
<b>Programs</b>	Palliative Care Outcomes Collaboration (PCOC)	\$2,289,888	
	Australasian Rehab Outcomes Centre (AROC)	\$1,187,144	
	Australian Health Outcomes Collaboration (AHOC) – core	\$5,445	
	<b>Total programs</b>	<b>\$3,482,477</b>	
<b>Projects</b>	Evaluation Asthma Management Program	\$329,907	
	Enhancing Best Practice in Residential Aged Care	\$242,453	
	Continence Outcome Measures – Validation and Clinical Translation Project	\$135,404	
	The Effect of Student Placements on GP Income	\$101,168	
	Cancer Australia – Gynaecological Cancers	\$72,430	
	Review of Assessment Tools for ACAT	\$70,687	
	Effective Assessment of Social Isolation – DADHC	\$69,477	
	Evaluation Dementia Quality Care Initiative	\$68,750	
	Measuring Outcomes in Community Care	\$62,803	
	NSW AIDS RDF Review	\$49,551	
	VCAMS	\$47,987	
	DADHC – Assessment of the 2010 School Leavers	\$43,303	
	Review of Increasing Capacity of Radiotherapy Facilities	\$29,957	
	Phase 2 – Alpha drafting ICD-10	\$27,500	
	Optional Machine Configurations in Radiotherapy	\$25,139	
	CareSearch Evaluation	\$21,939	
	Southern Suburbs Integrated Case Management	\$20,821	
	Refugee Health – Literature Review	\$20,000	
	Advanced SNOMED training – NeHTA	\$18,282	
	Research to Practice Briefing	\$16,500	
	Review and Restructure of Medibank Private Rehabilitation programs	\$12,760	
	CSSM Collaboration	\$13,300	
	Islet Transplantation	\$14,300	
	SMART Infrastructure collaboration	\$14,300	
	CareSearch Evaluation Project 2010/2011	\$10,887	
	AHOC – Small Consultation projects	\$6,993	
	Best Practice GP Consultancy project (ACCTI)	\$6,500	
	Triple Care Farm – Integrated Intervention project	\$5,000	
	<b>Total projects</b>	<b>\$1,558,097</b>	
	<b>Total income 2010</b>		<b>\$5,811,424</b>

Note: This table does not include funding for NCCC activities, which are being managed as a separate entity on a short-term basis (three years).

## CHSD Outputs 2010: publications and dissemination

CHSD staff and associates produced a total of 112 publications in 2010. A total of 35 journal articles were published, in press or were still under editorial review at the end of the year. These publications are listed below, followed by a description of the use of the CHSD website for disseminating our research findings and tools.

### Journal Articles

1. Anderson K, Valente V and Wicks A (2010) [Photo essay: Skateboarding - defying gravity.](#) *Journal of Occupational Science*, 17 (2): 125–126.
2. Aoun S, Bird S, Kristjanson L and Currow DC (2010) [Reliability testing of the FAMCARE-2 scale: Measuring family carer satisfaction with palliative care.](#) *Palliative Medicine*, 24 (7): 674–681.
3. Asaba E and Wicks A (2010) Occupational terminology: Occupational potential. *Journal of Occupational Science*, 17 (2): 120–124.
4. Cleary T (2010) [Case Report of Aggressive Wet Age-related Macular Degeneration.](#) *Illuminate*, 1 (10): 26–31.
5. Eagar K (2010) [The Rudd hospital plan - many pitfalls to avoid on the way to a better health system.](#) *Medical Journal of Australia*, 192 (9): 515–516.
6. Eagar K, Watters P, Currow DC, Aoun SM and Yates P (2010) [The Australian Palliative Care Outcomes Collaboration \(PCOC\) - measuring the quality and outcomes of palliative care on a routine basis.](#) *Australian Health Review*, 34: 186–192.
7. Eckermann S, Karnon J and Willan A (2010) [The Value of Value of Information: Best Informing Research Design and Prioritization Using Current Methods.](#) *Pharmacoeconomics*, 28 (9): 699–709.
8. Fildes D, Cass Y, Wallner F and Owen A (2010) Shedding Light on Men: the Building Healthy Men Project. *Journal of Men's Health*. 7 (3): 233–240.
9. Fossa Wamba S and Wicks A (2010) RFID deployment and use in the dairy value chain: Applications, current issues and future research directions. Double-blinded refereed full conference paper. In K Michael (Ed.) *Social Implications of Emerging Technologies*. 2010 IEEE International Symposium on Technology and Society. Wollongong. 7–9 June, 2010. ISBN 978 1 4244 7775 3.
10. Gordon R, Magee C, Frazer A, Evans C and McCosker K (2010) [An interim prosthesis program for lower limb amputees: Comparison of public and private models of service.](#) *Prosthetics and Orthotics International*, 34 (2): 175–183.
11. Green JP and Eagar K (2010) [The health of people in Australian immigration detention centres.](#) *Medical Journal of Australia*, 192 (2): 65–70.
12. Griffiths A, Dyer S, Lord S, Pardy C, Fraser I and Eckermann S (2010) [A cost-effectiveness analysis of in-vitro fertilization by maternal age and number of treatment attempts.](#) *Human Reproduction*, 25 (4): 924–931.
13. Liu H, Patel A, Brown A, Eades S, Hayman N, Jan S, Ring I, Stewart G, Tonkin A, Weeramanthri T, Wade V, Rodgers A, Usherwood T, Neal B, Peiris D, Burke H, Reid C and Cass A (2010) [Rationale and Design of the Kanyini Guidelines Adherence with the Polypill \(Kanyini-GAP\) Study: a randomised controlled trial of a polypill-based strategy amongst Indigenous and non Indigenous people at high cardiovascular risk.](#) *BMC Public Health*, 10: 458.
14. Masso M, Robert G, McCarthy G and Eagar K (2010) [The Clinical Services Redesign Program in New South Wales: perceptions of senior health managers.](#) *Australian Health Review*, 34 (3): 352–359
15. McCaffrey N, Karnon J, Currow D and Eckermann S (2010) The Old Dog and the Poor Relation: Informing funding decisions in palliative care with cost-consequence analysis in the cost-disutility plane. *Palliative Medicine*, 24 (4): S207.

16. Poulos CJ (2010) [\*Evaluating inpatient public rehabilitation in Australia using a utilization review tool developed in North America\*](#). *Journal of Rehabilitation Medicine*, 42 (3): 282 – 283.
17. Ring I (2010) Close the Gap and national health reform. *Australian Medicine*, 22 (5): 25–26.
18. Scuffham PA, Nikles J, Mitchell GK, Yelland MJ, Vine N, Poulos CJ, Pillans PI, Bashford G, del Mar C, Schluter PJ and Glasziou P (2010) [\*Using n-of-1 trials to improve patient management and save costs\*](#). *Journal of General Internal Medicine*, 25 (9): 906–13.
19. The Search Investigators (2010) [\*The Study of Environment on Aboriginal Resilience and Child Health \(SEARCH\): study protocol\*](#). *BMC Public Health*, 10 (287): 1–8.
20. Valente V, Anderson K and Wicks A (2010) [\*Shellharbour Dolphins: All Year Swimmers\*](#). *Journal of Occupational Science*, 17 (1): 63–64.
21. Willan AR and Eckermann S (2010) [\*Optimal clinical trial design using value of information with imperfect implementation\*](#). *Health Economics*, 19 (5): 549–561.
22. Williams K, Lago L, Lainchbury A and Eagar K (2010) [\*Mothers' views of caseload midwifery and the value of continuity of care at an Australian regional hospital\*](#). *Midwifery*, 26 (6): 615–621.
26. Jeon Y–H, Sansoni J, Low L–F, Chenoweth L, Zapart S, Sansoni E and Marosszeky N. Recommended measures for the assessment of behavioral disturbances associated with dementia. Accepted for publication in *American Journal of Geriatric Psychiatry*.
27. Khan F, et al. Rehabilitation for Guillain Barre syndrome: Analysis of the Australian Rehabilitation Outcomes. Accepted for publication in *Journal of Clinical Medicine and Research*.
28. New P, Simmonds F and Stevermuer T. A population–based study comparing traumatic spinal cord injury and non–traumatic spinal cord injury using a National rehabilitation database. Accepted for publication in *Spinal Cord*.

### Under editorial review

### In press

23. Aoun S, Bird S, Kristjanson L and Currow D. Reliability Testing of the FAMCARE–2 Scale: Measuring Family Carer Satisfaction with Palliative Care. Accepted for publication in *Palliative Medicine*.
24. Eckermann S, Coory M and Willan A. Consistently estimating absolute risk difference when translating evidence to jurisdictions of interest. Accepted for publication 9 August 2010 in *PharmacoEconomics*.
25. Eckermann S and Willan A. Presenting evidence and summary measures to best inform societal decisions when comparing multiple strategies. Accepted for publication 18 November 2010 in *PharmacoEconomics*.
29. Hammell S, Williams K, Ciarrochi J and Heaven P (under revision). *Longitudinal change in autonomous and controlled motives for relationship goals during adolescence*. Submitted to *Social Development*
30. Turner–Stokes L, Khan F, Stevermuer T, Simmonds F and Eagar K. *Comparison of rehabilitation outcomes for long term neurological conditions: A cohort analysis of the Australian Rehabilitation Outcomes Centre Dataset*. Submitted to *Journal of Neurology, Neurosurgery and Psychiatry*.
31. Wicks A (under revision). *The International Society for occupational Science: facilitating development of occupational science through international networks and intercultural dialogue*. In Hocking C and Whiteford G (eds), *Critical perspectives in occupational science: Society, inclusion, participation*. Wiley–Blackwell.
32. Wicks A (under revision). *Understanding the development of occupational potential over time through the analysis of life stories*. In Pierce D (ed), *Occupational science for occupational therapy*. Slack.
33. Wicks A (under revision). *Using life stories in narrative research in human occupation*. In Molineux M (ed), *Occupational narratives: Narrative research in human occupation and health*. Blackwell Publishing.

34. Wicks A (under revision). *A transactional view of shedding at the Berry Men's Shed*. In Cutchin M and Dickie V (eds). Transactional perspectives on occupation. Springer.
35. Zhao Y, Foley M and Eagar K. *Assessing economies of scale in public hospital inpatient services for Activity Based Funding: evidence from the Australian national data collection*. Submitted to Health Economics November 2010

## Conference Papers

36. Asaba E, Blanch E, Jonsson H, Rudman D and Wicks A (2010) *ISOS: Sharing the world of occupational science and enhancing its contributing to occupational therapy*. Workshop presented at World Federation of Occupational Therapists Congress, Santiago, Chile. 6 May 2010.
37. Banfield M, Duffy J, Hendry K, Jezewski R, Mylne S, Rawlings D and Weyman K (2010) *Improving the Quality of Palliative Care through use of Routine Standardised Patient Assessments*. Paper presented at the 2010 NSW State Palliative Care Conference, Hunter Valley. 3–5 November 2010.
38. Berger M, Simmonds F and Stevermuer T (2010) *Making sense of the state of rehabilitation in Australia and New Zealand in 2009: the tools for improving clinical practice*. Presentation to the ARNA 20th Annual Conference, Rydges Wollongong, 14–15 October 2010.
39. Berger M, Law J, Simmonds F, Stevermuer T and Tazelaar–Molinia J (2010) *Benchmarking Targets and Adjunct Data for Rehabilitation Outcomes in the Treatment of Brain Injury*. Presentation to the 33<sup>rd</sup> Annual Brain Impairment Conference, Surfers Paradise, 6–8 May 2010.
40. Clapham K, Khavarpour F, Bolt R and Stevenson M (2010) *Child injury in an urban Australian Indigenous community: The Safe Koori Kids Intervention*. Safety 2010 World Conference, London, 21–24 September 2010.
41. Cornish R, Banfield M, Duffy J, Hendry K, Jezewski R, Mylne S, Rawlings D and Weyman K (2010) *Improving Quality of Palliative Care through use of Nationally Consistent Patient Assessments*. Paper presented at the 8<sup>th</sup> Australasian Conference on Safety and Quality in Health Care 2010, Perth. 6–8 September 2010.
42. Eagar K (2010) *Measuring outcomes: What care coordinators need to know*. 2010 Cancer Care Coordination Conference – Relationships, Roles and Reality. Gold Coast, 24–26 March 2010.
43. Eagar K (2010) *The National Health and Hospitals Network Agreement*. NSW Health Planners Workshop, Sydney, May 2010.
44. Eagar K (2010) *The Australian health care system – where we are in 2010 and where we need to get to. Invited keynote paper*. World Health Care Networks (WHCN) Conference – In Our Hands – Transforming Health Systems through Health Care Networks. Auckland, New Zealand, 22–24 July 2010.
45. Eagar K (2010) *Your integration is my fragmentation: design flaws and ways forward for the Australian health system*. Healthcon 2010 Multiple Dimensions of Healthcare. Australian Healthcare and Hospitals Association Congress Adelaide, 22–24 September 2010.
46. Eagar K (2010) [Your integration is my fragmentation](#). Australian General Practice Network National Forum 2010, Perth, 4–6 November 2010.
47. Eagar K (2010) *Integration or fragmentation: understanding the health care reforms*. Illawarra Division of General Practice AGM. Wollongong, 28 October 2010.
48. Eagar K (2010) *Meeting Emerging Challenges: Activity Based Funding and Casemix*. Health Information Management Association of Australia National Conference 2010: Health Information: The Golden Thread in Health Reform. Darling Harbour, 28 October 2010.
49. Eagar K (2010) *Measuring Outcomes: the Australian experience*. The 3<sup>rd</sup> Australasian Mental Health Outcomes Conference, Auckland, New Zealand, 18–19 November 2010.
50. Eagar K, Yates P, Aoun S, Bird S, Rawlings D and Currow D (2010) *PCOC: Introducing X-CAS casemix adjusted score for benchmarking pain and symptoms*. Poster presentation. 6<sup>th</sup>

- Research Congress of the European Association of Palliative Care, Glasgow, UK, 10–12 June 2010.
51. Eagar K, Yates P, Aoun S, Rawlings D and Currow D (2010) *PCOC: Setting the first Benchmarks for Palliative Care in Australia. Poster presentation.* Poster presentation. 6th Research Congress of the European Association of Palliative Care, Glasgow, UK, 10–12 June 2010.
52. Eagar K, Green J and Owen A (2010) *Functional Assessment of 2010 Post School Program Applicants.* Presentation to Ageing Disability and Home Care, Department of Human Services NSW: Post School Programs, 2010 School Leavers Eligibility Assessment Training Day, 6 May 2010.
53. Fossa Wamba S and Wicks A (2010) [RFID deployment and use in the dairy value chain: Applications, current issues and future research directions.](#) Social Implications of Emerging Technologies. 2010 IEEE International Symposium on Technology and Society. Wollongong. 7–9 June, 2010.
54. Hunter K, Clapham K, Lyford M, Keay L, Brown J, Bilson L, Fegan M and Ivers R (2010) *Buckle up safety for Indigenous children: development and evaluation of a preschool based education program to increase appropriate use of child restraints.* 2010 Australasian Road Safety Research, Policing and Education Conference, Canberra, 31 August – 3 September 2010.
55. Ivers R, Martiniuk AL, Clapham K, Boufous S, Senserrick T, Stevenson M and Norton R (2010) *Indigenous status and risk of motor vehicle crash: the DRIVE study.* 2010 Australasian Road Safety Research, Policing and Education Conference, Canberra, 31 August – 3 September 2010.
56. Lawley MJ, Hansen DP, Kemp M, Vickers D and Truran D (2010) *Agreeing on meaning: a fundamental sharing of health information.* Paper presented at 18<sup>th</sup> Annual Health Informatics Conference. Melbourne, 24–26 August 2010: 57–60.
57. Marosszeky N, Shores A, Owen A and Eagar K (2010) *Measurement of Functional Outcomes: Toward the development of an item bank in Australia.* 27th International Congress of Applied Psychology (ICAP 2010), Melbourne, 11 – 16 July 2010.
58. Owen A (2010) *Steps towards a more effective community care sector.* Presentation to launch Research into Practice Briefing Number 5, The Benevolent Society, Paddington NSW. 9 December 2010.
59. Poulos CJ (2010) *Measuring the Quality of Rehabilitation Care: Opportunities and Challenges for Rehabilitation Providers – Perspectives from Australia.* Invited speaker at 2010 Annual Conference of the American Congress of Rehabilitation Medicine (ACRM), Montreal, Canada, 20 – 23 October 2010.
60. Poulos CJ (2010) Sheldon Berrol Memorial Chautauqua: *So You Say You Practice a Person-Centered Approach to Rehab: How Do You Really Know If You Are?* Invited speaker / panel member at 2010 Annual Conference of the American Congress of Rehabilitation Medicine (ACRM), Montreal, Canada, 20 – 23 October, 2010.
61. Rawlings D, Currow D, Yates P, Aoun S and Eagar K (2010) *PCOC: Demonstrating outcomes in pain management in Australia.* Poster presentation. 6th Research Congress of the European Association of Palliative Care, Glasgow, UK, 10–12 June 2010.
62. Rawlings D, Currow D, Eagar K, Yates P and Aoun S (2010) *The ultimate measure of the quality of care is the outcomes that patients achieve.* Poster presentation. 6th Research Congress of the European Association of Palliative Care, Glasgow, UK, 10–12 June 2010.
63. Rawlings D, Currow D, Eagar K, Yates P and Aoun S (2010) *The ultimate measure of the quality of health care.* Paper presented at the 3<sup>rd</sup> Biennial Palliative Care Nurses Australia Conference, Brisbane. 27–28 August 2010.
64. Sansoni J and Marosszeky N (2010) *The Effective Assessment of Social Isolation.* Research Seminar Presentation to the NSW Department of Ageing, Disability and Home Care (ADHC), Sydney, 3 May 2010.
65. Sansoni J, Marosszeky N, Fleming G and Sansoni E (2010) *A Targeted Review of Measures of Social Isolation and Perceived*

- Social Support*. (Poster) International Society for Quality of Life Research (ISOQOL) 17th Annual Conference, London, UK, 27 - 30 October 2010.
66. Sansoni J, Marosszeky N, Fleming G and Hawthorne G (2010) *Clinical Validation of a Short Urinary Incontinence Measure and its Correlation with measures of HRQOL*. (Poster) International Society for Quality of Life Research (ISOQOL) 17th Annual Conference, London, UK, 27 - 30 October 2010.
67. Senserrick T, Yip P, Ivers R, Grzebieta R, Clapham K and Lyford M (2010) *Lessons Learned and National Implications of 'Safe System' Road Safety Audit in a Remote Indigenous Community*. Indigenous Road Safety Forum, Coffs Harbour, 10-12 November 2010.
68. Simmonds F, Stevermuer T and Marosszeky B (2010) *The AROC Annual Report - the state of rehabilitation in Australia and New Zealand in 2009*. Presentation to WCIM 2010 Melbourne, 23 March 2010.
69. Simmonds F, Stevermuer T and Marosszeky B (2010) *Developing Targets for Outcomes of Treatment of Reconditioning*. Presentation to WCIM 2010 Melbourne, 23 March 2010.
70. Simmonds F and Stevermuer T (2010) *The state of rehabilitation in Australia and New Zealand in 2009*. Presentation to the Best of Both Worlds Rehabilitation 2010 Mind and Body Conference, Hilton on the Park Melbourne, 6-8 October 2010.
71. Swan P and Wicks A (2010) *To work or not to work, that is the question: Exploring influences on the retirement intentions of older workers*. Joint Occupational Science Conference, London, Ont. Canada. 15 October 2010.
72. Wicks A (2010) *Doing things with others for others: How the Berry men's Shed promotes social participation of older men and social capital in a rural community*. Paper presented at World Federation of Occupational Therapists Congress, Santiago, Chile. 4 May 2010.
73. Wicks A (2010) *An international fieldwork experience combining practice, projects and research: A model for intercultural learning and teaching*. Poster presented at World Federation of Occupational Therapists Congress, Santiago, Chile. 4 May 2010.
74. Wicks A (2010) *Imagining your futures*. Invited Keynote Address. Occupational Therapy Graduate Conference, Charles Sturt University, Albury, Australia. 27 October 2010.
75. Wicks A and Laliberte Rudman D (2010) *Enhancing networks in occupational science*. Workshop. Joint Occupational Science Conference, London, Ont. Canada. 16 October 2010.

## Other publications

76. Bird S and Lago L (2010) *PCOC National Report on Palliative Care in Australia July to December 2009*. Palliative Care Outcomes Collaboration, Centre for Health Service Development, University of Wollongong.
77. Bird S and Allingham S (2010) *PCOC National Report on Palliative Care in Australia January to June 2010*. Palliative Care Outcomes Collaboration, Centre for Health Service Development, University of Wollongong.
78. Bird S (2010) *Patient and Carer Report November 2010*. Palliative Care Outcomes Collaboration, Centre for Health Service Development, University of Wollongong.
79. Boufous S, Ivers R, Senserrick T, Martiniuk A and Clapham K (2010) [Underlying causes and effects of injury in Australian Aboriginal populations: a review](#). 2010) Sydney: New South Wales Department of Health.
80. Clapham K, Khavarpour F, Bolt R and Stevenson M (2010) *Child injury in an urban Australian Indigenous community: The Safe Koori Kids Intervention*. (Abstract) Proceedings of the Safety 2010 World Conference, London, 21-24 September 2010. Injury Prevention, 16 (Supplement No 1): P.A138.
81. Eagar K (2010) *ABF Information Series No. 1. What is activity-based funding?* Centre for Health Service Development, University of Wollongong.
82. Eagar K (2010) *ABF Information Series No. 2. The special case of smaller and regional hospitals*. Centre for Health Service Development, University of Wollongong.

83. Eagar K (2010) *ABF Information Series No. 3. Lessons from the USA*. Centre for Health Service Development, University of Wollongong.
84. Eagar K (2010) *ABF Information Series No. 4. The cost of public hospitals - which State or Territory is the most efficient?* Centre for Health Service Development, University of Wollongong.
85. Eagar K (2010) *ABF Information Series No. 5. Counting acute inpatient care*. Centre for Health Service Development, University of Wollongong.
86. Eagar K (2010) *ABF Information Series No. 6. Subacute care*. Centre for Health Service Development, University of Wollongong.
87. Eagar K (2010) *ABF Information Series No. 7. Research and training*. Centre for Health Service Development, University of Wollongong.
88. Eagar K, Green J and Owen A (2010) *The NSW Post School Programs Eligibility Assessment: a guide to functional assessments in 2010*. Centre for Health Service Development, University of Wollongong.
89. Fildes D and Samsa P (2010) *Evaluating the CareSearch Research Data Management System: Results of an on-line survey and telephone interviews*. Centre for Health Service Development, University of Wollongong.
90. Fildes D and Samsa P (2010) *Evaluating @CareSearch: Results to an on-line survey*. Centre for Health Service Development, University of Wollongong.
91. Fildes D and Samsa P (2010) *Evaluating the CareSearch Nurses Information Newsletter: Results to an on-line survey and telephone interviews*. Centre for Health Service Development, University of Wollongong.
92. Gordon R, et al (2010) *Asthma Management Program: First Evaluation Progress Report*. Centre for Health Service Development, University of Wollongong.
93. Green J, Eckstein G, Magee C and Carolan J (2010) *The NSW AIDS Resource Distribution Formula: 2008 Review - Consultation Report*. Centre for Health Service Development, University of Wollongong.
94. Green J, Eckstein G, Magee C and Carolan J (2010) *The NSW AIDS Resource Distribution Formula: 2008 Review - Final Report*. Centre for Health Service Development, University of Wollongong.
95. Jackson Pulver L, Haswell MR, Ring I, Waldon J, Clark W, Whetung V, Kinnon D, Graham C, Chino M, LaValley J and Sadana R (2010) *Indigenous Health - Australia, Canada, Aotearoa New Zealand and the United States - Laying claim to a future that embraces health for us all*. World Health Report (2010) Background Paper, Number 33. World Health Organisation.
96. Marosszeky N, Grootemaat P, Fildes D and Morris D (2010) *Evidence-based interventions for adolescent health and wellbeing: additions to the VCAMS catalogue (bullying, eating disorders, victims of crime, sexual initiation, family violence, family stress, and a person for advice)*. Centre for Health Service Development, University of Wollongong.
97. Martiniuk A, Ivers R, Senserrick T, Boufous S and Clapham K (2010) *Effective and inclusive intervention research with Aboriginal populations*. Sydney: New South Wales Department of Health.
98. Morris D, Fildes D, Marosszeky N, Grootemaat P and Williams K (2010) *Updates to the catalogue of evidence-based strategies for children's health and wellbeing*. Centre for Health Service Development, University of Wollongong.
99. Owen A (2010) *Working with informal carers: reviewing the evidence on effective approaches to carer support*. Research into Practice Briefing Number 5, The Benevolent Society, Paddington NSW. <http://www.bensoc.org.au/uploads/documents/research-to-practice-briefing5-informal-carers.pdf>  
<http://www.bensoc.org.au/uploads/documents/research-to-practice-briefing5-REFERENCES-dec2010.pdf>
100. Quinsey K, et al (2010) *Asthma Management Program: Second Evaluation Progress Report*. Centre for Health Service Development, University of Wollongong.
101. Quinsey K, et al (2010) *Asthma Management Program: Third Evaluation*

- Progress Report*. Centre for Health Service Development, University of Wollongong.
102. Sansoni J, Marosszeky N, Fleming G and Sansoni E (2010) *Selecting Tools for ACAT Assessment: A Report for the Aged Care Assessment Program (ACAP) Expert Clinical Reference Group*. Centre for Health Service Development, University of Wollongong. Report for the Aged Care Assessment Program, Australian Government Department of Health and Ageing.
  103. Sansoni J, Marosszeky N and Sansoni E (2009) *A Framework for Selecting Tools for ACAT Assessment*. Centre for Health Service Development, University of Wollongong.
  104. Sansoni J, Marosszeky N, Sansoni E and Fleming G (2010) *Final Report: Effective Assessment of Social Isolation*. Centre for Health Service Development, University of Wollongong. (see NSW ADHC web-site: [http://www.adhc.nsw.gov.au/...data/assets/file/0007/236329/Social\\_Isolation\\_Report.pdf](http://www.adhc.nsw.gov.au/...data/assets/file/0007/236329/Social_Isolation_Report.pdf))
  105. Sansoni J, Marosszeky N, Sansoni E, Hawthorne G and Fleming G (2010) *Validation and Clinical Translation of the Revised Continence and Patient Satisfaction Tools: Interim Progress Report*. Centre for Health Service Development, University of Wollongong.
  106. Senserrick T, Ivers R, Martiniuk A, Clapham K, Lyford M and Grzebieta R (2010) *Indigenous Safe System Demonstration Project Final Report Volume 1: Literature Review And Methods*. Austroads and the Indigenous Road Safety Working Group.
  107. Senserrick T, Ivers R, Martiniuk A, Clapham K, Lyford M and Grzebieta R (2010) *Indigenous Safe System Demonstration Project Final Report Volume 2: Audit and Implementation Plan*. Austroads and the Indigenous Road Safety Working Group.
  108. Senserrick T, Hinchcliff R, Ivers R, Martiniuk A, Boufous S and Clapham K (2010) *Aboriginal injury prevention projects: a review*. Sydney: New South Wales Department of Health.
  109. Stevermuer T, et al (2010) *The state of rehabilitation in Australia: 2009*. Centre for Health Service Development, University of Wollongong.
  110. Thompson C, Quinsey K, Cuthbert E, Grootemaat P and Eagar K (2010) *Evaluation of the National Centre for Gynaecological Cancers: Progress Report Two*. Centre for Health Service Development, University of Wollongong.
  111. Thompson C, Quinsey K, Cuthbert E, Dawber J, Grootemat P and Eagar K (2010) *Evaluation of the National Centre for Gynaecological Cancers: Final Report*. Centre for Health Service Development, University of Wollongong.
  112. Wicks A (2010) [Understanding the occupational implications of a Koori development scholarship program at the Shoalhaven Marine and Freshwater Centre](#). Australasian Occupational Science Centre, University of Wollongong.

## Dissemination of CHSD Outputs 2010: International, national, state and local advice, consultation and presentations

### Access through CHSD and UOW web pages

The CHSD website is one vehicle for dissemination of the results of our work, and its usage has increased substantially over the past five years. The pages we directly manage include the CHSD, AROC, AHOC, and PCOC home pages and sub pages, plus the

Australian Occupational Science Centre (AOSC) sites, which are hosted and supported by CHSD.

Some enquirers entered the CHSD web pages via the main CHSD homepage, but increasing numbers of visitors are accessing our material via the associated program home pages. Many visitors used the site in order to

download CHSD documents, such as the various assessment tools and reports.

As in previous years, about a third of all the web-based contacts were associated with our Centre publications and presentations, with many associated with the reviews of evidence and the tools we produce. AHOC health outcomes information, the SF-36 tool, and the conference materials, remained popular with website visitors.

The AROC rehabilitation outcomes information, including the FIM™ tool material and the AROC reports are generating strong demand for web-based information. PCOC is also seeing strong growth in the demand for documents downloadable from the web site and both centres moved more directly into developing web-based outputs during 2010.

One section of the CHSD home page provides resources and a contact point for the programs and current projects such as the Care Planning Sub-Program, Community Assessment and so on.

Enquiries for our products can come in via the various CHSD pages, directly to a particular document or report, through the University home page, or through the University's research portals: *Research Online* and *Research Information System*. *Research Online* is an open access digital archive promoting the scholarly output of the University of Wollongong and is accessible via the University website: <http://ro.uow.edu.au>

We expect that the implementation of a University-wide web-based content management system will give CHSD the ability to collect and analyse web statistics that have greater reliability and integrity.

## Access through commissioners' web pages

Not all of our activities are accessed through our own web pages or the University portal. An indicator of having produced useful 'deliverables' as part of the contract is when the funder of the research makes the findings accessible on their own web pages, thereby widening the scope for dissemination and increasing the likelihood that the work will be used in other settings.

An example of the Centre's products with wider and free access maintained by the commissioners of our research is the catalogue of evidence for the Victorian Child and Adolescent Monitoring System (VCAMS) that is hosted by the Department of Education and Early Childhood Development (DEECD):

<http://www.education.vic.gov.au/healthwellbeing/childyouth/catalogue/updates.htm>

Our evaluation of the national program Enhancing Best Practice in Residential Aged Care is accessible on the Australian Department of Health and Ageing (DoHA) website, and the framework is being used in subsequent rounds of the program.

<http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-bestpractice-program-ebprac.htm>

Another example with multiple points of access is the work we completed in 2008 on effective interventions for supporting carers. We have a link on our CHSD web-page and a copy of the full report two-volume is hosted on the DoHA website:

<http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-publicat-effective-caring-v1.htm>.

Further dissemination of the evidence base for carers' assessments and interventions was commissioned by the Australian Institute for Family Studies (<http://www.aifs.gov.au/>) through an article in their academic journal

*Family Matters* and then the Benevolent Society of NSW commissioned a version of the content of the review for a *Research into Practice Briefing*:

<http://www.bensoc.org.au/uploads/documents/research-to-practice-briefing5-informal-carers.pdf>

Our work on developing the Dementia Outcomes Measurement Suite is able to be accessed through the Australian Government's research portal of *Ageing Research Online*:

<http://www.aro.gov.au/dementia.htm>

We have carried out a large number of projects for Ageing Disability and Home Care in NSW and these are accessible from that Department's web pages. Our report on Effective Assessment of Social Isolation [http://www.adhc.nsw.gov.au/\\_data/assets/file/0007/236329/Social\\_Isolation\\_Report.pdf](http://www.adhc.nsw.gov.au/_data/assets/file/0007/236329/Social_Isolation_Report.pdf) and the summary of ten years' work as an exploratory study on Measuring Outcomes in Community Care [http://www.adhc.nsw.gov.au/\\_data/assets/file/0005/241664/Measuring\\_outcomes\\_in\\_community\\_care\\_report.pdf](http://www.adhc.nsw.gov.au/_data/assets/file/0005/241664/Measuring_outcomes_in_community_care_report.pdf) are both on the agency's Completed Research page for 2010. Our ongoing program of work on assessing school leavers with disabilities for access to Post School Programs is also part of the more standardised approach that has been developed over the past six years [http://www.adhc.nsw.gov.au/sp/delivering\\_disability\\_services/post\\_school\\_programs/post\\_school\\_program\\_eligibility](http://www.adhc.nsw.gov.au/sp/delivering_disability_services/post_school_programs/post_school_program_eligibility).

Refugee health is another area where our literature review is hosted on the commissioner's site as well as contributing to the development of models of care under the State Refugee Health Plan.

[http://www.sswahs.nsw.gov.au/sswahs/refugee/pdf/RH\\_literature\\_review.pdf](http://www.sswahs.nsw.gov.au/sswahs/refugee/pdf/RH_literature_review.pdf)

## National and international contacts

CHSD undertakes R&D projects in every health authority in Australia, but not by every authority every year. Partnership

arrangements vary with CHSD projects and programs with different funding cycles.

The CHSD programs continue to be of national significance. The work in developing the Australian National Sub-Acute and Non-Acute Patient Classification (AN-SNAP), the rehabilitation outcomes network (AROC) and the Palliative Care Outcomes Collaboration (PCOC), all involve ongoing work with provider organisations, professional groups, and funding bodies across Australia, and in the case of AROC, also in New Zealand.

## Showcase presentations

Professor Kathy Eagar and other senior staff are regularly invited to present the results of the Centre's work to a wide range of audiences, including national conferences, management and policy groups, project steering committees, expert advisory groups, public forums, and high-level governmental briefings, as well as within the University.

By showcasing the work of the Centre, these presentations are working examples of translating research into practice. They often highlight how evidence-based strategies can be used to improve the health and wellbeing of local communities, inform decision-making and priority setting.

There were 16 of these presentations in 2010 on topics that ranged from the national funding reform agenda to the results of specific projects and included casemix and the health reforms, disability and community care, palliative care outcomes, carers, social isolation etc.

1. Eagar K (2010) Measuring outcomes: What care coordinators need to know. 2010 Cancer Care Coordination Conference – Relationships, Roles and Reality. Gold Coast, 24–26 March 2010.

2. Eagar K (2010) The National Health and Hospitals Network Agreement. NSW Health Planners Workshop, Sydney, May 2010.
  3. Eagar, K, Owen A, Samsa P, Fildes D and Truran D (2010) Measuring Outcomes in Community Care: What we know and don't yet know, presentation to NSW Human Services Department, Ageing and Disability, Sydney 3 May 2010.
  4. Eagar K, Green J and Owen A (2010) Functional Assessment of 2010 Post School Program Applicants. Presentation to Ageing Disability and Home Care, Department of Human Services NSW: Post School Programs, 2010 School Leavers Eligibility Assessment Training Day, 6 May 2010.
  5. Eagar K, Yates P, Aoun S, Bird S, Rawlings D and Currow D (2010) PCOC: Introducing X-CAS casemix adjusted score for benchmarking pain and symptoms. Poster presentation. 6th Research Congress of the European Association of Palliative Care, Glasgow, UK, 10-12 June 2010.
  6. Eagar K, Yates P, Aoun S, Rawlings D and Currow D (2010) PCOC: Setting the first Benchmarks for Palliative Care in Australia. Poster presentation. 6th Research Congress of the European Association of Palliative Care, Glasgow, UK, 10-12 June 2010.
  7. Eagar K (2010) The Australian health care system – where we are in 2010 and where we need to get to. Invited keynote paper. World Health Care Networks (WHCN) Conference – In Our Hands – Transforming Health Systems through Health Care Networks. Auckland, New Zealand, 22-24 July 2010.
  8. Marosszeczy N, Shores A, Owen A and Eagar K (2010) Measurement of Functional Outcomes: Toward the development of an item bank in Australia. 27th International Congress of Applied Psychology (ICAP 2010), Melbourne, 11 - 16 July 2010.
  9. Eagar, K, Owen A, Samsa P, Fildes D, Grootemaat P and Truran D (2010) Measuring Outcomes in Community Care. Presentation to NSW Human Services Department, Ageing and Disability, July 21 2010.
  10. Sansoni J and Marosszeczy N (2010) The Effective Assessment of Social Isolation. presentation to NSW Human Services Department, Ageing and Disability, July 21 2010.
  11. Eagar K (2010) Your integration is my fragmentation: design flaws and ways forward for the Australian health system. Healthcon 2010 Multiple Dimensions of Healthcare. Australian Healthcare and Hospitals Association Congress Adelaide, 22-24 September 2010.
  12. Eagar K (2010) Integration or fragmentation: understanding the health care reforms. Illawarra Division of General Practice AGM. Wollongong, 28 October 2010.
  13. Eagar K (2010) Meeting Emerging Challenges: Activity Based Funding and Casemix. Health Information Management Association of Australia National Conference 2010: Health Information: The Golden Thread in Health Reform. Darling Harbour, 28 October 2010.
  14. Eagar K (2010) Your integration is my fragmentation. Australian General Practice Network National Forum 2010, Perth, 4-6 November 2010.
  15. Eagar K (2010) Measuring Outcomes: the Australian experience. The 3rd Australasian Mental Health Outcomes Conference, Auckland, New Zealand, 18-19 November 2010.
  16. Owen A (2010) Working with informal carers: approaches to carer support. Presentation to the Ministerial launch of Research into Practice Briefing Number 5, The Benevolent Society, Paddington NSW, 9 December 2010.
- The CHSD also produced a series of short papers on Activity Based Funding throughout 2010, designed to explain some of the key issues for the hospital reform plans. The purpose of these papers was to make a contribution to the debate about how Australia's health care system should be reformed. The papers are accessible on the CHSD website:
- <http://ahsri.uow.edu.au/chsd/abf/index.html>

## The 2010 CHSD Seminar Series

The CHSD Seminar Series continued in 2010 with its primary focus being on internal learning and continuity for the Centre and the University community. The Seminar Series is a way to present our work and discuss the results of projects with a local audience and allow 'new presenters' at the Centre to test their conference presentations. It has proved to be a useful forum for information sharing and skills development for staff.

We also use the forum to hear about related areas of work from other University colleagues. The 2010 series was:

- Donna Truran – Introduction to Snomed CT
- Chris Poulos – Where is rehabilitation headed in the USA in 2010 and the 20-teens: insights from a recent visit
- Janette Green – Funding for HIV/AIDS and Related Services: and it's not ABF
- Alan Owen – Measuring Outcomes in Community Care
- Ruth Cornish – Facilitating Clinical Practice Change Art and Science
- Peter Samsa and Dave Fildes – CareSearch: Evaluating an On-line Resource for Palliative Care
- Vicky Traynor – Dementia Care

## Evaluation Special Interest Group

The Evaluation Special Interest Group (E-SIG) is convened by Karen Quinsey and other senior staff with the aim of increasing our knowledge and expertise in evaluation theory and practice. The E-SIG activities have included literature reviews, and reports from seminars, conferences and workshops for example from staff attending the Australasian Evaluation Society meetings.

E-SIG has increased the depth of our understanding of the evaluation work we do, especially in the areas of formative research

and dealing with the issues of attribution in complex interventions. We have also been exploring the potential of developing a strand of 'population health intervention research' which may be a useful framework to take our evaluation work into new areas.

## Advisory bodies and committees

During 2010 CHSD staff participated in a range of activities in a number of Boards, committees, task forces, community associations and statutory bodies. This usually involved presentations and submissions, individual or corporate memberships and help with formal decision-making, workshops and informal advice.

- Aboriginal and Torres Strait Islander Health Advisory Committee of the National Heart Foundation
- Australasian Society of Occupational Scientists
- Australasian Evaluation Society
- Australian Association of Gerontology
- Australian and New Zealand Health Assessment Methods Network
- Australian New Zealand Health Services Research Association
- Australian and New Zealand Spinal Cord Society
- Australian College of Health Informatics
- Australian College of Health Service Executives
- Australian Council of Social Service Health Policy Advisory Group
- Australian Healthcare and Hospitals Association
- Australian Institute for Health Policy Studies (Representing UOW on the Board)
- Australian Statistics Society
- C-PAN. Centre for research in Physical Activity and Nutrition, Deakin University
- Degree Accreditation Committee Edith Cowan University
- Food Standards Australia New Zealand (formerly the Australia New Zealand Food Authority)
- Healthy Cities Illawarra Management Committee
- Healthy People Illawarra President, Management Committee
- Indigenous Taskforce of the Australian Medical Association
- Institute of Public Administration Australia
- International Group for Indigenous Health Measurement

- Medley Community Incorporated Refuge, Liverpool, NSW
- National Advisory Group on Aboriginal and Torres Strait Islander Health Information and Data
- National Continence Management Advisory Committee
- National Health and Medical Research Council Centre for Clinical Research Excellence
- National Health and Medical Research Council Kanyini Vascular Collaboration
- National Heart, Stroke and Vascular Strategies Working Group
- NSW AN-SNAP Implementation Steering Committee
- NSW Health Resource Distribution Formula Committee
- NSW Health Shared Scientific Assessment Scheme – Expert Review Panel
- NSW Mental Health Review Tribunal
- Palliative Care Association of NSW
- Productivity Commission Inquiry Caring for Older Australians
- Reader, ARC Discovery and Linkage Schemes
- Reviewer, Australian Health Review
- Reviewer, Natural Sciences and Engineering Research Council of Canada (NSERC)
- Sax Institute (Representing CHSD)
- Uniting Care Ageing NSW and ACT Board
- University of Wollongong Human Research Ethics Committee

## CHSD Outcomes in 2010: Outcomes for the Health System

### Improving how we understand our Centre's outcomes

Our motto of combining realism with rigour means we are continually refining how we judge whether we are doing useful work. And each year we ask ourselves: *How have we really done?* – in the sense of making an impact on the funding and delivery of health services in Australia.

So, in the Annual Report we assess our performance against our goals on the assumption that if we are going to be active in research into methods to improve the management and provision of health services, then we have to also reflect on our own outcomes as a research centre. This means not just considering our level of income and volume of outputs, but also how our outputs are distributed.

The field of research impact measurement is developing quickly and we try to improve our own reporting of impacts and outcomes as objectively as we can, given limited resources for monitoring and reporting what our research partners think of what we do.

We have achieved measurable improvements in the standardisation and routine clinical monitoring systems of rehabilitation and palliative care now that AROC and PCOC are national systems and we have good levels of clinician and agency 'buy-in'. Another good indicator is that these systems are now built into the most recent round of National Partnership Agreements.

Our community care work on intake and assessment and priority rating systems also shows evidence of impacts in that tools we have developed are in common use – such as the Post School Programs (PSP) work in disability. This is an ongoing program of work that has built a classification approach into disability services for the first time that we are aware of in NSW.

Also in the disability area, the Home and Community Care Functional (HACC) Screen (one of the tools for PSP) is collected routinely in the HACC Program MDS and this enables a systematic approach to outcome measurement that has not yet been made into the necessary program of research. The

screening tool is built into various information systems including the system for understanding the workloads in NSW Home Care branches.

In 2010 we continued work that began in 2006 in Victoria based on the Child Wellbeing and Safety Act 2005. Our evidence-building/knowledge translation work is hosted on the sponsor's website, now called VCAMS. Likewise our work on encouraging best practice in residential aged care and carers, dementia outcomes and previous community care reports are hosted on various Australian Government (DoHA) web pages (see above).

However, measuring knowledge transfer is a continuing challenge and universities are in the process of changing their systems for measuring research quality. Traditional publication output is necessary, but not sufficient, and web-based publishing and

retrieval systems are continuing to evolve, creating a challenge for our ability use them and to extract data to use in research output measurement tools.

CHSD has a database of projects going back to 1995 and each year we add to that pool of information from this section of the Annual Report. This is currently the main way we have to reflect on our impacts and outcomes. Going back beyond the one year snapshot is helpful, as we have done in our *Brief History* addendum to this year's report, as real impacts usually take some time to become clear.

CHSD will continue to look into how to more effectively measure the impacts of our research in the future. Meanwhile we have taken the same approach we have used in previous years in the table below, based on our best internal judgements by senior staff members.

## Outcomes of 2010 projects

Project	Funding Source	Outcome
Evaluation of the Asthma Management Program	Department of Health and Ageing (DoHA)	Evaluation in progress to 2013. Formative evaluation components are being used to re-shape the program as it develops in its current phase.
Evaluation of Enhancing Best Practice in Residential Aged Care	DoHA	Project completed in December 2010. Full report is available on the DoHA web page and the methods are being extended in community based aged care.
Continence Outcome Measures – Validation and Clinical Translation Project	DoHA	Project completed. This project was a continuation of work undertaken for the National Continence Strategy and more work in this program is expected in 2011.
The Effect of Student Placements on GP Income	Graduate School of Medicine UOW	Project completed. Showed effective collaboration with an important part of the University professional training infrastructure. Publication of the results is expected in 2011.
VCAMS	Victorian Department of Education and Early Childhood Development	Ongoing instrumental outcome. Project developed or updated evidence and indicators that are on the departmental website and are being used for monitoring outcomes.
Cancer Australia – Gynaecological Cancers	Cancer Australia	Project completed as the most recent in a series of organisational reviews and the results being used by the agency in its strategic planning.
Review of Assessment Tools for ACAT	DoHA	Project completed and will form part of the continuing refinement of assessment tools in the aged care programs of the Department.
Effective Assessment of Social Isolation – DADHC	NSW Ageing Disability and Home Care (ADHC)	Project completed with recommendations forming the basis for selecting the most useful tools to measure this dimension of community care and support. Full report is available on the ADHC research web page
Evaluation Dementia Quality Care Initiative	Alzheimer's Australia	Project ongoing as a review of the program activities for the organisation.
Measuring Outcomes in Community Care	NSW ADHC	Project completed. Outcome measurement data elements developed by CHSD available for building into new assessment instruments. Full report is available on the ADHC research web page.

Project	Funding Source	Outcome
NSW AIDS RDF Review	NSW Health	Project complete. Results incorporated into the re-design of the NSW system for distributing funds between Areas.
DADHC - Assessment of the 2010 School Leavers	NSW ADHC	CHSD methodology was used to allocate 2010 school leavers with disabilities to appropriate post-school programs. A further (minor) refinement of the process will be used for the 2011 school leaver cohort
Review of Increasing Capacity of Radiotherapy Facilities	NSW Health	Project completed. Results used for NSW radiotherapy planning and also used in other jurisdictions.
Phase 2 - Alpha drafting ICD-10	DoHA	Project complete. No outcomes at this stage.
Optional Machine Configurations in Radiotherapy	NSW Health	Project completed. Results used for NSW radiotherapy planning and also used in other jurisdictions.
Southern Suburbs Integrated Case Management	NSW Regional Coordination Program	Project completed. Year One evaluation used for informing decisions on the continuation of the program
Refugee Health - Literature Review	NSW Health through South West Sydney AHS	Project completed. Work incorporated into the new NSW State Refugee Health Plan.
Advanced SNOMED training	National e-Health Transition Authority	Project ongoing.
Research to Practice Briefing	Benevolent Society of NSW	Project completed. Briefing paper launched by NSW Minister, publication available in hard copy and on website. Material being independently re-published as a chapter in textbook format.
Review and Restructure of Medibank Private Rehabilitation programs	Medibank Private	Project completed. No outcomes at this stage.
Centre for Statistical and Survey Methodology Collaboration	New Zealand Ministry of Health	Project completed. Models used in NZ context to predict alcohol consumption patterns.
Islet Transplantation	NSW Health	Project completed. Results used for NSW Health planning.
SMART Infrastructure collaboration		Completed. Second project in negotiation.
CareSearch Evaluation Projects 2010/2011	CareSearch	Projects completed. Work plan ongoing.
Triple Care Farm - Integrated Intervention project	Triple Care Farm	Project ongoing. Assists internal evaluation of the interventions.

## Centre for Health Service Development Staff

The Centre works as a strong multidisciplinary team and about half of the team have previous experience working in policy, management and clinical positions in the health system. The qualifications and expertise of staff range across about eighteen disciplines, all with a commitment to 'mixed methods', blending quantitative and qualitative approaches. Our aim is to produce work that is easily understood, and that can be of practical use to decision makers, mostly in health, disability and community care, but also in the increasingly important 'interagency' context as well.

By the end of 2010, the CHSD team had over 50 team members, including full-time and part time staff and research associates.

### **Kathy Eagar, Professor and Director**

Professor Eagar is Director of the Centre and is involved in all aspects of the Centre's work. Kathy has over thirty years experience in the health and community care systems, during which she has divided her time between being a clinician, a senior manager and a health academic.

### **Robert Gordon, Deputy Director**

Robert Gordon's full-time position at CHSD supports research projects in sub and non-acute care, casemix development, community health classification and health financing. Rob undertakes the day to day management of the Centre and directly manages many of its projects.

### **Elizabeth Cuthbert, Business Manager**

Elizabeth Cuthbert joined the Centre in 2003 as the full time Business Manager. Elizabeth is responsible for managing the Centre's finances, negotiating all Centre contracts, and managing the Centre's IT requirements.

She is also responsible for coordinating the development of refinements to SNAPshot, an integrated software package developed and managed by the Centre.

### **Peter Eklund, Professor and Head of Information Systems (Health Informatics)**

Professor Eklund teaches in the School of Information Systems and Technology and undertakes his research as a member of the CHSD. Peter's interests are in Health Informatics modelling and the management of electronic healthcare documents and terminologies.

### **Ian Ring, Professor (Public Health)**

Professor Ring is responsible within the Centre for academic development. Ian was previously Principle Medical Epidemiologist and Executive Director of the Health Information Branch at Qld Health and had also been Head of the School of Public Health and Tropical Medicine at James Cook University, and Foundation Director of the Australian Primary Health Care Research Institute at ANU. He is a medical graduate with qualifications in epidemiology and public health. His current research interests are particularly in Indigenous health and cardiovascular health. His main role is to assist in strengthening the research capacity of the Centre.

### **Simon Eckermann, Professor (Health Economics)**

Professor Eckermann is Professor of Health Economics at the University of Wollongong and a member of the CHSD. Simon has extensive experience in teaching and applying decision analytic methods for economic analysis in Health Technology Assessment.

**J.E. (Ben) Marosszeky, Associate Professor and Clinical Director of AROC**

Associate Professor Ben Marosszeky took up a part-time position at CHSD in 2002 as the inaugural Clinical Director of AROC. He is also the Director of the Department of Rehabilitation Medicine at Westmead Hospital, a Clinical Senior Lecturer in the Department of Medicine at University of Sydney and a Councillor of the World Forum of Neurological Rehabilitation. Dr Marosszeky brings to the CHSD wide ranging and internationally recognised clinical experience in rehabilitation medicine.

**Jim Pearse, Associate Professor (Health Services Research)**

Associate Professor Jim Pearse joined the centre on a part time basis after 18 years working in various health and social policy roles in Government in NSW and the Northern Territory. His research interests include funding models, resource allocation and priority setting within health systems, national/state relations within federal health systems and measurement of health system performance. Jim was a 2000–2001 Commonwealth Fund Harkness Fellow in Health Care Policy.

**Jan Sansoni, Principal Research Fellow and Director, AHOC**

Jan Sansoni's position is Director of the Australian Health Outcomes Collaboration. Jan is active in a number of national and international collaborations concerning health outcomes measurement and organises the Annual National Health Outcomes Conference held each year in Canberra. Her expertise greatly assists the centre's work on understanding the evidence behind measurement tools and assisting with the design of measurement tools.

**Heather Yeatman, Associate Professor (Public Health)**

Dr Heather Yeatman teaches in the School of Health Sciences (formerly the Graduate School of Public Health), and undertakes her research as a member of the CHSD. Within the Centre, Heather has a key role in work on healthy public policy, with a specific focus on food policy, and how this translates into standards and regulation.

**Gary Eckstein, Senior Research Fellow (Medical Demography)**

Dr Gary Eckstein holds a part-time position with the CHSD. Gary participates as a senior researcher developing projects in health demography, and providing expert statistical advice in the areas of health financing and resource distribution.

**Janette Green, Senior Research Fellow (Applied Statistics)**

Janette Green's full-time position provides expert statistical skills on projects, primarily in classification development, benchmarking and outcome measurement. She has applied her statistical skills to a wide range of areas in the health sector, including rehabilitation, mental health and palliative care. In addition, she continues with undergraduate teaching and, from time to time, she runs workshops for health professionals on the use and interpretation of statistics. In 2007 she continued to coordinate international comparisons of rehabilitation data within the International Rehabilitation Outcomes Network.

**Kerry Innes, Senior Research Fellow (ACCTI Manager)**

Kerry has 30 years experience working in the field of health information management, with a focus on classification and clinical terminologies.

**Malcolm Masso, Senior Research Fellow  
(Health Services Research)**

Malcolm Masso is a full-time Senior Research Fellow at the CHSD. Prior to joining the Centre he worked for over 25 years in the health system as a clinician and manager, including 15 years of executive responsibility for clinical services in both large and small hospitals in rural and metropolitan areas. He has academic qualifications in economics, nursing administration and public health. Malcolm has worked on national palliative care projects, the relationship between primary care services and emergency departments and in 2007 managing two large scale program evaluations (Clinical Services Redesign Program and Evidence-Based Best Practice in Residential Aged Care).

**Alan Owen, Senior Research Fellow  
(Community Care Research)**

Alan Owen holds a full-time position at the CHSD and his research interest is in tools for measuring client characteristics in the community, covering disability and aged care, mental health, cancer care and community health. Alan also provides assistance on local evaluation plans and surveys and other Centre projects. Alan is also a health policy adviser for ACOSS and in 2008 was a member of the Guardianship and Mental Health Review Tribunals.

**Karen Quinsey, Senior Research Fellow  
(Health Services Research)**

Karen has worked in the health system in occupational therapy, community health and health service improvement, as both a clinician and a manager. Her academic qualifications are in Occupational Therapy and Public Health. Karen has been at the Centre for about ten years working on a range of evaluation projects, including three national palliative care programs.

**Frances Simmonds, Senior Research Fellow  
(AROC Manager)**

Frances Simmonds is the AROC Manager and commenced work in January 2006. Frances has extensive health sector experience at a senior level in both the public and private sectors. Prior to joining the Centre, Frances was employed as the National Director, Funder Relations for the Sisters of Charity Health Service. During the last 12 years, Frances has filled several senior executive roles, all of which have involved management of national projects or functions. As the AROC Manager, Frances has the key responsibility for managing AROC on a day to day basis.

**Cristina Thompson, Senior Research Fellow  
(Health Services Research)**

Cristina Thompson joined the CHSD in July 2008. In the full-time position of Senior Research Fellow, she supports research projects in the areas of health policy, strategy, service development and planning. Prior to joining the Centre, Cristina worked for over 25 years in the health system as a Clinician and senior manager, in both rural and metropolitan health settings. Her most recent role included responsibility for strategy, planning and corporate development for a major NSW Area Health Service. Cristina trained as a Registered Nurse and Registered Midwife and has academic qualifications in Sociology, Public Sector and Business Administration.

**Maree Banfield, Senior Research Fellow  
(Palliative Care) – PCOC**

Maree Banfield is the National Education and Quality Improvement Manager for the Palliative Care Outcomes Collaboration (PCOC). Maree joined CHSD in 2004 on a practitioner fellowship 1 day a week from her position as Palliative Care Service Manager at

Calvary Health Care, Sydney. A full-time secondment was arranged in 2007 to enable Maree to assume the position of the national education and training manager for PCOC. In September 2008 Maree resigned from Calvary and was appointed Senior Research Fellow – Palliative Care. Maree is also a Registered Nurse and Certified Midwife and brings to CHSD extensive experience at an executive and clinical level in the palliative care sector of the health care system.

#### **Jenny McNamee, Visiting Fellow (Director NCCC)**

Jenny joined the NCCC in September 2010. Her most recent management experience is in the areas of health system performance management, casemix / clinical costing and episode based funding in the NSW public health sector. For the 10 years prior to 2008, Jenny managed casemix and performance at Sydney Children's Hospital. Here she developed a specialisation in paediatric casemix issues, and worked closely with Children's Hospital's Australasia in the establishment of a national performance and casemix benchmarking program and was involved in a number of paediatric casemix development activities.

#### **Dave Fildes, Research Fellow (Health Services Research)**

Dave Fildes holds a full-time position at the CHSD. He conducts literature reviews, contributing to the development of policy options and preparing reports for Government agencies across a range of subject areas as part of his research at the Centre. He is involved in a variety of CHSD projects including palliative care service delivery and community development and assessment. Dave has tertiary qualifications in Communication and Cultural Studies, Politics and Public Health.

#### **Luise Lago, Research Fellow (Applied Statistics)**

Luise Lago is a full-time member of the CHSD, joining in 2004. Luise supports research projects that involve statistical work including survey design and classifications development. Luise has experience in sample design and data analysis. Her academic qualifications are in Mathematics and Applied Statistics.

#### **Nick Marosszeky, Research Fellow (Psychometrics)**

Nick Marosszeky is a specialist in psychometrics and health outcomes measurement. He joined the Centre after experience in evaluation and psychological research and has worked on assessment and information issues in primary care. He works closely with AHOC on the psychometrics and evidence for how outcomes measures can be used. He has well developed skills in literature searching.

#### **Patricia Saad, Research Fellow (ACCTI Content Manager)**

Patricia has extensive and unique experience in the development, support and migration of classifications, termsets and clinical terminologies.

#### **Peter Samsa, Research Fellow (Health Informatics)**

Peter Samsa joined the Centre after working for the Council of Social Service of NSW and a variety of non-government human service organisations. In 2007 he managed the Community Care Assessment Project and worked on the development of the Carer Assessment Tool, as well as the Veteran's Home Care Review. His interests include health informatics, and data standards for health and human services. He has academic qualifications in Social Work, and Information and Communication Technology.

**Tara Stevermuer, Research Fellow (Applied Statistics)**

Tara Stevermuer is the AROC Data Manager and CHSD website administrator. Tara is also involved in various CHSD projects, ranging from community health and community care surveys, to building databases to assist various evaluation projects. She provided the statistical work for building a number of priority rating tools for the community care side of the Centre's work. Tara brings extensive statistical and database management skills to CHSD.

**Donna Truran, Research Fellow (ACCTI Project Manager)**

Donna has successfully managed various projects focused on clinical terminology and data development.

**Anita Westera, Research Fellow (Health Services Research)**

Anita Westera joined the CHSD on a part-time basis in 2005. In 2007 she completed the management of the SAFTE Care evaluation project funded by NSW Health and developing a strategic approach to the Centre's aged care research, including the coordination of a series of papers for a symposium at the national gerontology conference. Anita has over 20 years experience working in the health, aged and community care sectors, as a registered nurse as well as policy officer for the Commonwealth and NSW Governments and advisor for the former NSW Minister of Ageing. Anita is a member of the Board of UnitingCare Ageing, the largest provider of aged care services in NSW.

**Alison Wicks, Honorary Research Fellow (Occupational Science)**

Dr Alison Wicks is an Honorary Research Fellow, and is the Founding Director of the Australasian Occupational Science Centre (AOSC) which is a research centre within

CHSD. Alison is an occupational therapist with 25 years experience as a health practitioner. Since 2000, she has been focusing on research in occupational science, a broad interdisciplinary field concerned with the study of human occupation in relation to health in daily living and with the social classifications economics, policies, systems, culture and geography that govern human occupation. Alison is President of the Australasian Society of Occupational Scientists and Project Leader of the World Federation of Occupational Therapists International Advisory Group: Occupational Science.

**James Dawber, Research Fellow (Applied Statistics)**

James joined the CHSD in January 2010 after completing his tertiary studies in Christchurch, New Zealand. James supports research projects that involve statistical analysis and assists in data management.

**Kate Williams, Research Fellow (Health Services Research)**

Kathryn (Kate) Williams has qualifications in psychology and journalism. Since joining the CHSD on a part-time basis in 2004, Kate has contributed to a variety of projects, including literature reviews, health program and palliative care evaluation, the design and pilot testing of tools for priority setting and a catalogue of evidence-based strategies for the Best Start early intervention program.

**Megan Blanchard, Research Fellow (Applied Statistics)**

Megan Blanchard joined the CHSD in 2010 after working at the Australian Bureau of Statistics. Megan is a part-time Research Fellow supporting projects which involve statistical work including classification development. She has experience in statistical analysis and has worked with very

large datasets, including the creation of population estimates and projections.

#### **Ming Zhang, Research Fellow (ACCTI Systems Manager)**

Ming brings a number of valuable skills to this team including: Object-oriented system analysis and design, relational database management system analysis, design and implementation clinical terminology content and modelling analysis with various database systems and programming languages, particularly the IHTSDO workbench and description logic classifiers.

#### **Sonia Bird, Research Fellow (Applied Statistics)**

Sonia Bird is a full-time member of CHSD, supporting research projects including Palliative Care and the NSW Clinical Services Redesign Program. Her work involves data management, statistical analysis and report writing. Sonia has tertiary qualifications in Mathematics, Applied Statistics and Finance.

#### **Janet Law, Research Fellow (AROC)**

Janet is an occupational therapist who also works at Royal Ryde Rehabilitation Centre. Janet joined the CHSD in 2007 and has worked with AROC as a Master FIM trainer and has taken a lead role in providing the AROC impairment specific benchmarking workshops.

#### **Monique Berger, Research Fellow (Applied Science, Nursing) – AROC**

Monique is a registered nurse with extensive experience in rehabilitation nursing. Monique joined CHSD in 2008 and works as an AROC Master FIM trainer. Monique has a particular focus on expanding AROC's network into New Zealand.

#### **Pam Grootemaat, Associate Fellow (Health**

#### **Services Research)**

Pam Grootemaat is a full-time staff member and previously worked in research and evaluation for mental health promotion. She has academic qualifications in nutrition and public health. Pam supports research projects in health system classification, policy and funding reform within health and community care services.

#### **Jodie Tazelaar-Molinia, Research Fellow (AROC)**

Jodie Tazelaar-Molinia joined the CHSD in August 2008 on a part-time basis. Jodie is a registered nurse with experience in the ambulatory sector. Jodie is working with AROC, her main focus being the AROC ambulatory dataset.

#### **Lwin Marla Tun, Classification Developer (NCCC)**

Marla's background is in medicine and health information management. She has extensive experience in the content development of ICD-10-AM/ACHI/ACS classification and is responsible for producing electronic code lists and mapping tables. She also has experience in NSW public health system working on casemix projects and data submissions to state and national forums on casemix and costing.

#### **Anne Elsworthy, Classification Developer (NCCC)**

Anne has worked in the NSW public health system including roles as Coding Manager, Medical Record Manager and Patient and Information Services Manager. For the past four years she has worked at the National Centre for Classification in Health, principally coordinating and publishing responses to ICD-10-AM coding queries, ICD-10-AM content development and education.

**Bronwyn Graham, Classification Developer (NCCC)**

Bronwyn has a background in nursing and has experience in the NSW public health system working as Data Manager, Clinical Coder and Coding Manager. Prior to joining the NCCC, she worked at the National Centre for Classification in Health as a classification support officer for three years.

**Irene Soo, Classification Developer (NCCC)**

Irene holds a Bachelor of Applied Science (Health Information Management) Honours degree. Her research project focused on the quality of ICD-10-AM activity codes and their usage in hospital morbidity data. Irene has worked at the National Centre for Classification in Health at the University of Sydney as a Classification Support Officer for the past year and previously as a GP Data Coder at the Family Medicine Research Centre, University of Sydney.

**Young Tjoa, Systems Manager (NCCC)**

Young's background is in computing and IT. He has worked as an IT Consultant in Sydney, a Chief Technology Officer and a Computer Systems Analyst for retailers in Indonesia. He has a Masters of Information Technology - Software engineering (University of Sydney) and Bachelor of Science - Computer Science (California State University). Before joining the NCCC, Young worked at the National Centre for Classification in Health for 7 years as a Systems Manager.

**Cheryl Blissett, Administrative Officer**

Cheryl Blissett joined the CHSD in March 2006 and is an Administration Officer. Cheryl is currently managing a number of specific administrative projects and also provides administrative support to the Business

Manager and to various research projects within the Centre.

**Glenice Maxwell, Administrative Officer (AR-DRG)**

Glenice joined CHSD in May 2010 in the role of Administrative Officer on the AR-DRG project. Glenice has a background in administrative support roles in clinical environments (hospital administration, outpatient clinics, psychiatric unit and medical records) and senior executive support roles in corporate environments in the public and private sectors.

**Julie de Clouet, FIM Manager and Administrative Support (AROC)**

Julie de Clouet joined the CHSD in March 2007 as the FIM Manager, and also provides administrative support for AROC.

**Linda Foskett, Administrative Officer (PCOC)**

Linda joined the CHSD in March 2009 and provides administrative support to the PCOC.

**Sam Allingham, Associate Research Fellow (Applied Statistics)**

Sam studied mathematics and statistics at the University of Wollongong. After graduating in 2007 he went to work in the Time Series Analysis section of the Australian Bureau of Statistics. While in this position he gained extensive knowledge in survey design and analysis as well as experience in the analysis of seasonal time series. Since starting at the CHSD in November 2009, Sam has provided statistical support on projects for the Graduate School of Medicine and the Australasian Rehabilitation Outcomes Centre. He has also been working with the Centre for Statistical and Survey Methodology to analyse the results of a New Zealand Ministry of Health survey.

### **Darssan Balasingam, Associate Research Fellow (Applied Statistics)**

Darssan currently works with Palliative Care Outcomes Collaboration (PCOC) and provides statistical support to the Centre.

### **Darcy Morris, Administrative Assistant**

Darcy Morris provides administrative support for the Centre and assists with research activities and the publication collection. He also provides technical support, including maintenance of CHSD web sites.

### **Alexandra Verdon, Administrative Assistant/ Receptionist**

Alex Verdon is the receptionist for the CHSD and provides administrative support for the Centre. Alex also supports the Director as her personal assistant.

### **Rebecca Lewis, Administrative Assistant**

Bec Lewis joined the CHSD in August 2008 on a part-time basis and provides general administrative assistance and specific project support.

### **Michael Tarn, Administrative Assistant**

Michael Tarn joined the CHSD in August 2008 on a part-time basis and provides general administrative assistance and specific project support.

### **Emily Sansoni, Research Assistant (AHOC)**

Emily Sansoni provides research support to AHOC. In particular, she assists with the completion of HRQOL and Health Outcomes measurement projects, as well as the writing and editing of manuscripts.

### **Glenn Fleming, Research Assistant (AHOC)**

Glenn has been working for the Centre for Health Service Development since July 2009 as a casual research assistant for AHOC. He has assisted in the Continence Measures, Social Isolation and Aged Care Assessment projects. Glenn also helps with FIM

administration in AROC. Glenn is currently studying a Postgraduate Diploma in Psychology.

### **Other Affiliates**

In addition to core staff, the CHSD has a number of honorary fellows and affiliated researchers who collaborate with us on specific research projects and play a key role in forging links between the CHSD and the health industry.

Honorary fellows, associates and students in 2010 included:

- Dr Andrew Bezzina, Illawarra Health
- Dr Christopher Poulos, doctoral student
- Dr Peter Smith, Illawarra Health
- Dr Roslyn Poulos, University of NSW
- Dr Stephen Wilson, St Vincent's Hospital Sydney
- Dr Thomas Trauer, University of Melbourne
- Mr Andrew Gibbs, Health Policy Analysis Pty Ltd
- Ms Carla Cranny, Cranny and Associates
- Mr Keith McDonald, doctoral student
- Mr Andrew Clark, Journalism and Media Research Centre, Faculty of Arts and Social Sciences, UNSW
- Mr Tom Cleary, Honorary Fellow, UOW Graduate School of Medicine
- Helen Hasan, Associate Professor, Economics and Information Systems
- Prof. Philip Burgess, Centre for Mental Health Research, University of Queensland
- Lois Burgess, health informatics associate
- Amanda Ryan, health informatics associate
- Dr Damian Ryan, health informatics associate
- Jason Sargent, health informatics associate

## Addendum: A Brief History of the CHSD

In 1993 the Centre for Health Service Development was established within the Department of Public Health and Nutrition, Faculty of Health and Behavioural Sciences, University of Wollongong (UoW). It is a research centre that investigates how the health system works; it undertakes evaluation projects, designs tools for service development and constructs programs for routine outcome measurement.

The overall aim of CHSD is to make the health system work better. We borrowed our motto 'Combining Realism with Rigour' from a paper in Australian Health Review (1990; 13(2): 144–50, <http://www.ncbi.nlm.nih.gov/pubmed/10109120>), called *Evaluations of health promotion: combining realism with rigour*. The paper offered guidelines for planners and administrators, who "should be realistic about the limitations of program evaluations and avoid the traps of either attempting to adhere to inappropriately high standards of scientific rigour or of abandoning any attempts at evaluation."

CHSD begun with a strong bias towards applied research, and had a large project to manage – the sub–acute and non–acute casemix classification study (SNAP) – that was run over 104 participating sites and collected 30,604 episodes, with 14,742 staff keeping a daily log of time to give a profile of each episode. Since the SNAP study, CHSD has kept a core of expertise in a contingent of casemix experts producing educational materials, simulations and models, and tools for measuring the patient characteristics that mainly drive the cost of providing their care.

Because of the way it was designed with useability in the field as well as research in mind, a number of tools for outcome measurement were grown out of the 1994–1996 SNAP study. The 'AN–SNAP system' reflects the goal of management, rather than the patient's diagnosis, as the main organising principle, so a change in functional status or improvement in quality of life needs to be captured, not just their principle diagnosis. It was designed to complement the existing AN–DRG classification with four case types of subacute care, for both overnight and ambulatory care, and one case type of non–acute care:

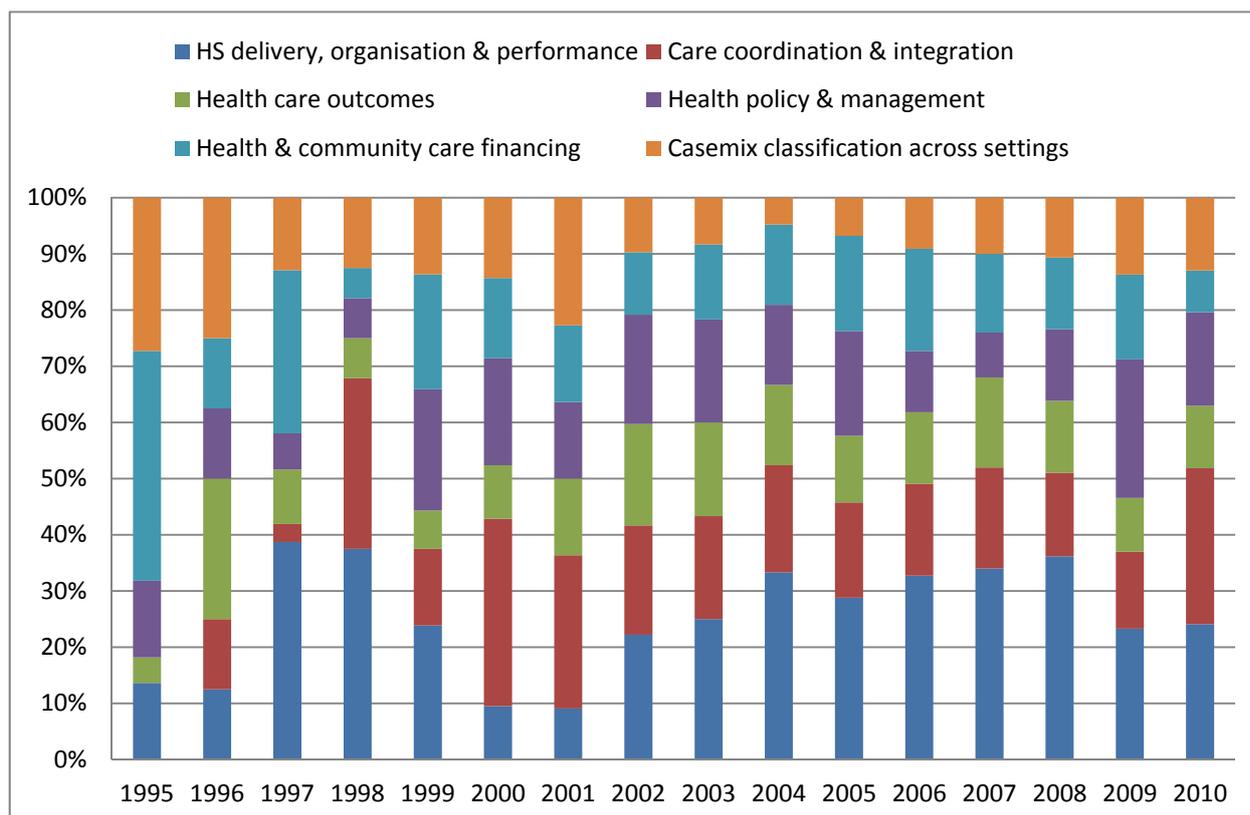
- palliative care
- rehabilitation
- maintenance care.
- psychogeriatric care
- geriatric evaluation and management

This broad classification of types of care beyond those provided in acute hospital settings guided a longer–term research and development pathway. The relationships developed to carry out such a complex study also formed the basis for the Centre's alliances that make possible the long–term and sustainable changes in the health system. It also involved building practical tools for collecting data and systems for managing information that have proved useful in the field. This marked the beginning of the Centre's strategy for health service development that aimed to be sustained beyond the immediate time period of any particular project, program or research study. Rather than a 'grand theory' it relied on a number of coherent research 'themes' to guide work programs that were planned and developed for the longer term. At the same time CHSD was also refining and investigating new areas of research by undertaking evaluations, organisational and literature reviews and population–based health assessments, interventions and planning projects.

## Projects Guided by Research Themes

While establishing its more long-term sustainable programs of work, CHSD was also continuing its roles as a self-funded health services R&D centre. CHSD completed 335 R&D projects over a 15-year period between 1995 and 2010. Figure 1 shows how the thematic content of the Centre's projects looks over time. However, the figure does not show the relative size of the projects under each theme or the specific research areas where large projects like evaluating national trials or complex interventions may be undertaken over a number of years.

**Figure 1: CHSD Projects by Research Theme 1995–2010**



There were 100 evaluation projects completed in that time across a range of settings and of different time scales from short organisational and methodological reviews, to three-year national and state program evaluations. There were also projects on reviews of evidence and current practice in specific service areas like mental health, emergency and ambulance services, intake assessment in community care, carer interventions, models of care in chronic diseases and aged care. The result was a mix of big and small, international, national, state and local projects that represents an accumulated body of useful knowledge, only some of which can easily get published in mainstream or specialist journals or quickly translated into changes in the system.

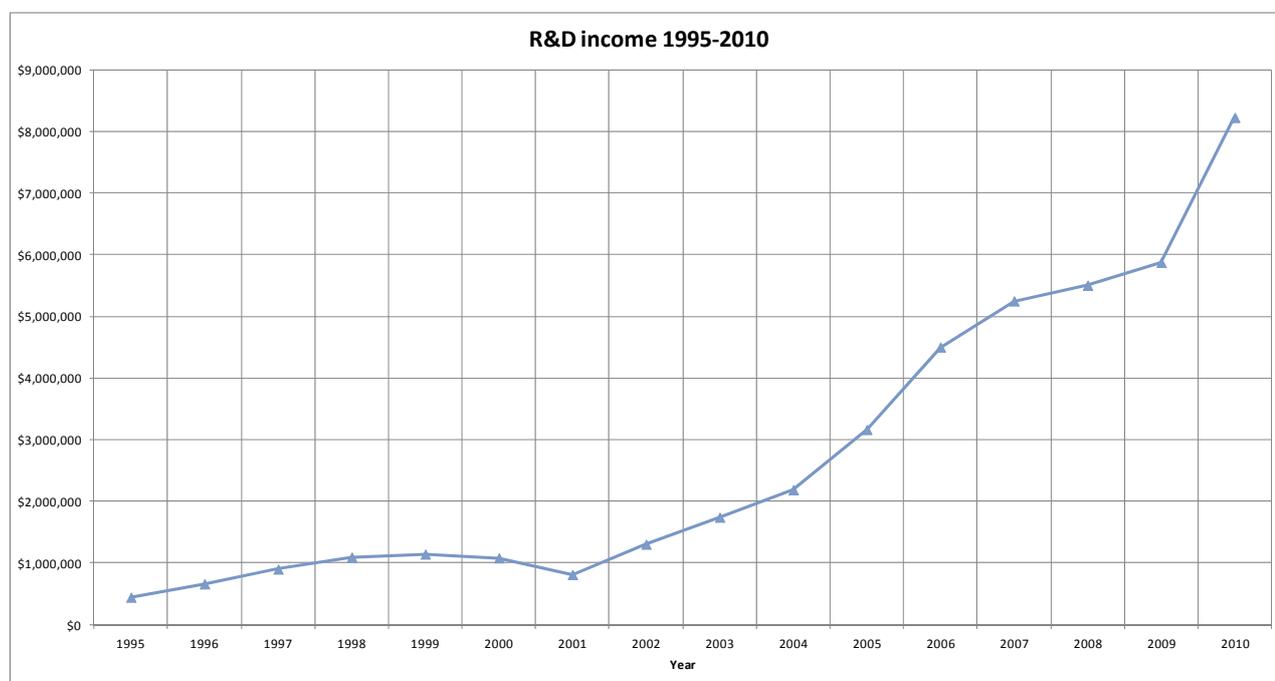
CHSD has consolidated the 'working capital' accumulated through projects by a research agenda guiding its commissioned work. The research themes give a framework to shape the public profile of the Centre for potential commissioners of research projects:

- Casemix classification development
- Health and community care financing
- Health policy and management
- Health care outcomes
- Care coordination and integration
- Health service delivery, organisation and performance.

This longer-term consistency created by the themes helps the Centre to manage its workloads. Short-term trends in the availability of projects relevant to the Centre’s expertise can influence workloads and the development of the themes have been useful in both guiding the choice of the research that is tendered for and in explaining the expertise we can offer to commissioners of research when making bids for projects.

Longer term projects are preferable in terms of planning the Centre’s workload and they can offer opportunities to broaden the experience of staff members by bringing them in for assisting in particular tasks like field consultations or for undertaking targeted literature reviews or data analyses. Total R&D income has not been a straightforward progression but has also been influenced by the CHSD’s own strategic decision-making at crucial points. The decision to grow the Centre from 2002 was taken because it was clear that competition for health services research funds would come from large consulting firms as well as other universities, and it was also a way to manage the risks of internal competition in the University of Wollongong environment.

**Figure 2: CHSD R&D Income 1995–2010**



Total R&D income reflects the number of individual projects, but also the growth of the Centre’s programs. Figure 2 shows that total income increased significantly in 2010 at a point where a major casemix program began. The development of long term programs of work has become a significant strategy that has been built on the experience of a large number of related projects. The ability to contract for major pieces of work in support of health reform reflects the depth of the Centre’s accumulated technical expertise that it has built up through the research it has undertaken, guided by the research themes.

### The Purposeful Development of Programs

In July 1997, the *Australian Health Outcomes Collaboration* (AHOC) transferred to CHSD from the Australian Institute of Health and Welfare. AHOC was the first program-based sub-centre developed to consolidate a research and development theme, with its focus on using evidence

from research papers, conferences and the analysis of tools for outcome measurement, and carrying out its own evaluation contracts.

Building on the alliances from the SNAP study and with clinical experts interested in the development of a R&D agenda in outcome measurement; in July 2002 the *Australasian Rehabilitation Outcomes Centre* (AROC) was established in a joint venture with the Australasian College of Rehabilitation Physicians as another sub-centre of the CHSD. There are approximately 180 Australian inpatient rehabilitation units in Australia and 25 in New Zealand and 184 units submitted data in 2010. AROC members submitted more than 64,000 episodes in 2010 and more than 500,000 episodes of data have been submitted since 2002. AROC has developed five roles:

- A national 'data bureau' that receives and manages data on the performance of rehabilitation services in Australia.
- The national 'benchmarking centre' for medical rehabilitation.
- The national certification centre for the Functional Independence Measure (FIM™) instruments (designed to measure functional needs and outcomes).
- An education and training centre for the FIM™ and other rehabilitation outcome measures.
- A research and development centre that develops research proposals and collaborates in international research and service development agendas.

While rehabilitation is a good example of secondary prevention, in restoring functional abilities, the primary prevention end of the continuum of population need is also important for the longer term. In January 2005 the *Australasian Occupational Science Centre* (AOSC) was established to promote an occupational perspective of health, which focuses on what makes and keeps people well. The Centre is based the Shoalhaven region and works in the field of Occupational Science, which is an inter-disciplinary field concerned with the study of human occupation in relation to health in daily living, including the social policies, culture and geography that are part of the social determinants of health.

At the other end of that same continuum of health resources is end of life care, where thinking about health outcomes takes on a different dimension. Also growing out the original SNAP study, in July 2005 the *Palliative Care Outcomes Collaboration* (PCOC) was established as a national voluntary program based in four universities, utilising standardised validated clinical assessment tools to benchmark and measure outcomes in palliative care. Participation in PCOC enables palliative care service providers to improve their practice and meet the *Standards for Providing Quality Palliative Care for all Australians*. By the end of 2010, 108 palliative care services were collecting PCOC data and a further 28 services had agreed to join PCOC. All other specialist palliative care services across Australia (approximately 180) are at various stages of follow up, with most expected to join.

In February 2009, another opportunity arose to develop a work program around standardising clinical information, taking advantage of the availability of key experts, to support e-health initiatives and assist the health information industry with broader classification and information management issues. The *Australian Centre for Clinical Terminology and Information* (ACCTI) was established to build and maintain a work program in this highly technical area in relation to the

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Australian Government's policy commitment to the development of the Personally Controlled Electronic Health Record (PCEHR), a key element of the emerging health reform agenda.

The aim of ACCTI is develop and tailor purpose-built clinical terminologies, specifically using SNOMED CT, the endorsed national standard clinical terminology. SNOMED CT is a tool that is essential for developing a common terminology to allow the linkages that are required for electronic health records and the PCEHR in particular. The aim of this work program is similar to AHOC, AROC and PCOC in seeking to enhance the quality and reliability of research and routine data collections which rely on consistent, current and reliable clinical documentation.

The up-front investments made in establishing ACCTI through 2009 paid off in July 2010 when the *National Casemix and Classification Centre* (NCCC) was established. The NCCC was formed following the successful bid by CHSD and ACCTI to develop the Australian Refined Diagnosis Related Group (AR-DRG) Classification System. The CHSD/ACCTI bid was successful in winning the contract let by the Dept of Health and Ageing, beginning in April 2010 and operating through to the implementation phase in July 2013. The contract is to develop the '*AR-DRG System*' that consists of the Australian Modification of the International Statistical Classification of Diseases and Related Health Problems, the Australian Classification of Health Interventions, and the Australian Coding Standards. With the NCCC's highly technical work program set out for a tightly-defined period, the experience of CHSD's statisticians is crucial for managing the complex data sets and understanding the inter-relationships involved.

The *Centre for Applied Statistics in Health* (CASiH) was established at the end of 2010. The creation of CASiH recognised the key role played by the CHSD statisticians in maintaining the quality of the products in the various other Centre programs as well as in the Centre's many shorter-term research and evaluation projects. CASiH also has the capacity for consulting work and joint projects with other parts of the University, as members of CASiH have good links to the Centre for Statistical and Survey Methodology and expertise in all areas of applied statistics, including classification development, time series, statistical modelling, regression analysis in its many guises, survey design and analysis and experimental design. Consolidating and supporting statistical expertise across projects and programs cuts both ways; the statisticians can work in new and interesting areas and develop their own career paths and interests; and using their statistical expertise in managing the NCCC, AROC and PCOC data sets, and in working within evaluation and review projects, means the quality of the quantitative side of CHSD's work remains consistently high.

By the end of 2010, after more than 15 years of purposeful and strategic development, a cluster of research centres with their own particular areas of expertise had been created within the umbrella of the Centre for Health Service Development:

- Australian Health Outcomes Collaboration (AHOC 1997)
- Australasian Rehabilitation Outcomes Centre (AROC 2002)
- Australasian Occupational Science Centre (AOSC 2005)
- Palliative Care Outcomes Collaboration (PCOC 2005)
- Australian Centre for Clinical Terminology and Information (ACCTI 2009)
- National Casemix and Classification Centre (NCCC 2010)
- Centre for Applied Statistics in Health (CASiH 2010)

The purposeful development of this set of programs was guided by a practical theory; that more standardised information collected in the initial contact and as part of a continuous client record can be used for the purposes of measuring the outcomes of services or interventions. The development pathway for the Centre's programs was also in part opportunistic in the sense of making good use of available expertise and the opportunities arising from current and evolving themes in health and community care policy.

### **Building the Centre's R&D Programs for the Long Term**

Building programs and the expansion of staff numbers and funding sources are not ends in themselves. Their purpose is to provide a basis for durable changes in complex systems and ultimately to improve the prospects of better health outcomes in the population, whether it is through national or state-level programs or planning and evaluating more localised initiatives.

CHSD's pragmatic 'realism with rigour' approach has affiliations with health promotion evaluation as it was formulated in the 1990s and with a rapidly evolving body of more contemporary work on evaluating complex interventions and *population health intervention research*. The CHSD is based on the consistent working hypothesis that more sustainable impacts on the health system will be achieved by promoting a program focus and in particular by a focus on the systematic measurement of outcomes.

Unpacking the practical theory behind our work suggests that health service research and evaluation will have more sustainable impacts by promoting more *standardised* assessment systems, capable of being used *routinely* in clinical and community support settings. Research studies and evaluation projects help refine the tools for systematic outcome measurement. Building a *program* structure within the Centre was seen as an important long term strategy to manage the complex politics of standardisation and to guide the redesign of clinical systems, all within a health system context that is undergoing continual change, not always in a strategic or carefully planned way.

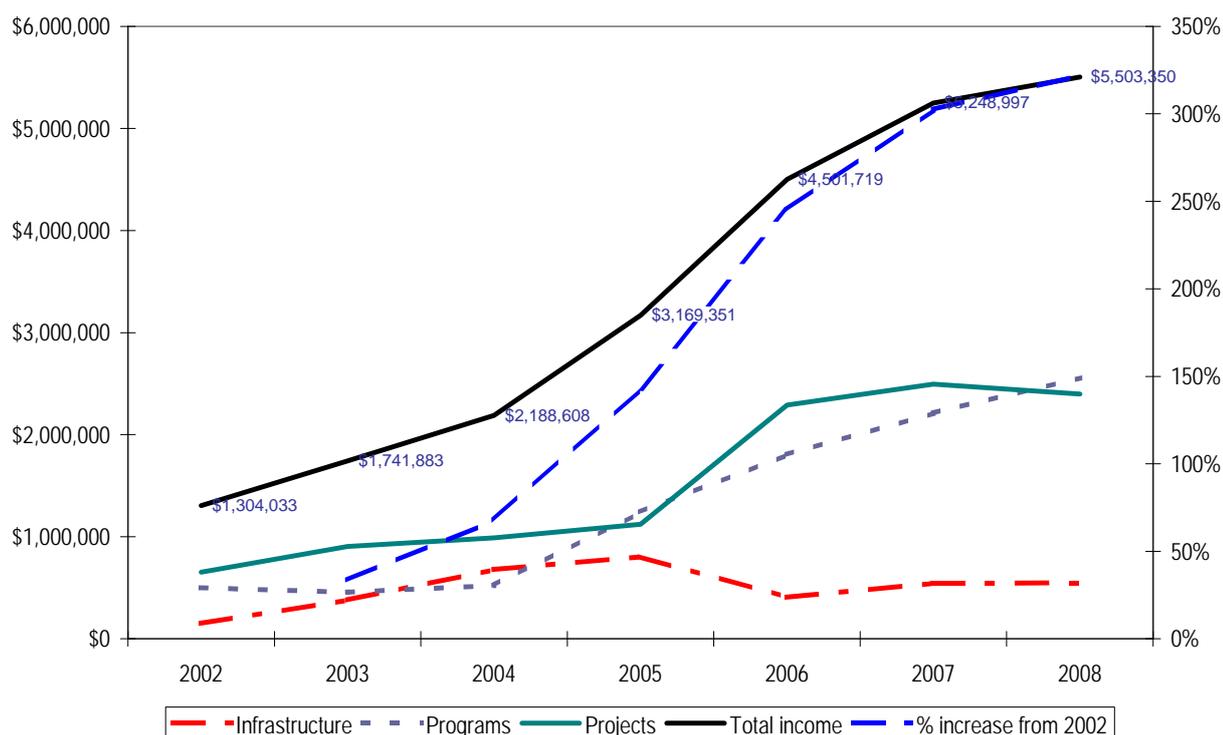
The point of building programs is to secure this greater continuity over time in more specialised service areas, to build the 'D' in R&D' as well as to provide a basis for consolidating the lessons of more time-limited or project-driven research work. The Centre's programs have emerged logically from its themes and draw on the existing body of casemix and evaluation research as well by the programs undertaking new research agendas of their own. The growth of programs within CHSD has been a logical progression from the research themes; casemix and financing, informing policy and management, with a clear focus kept on understanding outcomes, aiming to improve health service delivery, organisation and performance. The 'bigger picture' of CHSD and its various Centres represents a set of related strategies, aimed at improving how the health system functions by building effective partnerships. The programs and research projects are planned interventions in the various levels the health system towards that end.

Building a program structure inside the Centre was also seen as a way to address the practical problem of achieving a critical level of infrastructure. As well as support from the University of Wollongong, from 1998 CHSD had benefited from an infrastructure grant from NSW Health, but there were risks involved in too heavy a reliance on single funding sources, so with advice from

the CHSD Board, the management team set out to grow the Centre over a planned period of expansion. That meant the next logical steps were more and bigger projects and a diversification of funding sources.

Figure 3 shows CHSD R&D income between 2002–2008 over the planned rapid growth period, broken down by infrastructure, projects and programs. It shows the accelerated rate of growth and how by 2008 program income had overtaken projects and our dedicated infrastructure funding was a relatively smaller proportion of the total.

**Figure 3: Planned rapid growth period: Components of CHSD R&D income 2002–2008**



The shift from a reliance on projects to the development of programs was consistent with the Centre’s themes of coordination, integration and measuring outcomes and the planned rapid growth period was also a strategy to manage the risks of a more competitive University and health services research evaluation and commissioned research environment. It was a way of ensuring that the Centre could be large enough to be competitive, plus offer career pathways, which project-based employment does not provide, so as to attract experienced researchers and planners as well as capable new staff.

The bigger picture of which the programs make up important parts is the improvement of the health of the population at national, state and local levels. Better services help, but don’t necessarily ensure other basic needs are met or the causes of illness and disability are addressed, or that help is provided where it is needed most. A lot of the Centre’s research projects contribute to planning a better mix of services, including the development of models to fairly allocate resources and promote care coordination and integration at local level.

## **Accommodating our Expansion**

From its early days with just five full-time staff members up to 1996, CHSD was located in a small cottage adjacent to the University's main campus. From 1996 to 2000 with more projects to manage and more staff members to accommodate, it relocated to the main campus (Building 38), sharing the space with a Nursing teaching laboratory. After the University's Research Policy Office moved out of the old Principal's Residence (Building 29) at the Western end of the campus, in Easter 2000 we relocated to a space that gave us some capacity to expand as the number of staff members increased.

From 2000 to 2010 CHSD operated moderately comfortably in Building 29 and with the help of Buildings and Grounds we were able to fit into an increasing number of demountables as our programs grew and as the number of projects and staff steadily increased. With the advent of organisational and management changes in the Faculty of Health and Behavioural Sciences, and in order to provide the best prospects for growth, in January 2002 CHSD moved within University to be managed within the structure of the Faculty of Commerce. Then in September 2005 CHSD left the Faculty of Commerce along with the Graduate School of Business (now Sydney Business School) when it became a separate graduate faculty and it made good organisational sense for CHSD to move with it as one of its research arms.

So by 2010 the 15-year R&D strategy within CHSD had resulted in a strong organisational structure that included seven programs (somewhat confusingly also called 'Centres' within the Centre), each with dedicated core staff members and a range of support staff, operating in a number of settings including Sydney, Brisbane, Perth and Adelaide as well as Wollongong and the Shoalhaven.

Building 29 was well past its 'use by date' by the time we moved in and with five demountables and only two toilets (!) it was clearer than ever that a more purpose-built environment was necessary. After lengthy consideration of the range of alternatives, by the end of 2010 CHSD decided that a move to the University's new Innovation Campus would be the best way to consolidate our Wollongong-based activities. The new buildings going up on site in Fairy Meadow included the Sydney Business School and an adjacent building provided an opportunity to design our own space. This meant that the design could suit the multi-disciplinary way we were already working as well as be able to accommodate future developments; and so the move to new premises was planned to take place in early 2011.

CHSD built up a critical mass of expertise and the specialised skills necessary to deal with the complexity of the health services and social research issues faced by government, providers, patients and carers. Our expanded size also meant we would be in a better position to compete for and undertake larger and longer-term projects. That also meant we could offer more job security for staff and the prospect of more interesting career pathways, and it also had the advantage of providing more continuity over time and between projects and programs so that our areas of expertise could be consolidated.

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## Understanding our own Impacts and Outcomes

The CHSD has itself been a complex intervention in the health system, based on the consistent working hypothesis that more sustainable impacts on that system will be achieved by promoting a program focus in parallel with commissioned research, and in particular by a focus on the systematic measurement of outcomes.

Our approach has useful implications for research at local, state and national levels, where policies and new models are designed to be implemented in the short term on the assumption that they will be able to create more lasting changes to routine practice. The sustainability issue has been an important focus for the Centre in its evaluation projects, leading us to promote continuity between successive research projects and underlining the importance of maintaining relationships over time with policy-makers and the specialist cohorts of managers and clinicians.

Making an impact on complex systems means intervening to change how questions are asked and answered, not just offering learned commentary. It requires specialist as well as generalist research skills in evaluation, statistical analysis, personalised assessment (mainly of functional abilities). It involves active engagement in building information management tools, and funding and resource allocation models. Broadly conceived, this is an R&D agenda in understanding the health and support needs of populations and what drives the costs of providing their services, and then setting up the means to do something about it.

The resulting number of programs and projects has meant we have kept very busy, but we know from the content of the work we do that the amount of activity *per se* is not so interesting. It is only a part of the 'bigger picture' and begs the question of 'so what?' The more important indicators are those to do with impacts and outcomes.

We think there are a number of measurable ways of looking at our own impacts and outcomes as applied researchers, evaluators and system designers. We have contributed to the re-design of clinical services by evaluating 'best practice' models, trials and demonstrations through time-limited and one-off studies. We have built assessment tools and clinical information management systems and achieved progress in standardising outcome measurement systems, and built up ongoing organisations to collect useful clinical information in the course of routine practice.

So we can look for evidence of building our capacity to do good quality research and of making our contributions sustainable within the Centre and within the health and community care sectors. We can also see evidence of our efforts in supporting local system developments through research of practical significance to the health of the population of the Illawarra region.

### Evidence of Making an Impact

It is a truism that Australian health and community care systems are inherently complex; local, state, federal and national programs, a mix of public and private providers, often competing comprehensive and selective primary health care strategies, the resulting integration conundrums, the recurring crises in acute care institutions, quality and workforce issues in community and residential care. A 'strife of interests masquerading as a contest of principles' remains an apt characterisation of the current era of health reform, much as it was in 1984 when Sid Sax,

Australia's pioneer of population health planning and health services research, first borrowed the phrase as the title of his book on the history of health policy. It came from a Thesaurus of Quotations as a definition of 'politics', echoing Rudolf Virchow's pithy statement from 1848 in Germany, that "medicine is a social science, and politics is nothing more than medicine in larger scale".

Within this context of CHSD has benefited from a set of consistent working hypotheses that more sustainable impacts on the health system will be achieved by a strong bias towards 'evidence-based' and 'data-driven' solutions. We have also benefited from promoting a longer-term program focus within the Centre and in particular by programs for the systematic measurement of the health outcomes of service users. We can show we have contributed to measurable improvements in standardisation and routine clinical monitoring systems. But some impacts and outcomes can take years to become evident.

This longer-term impact of building routinely used measurement systems and evaluation research reflects a similar analysis to the 2008 *WHO Report of the Commission on the Social Determinants of Health* (the Michael Marmot Report). This analysis suggests that services are useful for improving health but there is more to addressing the causes of health inequalities than simply providing better access to good quality services. So CHSD's approach has been to also be conscious of the existing dynamics in health systems that mean that some services are more likely to be better resourced than others.

Macro level system processes have therefore become a focus of CHSD's work. In the evaluation literature this is also known as *formative research*. It is useful to be as explicit as possible about the purpose of this level of evaluation because the research process has become *part of the intervention* and may be part of the reason for its effect. So if helping to build and evaluate a new model of care includes examining its system-level impacts and questions of integration and coordination with social supports as well as other services, then health service research is contributing to population health research and planning for the needs of a geographic area.

### Research, Planning and Partnerships

Arising from the 'realism and rigour' promoted by its research themes, CHSD has as a guiding principle to use scientific methods to produce knowledge about policy, programs and clinical interventions that have potential to *change the underlying reasons for the distribution of health risks*. Building strong partnerships is important because one Centre can't expect to achieve much in this direction on its own. So our partnership with rehabilitation clinicians in AROC (through the College of Rehabilitation Medicine) and with three other universities in palliative care quality improvement (through PCOC), as well as our 'formative' evaluation methods in individual projects, all involve not only a level of technical research ability, but also a capacity to involve service sectors or individual organisations in a shared understanding of what our research means.

The Centre worked on regional systems for GP-level early detection of public health problems, tools for better waiting list management, and a framework for population health in the local Area Health Service. Local evaluations have examined the benefits of a community midwifery model, coordinated care for the frail elderly and integrated case management across the human services. We also worked on state-level systems to improve how resources are allocated through health

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Resource Distribution Formulae, by advocating ‘funding levers’ for public health, and devising systems for population group planning for ageing and disability. These are all concerned with not just improving the efficiency of service provision but they are also strategies to promote greater equity of resource allocation in order to improve the local population’s access to care and support.

From a planning perspective, efficiency has to be understood in terms of questions of *allocative* and *dynamic* efficiency, not just a concern for *technical* efficiency that is mostly about increasing the throughput of traditional acute care services. Within the various service sectors, the policy aims of addressing the needs of a geographic area as well as personalising service provision implies a systemic capacity for understanding the *full* range of a person’s needs, as well as their goals in seeking a particular form of assistance and has to be informed by an analysis of what resources are available across the continuum of care from prevention and early detection, through acute and restorative care to palliation.

The step beyond improving access to a service system is ensuring that the service response can be commensurate with the person’s level of need, which implies a consistent way of measuring that need. A body of research, leveraging off the Illawarra Coordinated Care Trial, the refining of dependency data items in community care, assessment pilots in various jurisdictions, was carried out over more than a decade, using local partnerships and collaborations. The aim of this health research is to inform planning, most usefully at the local level, to support decisions about how resources should be allocated, how priority of access can be assigned in a fair way and what alternative interventions and substitutions of service and support types can be made in order to address health needs most efficiently.

The Centre’s research agenda has included local projects with broader lessons and implications; as microcosms of bigger national challenges and research questions. It has addressed questions where the answers go beyond specific types of services. Why do people turn up in emergency departments? How do different service sectors integrate their efforts in support of those most in need of help? Why can one older person with chronic heart disease and diabetes live independently in the community, but another can’t? Why does one person with cancer need oncology, but another need palliative care?

The methods and tools we use to understand these bigger, population–level questions include patient classification schema, data management methods for use in planning systems, evaluation frameworks with ‘system–level’ indicators and economic evaluation that includes social interventions designed to promote health and reduce inequalities.

The logical extension of addressing these bigger questions in a more localised context highlights the need for a regional collaboration to build a *Population Health Information Platform* for the purposes of integrating the mosaic of data sets, using informatics applications and data linkages, producing profiles of important sub–populations, and then tracking changes in those profiles over time. This enables us to work out if specific interventions have useful outcomes and provide the basis for understanding if there are wider influences on health that can only be understood through creative data linkages.

Building a regional capacity for this type of research will involve long-term strong regional partnerships. What we can show so far is how we are working towards a coordinated 'R&D' approach to key regional priorities, moving outwards to the whole population over time. So progress will be measured in areas like improvements in Aboriginal health and well-being, chronic disease management and in promoting the health of older people across a continuum of levels of need from prevention to the 'front end' or 'gateway' to services, through to end-of-life care.

### **Impacts on the Service System – SNAP and Beyond**

Improving equity of access to services is a valuable longer-term aim, but just as important is the development of systems to improve the equity of health outcomes, and that implies systems capable of measuring the outcomes of interventions. Using casemix classification methods and developing useful tools for understanding what drives the need for care were logical strategies that grew out of the 1994–96 SNAP study. The AN–SNAP classifications and definitions, the SNAPshot software, the non-diagnosis based methods of defining episodes of care and the continual refining of the patient classifications has formed a continuous work program for the Centre. This CHSD research agenda has had a very direct impact as the basis for the routine outcome measurement systems in rehabilitation (AROC) and palliative care (PCOC) that are now well embedded in clinical practice in Australia and having an influence as models for similar developments in international settings.

Our work in palliative care evaluations through a series of national programs has informed publications on evaluation methods and tools (the Palliative Care Evaluation Toolkit), research ethics (A Guide to the Human Research Ethics Committee process) and quality improvement strategies, leading to the formation of PCOC in 2005. The PCOC database as at December 2010 contained data on approximately 76,000 patients with 94,600 episodes of care and 197,600 phases of care. The maintenance data quality and the analysis of symptom scores (e.g. pain and severity) by the phases of care gives the empirical basis for the comparison of quality and outcomes between facilities and services, which are practical tools for service improvement.

In rehabilitation there are national and international networks that use the information management tools and benchmarking reports that have been developed by CHSD since its beginnings in 1994. In Dec 2010 the AROC database contained data describing approx 530,000 inpatient episodes of rehabilitation from Australia and New Zealand, and just over 6,000 ambulatory episodes. In the calendar year 2010 there were just over 76,500 inpatient episodes and 4,000 ambulatory episodes reported. With the statistical expertise available, this data set can be managed ethically, analysed by impairment types and other groupings of patient characteristics, and used for comparisons between facilities with designated rehabilitation programs.

The impact of this long-term strategy was evident in the National Partnership Agreement on Hospital and Health Workforce Reform (2009) where national and State and Territory jurisdictions signed-off a five-year via the Council of Australian Governments. Schedule A of that Agreement (Activity-Based Funding – A13) requires a common casemix classification and costing methodology in Emergency Departments, Sub-acute Care, Outpatients and Community Health and page 12 of the Schedule has this being implemented under Stage 3 from 2012–2013. Schedule C

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(Sub-acute care – C5, p.24) commenced from 2009 and required “Agreements ... in working with national data collection agencies (such as AROC and PCOC)”.

### **What Drives the Need for Care in the Community?**

There is common ground with population health and sub-acute and non-acute patient classification in asking what drives the need for health care and support services in the community? The policy aim of personalising service provision implies a systemic capacity for understanding the full range of a person’s needs, as well as their goals in seeking a particular form of assistance. The health and community service system, from the point of initial assessment through to the development and review of care plans and case closure, should then be able to better organise and provide a range of more individualised responses to meeting a person’s identified needs.

The Centre’s Illawarra Coordinated Care Trial evaluation (1998–2000) generated an assessment system for community care that has had a lasting legacy in subsequent projects on client and carer assessment, priority rating and care planning. Our work in coordinated care and integration also informed the development of the CHSD approach to carer assessments and the Home and Community Care Program (HACC) nine-item Functional Screening Tool which has been built into the Program’s Minimum Data Set and is the basis for a routine system for assigning a priority rating for clients and allocating resources in the NSW Home Care Service, the largest HACC provider in Australia.

The HACC Functional Screen has also formed the core of the routine assessment system for young people with disabilities leaving school (Post School Programs) and the Ongoing Needs Identification (ONI) system for primary and community care. The ONI and its variations has been used in devising an intake module for regional disability services for the NSW Ageing, Disability and Home Care Agency (ONI-IAM) and in the Australian Community Care Needs Assessment (ACCNA) and the Carer Eligibility and Needs Assessment (CENA) tools that were commissioned by the Australian Government in 2007 to form the basis for a standardised ‘front-end’ to aged and community care. The planned introduction of routine and standardised measurement of functional abilities constituted the first step on a longer development pathway leading to a common system for outcome measurement in community care programs.

We know from our many research projects that it is possible to use that system to both measure individual client need and also to inform program-level and resource allocation decisions. Each new generation of such a system would progressively include more useful variables for classification and outcome measurement purposes, but getting national agreement on a coherent strategy has been difficult and the area of community care outcomes is a good example of how some impacts and outcomes of our work can take years to become evident.

Improving the capacity for outcome measurement in community care is an intervention in a complex system; it needs a technical, data-driven strategy that responds in practical terms to the policy aims. The response starts with better organised assessment information at the intake point where some client characteristics are more useful than others for the purposes of measuring outcomes. More standardised and intelligently designed information collected in the initial and ongoing processes of assessment then forms part of a continuous client record inside client

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information systems. If the same data elements are collected at different points, then the 'change scores' can be used for the purposes of measuring the outcomes of services or interventions.

A decade and more of projects, demonstrations and trials have helped define what is most useful to collect in community settings. It is the client's functional abilities (the physical and mental abilities that everyone needs to live independently) that predicts who will need community care and/or more active service models like rehabilitation and also how much that care will cost. And the personal and social context of those abilities also needs to be understood. So information on carer status, care network sustainability, social isolation and/or other factors useful for measuring well-being, can be standardised and routinely collected and used to understand the outcomes achieved over time.

One question that still needs to be asked and answered is how best to build a data repository function with a stable longer term work program that can be supported for such a diverse service sector. It is not possible to simply borrow systems from other sectors because community care information has to be organised in its own coherent and logical way.

A 'grand synthesis' of our findings on what drives the need for care would suggest it is possible to build and support a set of systems that can routinely capture a manageable number of key indicators that can be used to plan and deliver individual care and also provide a good picture of how well the service system is doing, not only how many services of different types are provided.

### **Putting Research into Practice**

The production of our research outputs is easy enough to measure, but their distribution and use are more difficult to gauge in reliable ways. Academic publications are an indicator of impact but only in a limited way when the Centre's aims are to influence routine clinical practice and improve quality in real-world systems. Conducting formative and process-oriented evaluations, building prototypes and data management tools, testing and refining outcome measurement systems may not be so attractive for many of the traditional high 'impact factor' specialist journals, but we have begun to analyse our approaches more systematically and target our publishing efforts at some of the high quality evaluation journals.

With that caveat in mind we have managed to write our share of peer-reviewed publications in journals and book chapters – totalling 254 over the period 1995–2010. This is about 20% of our grand total of 1243 written outputs over that period in all publication types including commissioned reports, conference papers, literature reviews and written briefings. Examples of this practice literature are our evaluation frameworks that have been adapted and refined through a range of projects in coordinated care, mental health integration, rural palliative care, hospital avoidance, best practice models in residential aged care, clinical services redesign and asthma management.

Sometimes these reports in the practice literature can be consolidated into a body of useful knowledge in one sector. Our evaluations of the Griffith Area Palliative Care Service, Rural Palliative Care, Caring Communities and Care Planning Programs have informed our Palliative Care Evaluation Toolkit and our Guide to Research Ethics – both of which were turned in useful booklets and web publications for the National Palliative Care Strategy. The large national evaluation

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project on Evidence Based Practice in Residential Aged Care has likewise produced a significant body of lessons and stronger evidence to guide the planning of useful interventions in the sector.

Other examples of where we have been able to leave useful tools behind or distribute them more widely after a series of studies are the SNAP software in sub-acute and non-acute care and the routine clinical data sets for rehabilitation and palliative care managed by AROC and PCOC. In a similar but less comprehensive way the HACC functional screen has generated a number of reports and publications but its use is hard to gauge even though it is collected routinely in the Program's Minimum Data Set. It is used in assigning priority for service in NSW Home Care and in assessing the functional capabilities of school leavers with disabilities and forms the basis for the annual training that is carried out for the assessors within this NSW state-wide disability program. The ONI/ACCNA community care assessment systems containing the functional screen are also supported by a number of our own published papers and commissioned reports and their data elements are built into a range of care management systems now routinely used in different jurisdictions.

Our literature reviews for specific projects help to inform how our evaluations are carried out but can also find a useful place in the practice-based literature. Our *Review of Effective Caring* in its full report form is able to be accessed on the Department of Health and Ageing website and our own, and a more 'user-friendly' product was published in the Australian Institute for Family Studies journal, *Family Matters*. Subsequently the Benevolent Society of NSW commissioned us to turn the work into one of their Research into Practice Briefings and that summary has been incorporated into a commercial publisher's educational resource book entitled *Carers: Ageing and Disability*, which is part of their *Issues in Society* series.

A good example of CHSD working to assist strategies for health gain is the five years of producing evidence summaries for programs promoting child health in Victoria, now incorporated into the *Victorian Child and Adolescent Monitoring System (VCAMS)* which freely promotes the distribution of the findings. This work was undertaken in support of the Child Wellbeing and Safety Act 2005, after which the Victorian Government endorsed 35 outcomes for Victoria's children which were expected to be of most importance to their present and future lives. VCAMS provides a comprehensive overview of the way in which the service system, the community and the family all interact to determine the wellbeing of children, and provides a sound basis for government planning and intervention. In 2006, CHSD was commissioned by the Victorian Department of Human Services to develop a catalogue of evidence-based strategies for the health and wellbeing of children aged 0–8 years.

The catalogue is distributed through the Department's website a key element in VCAMS, providing practical guidance to policy makers and program developers. The original catalogue was created for the *Best Start* program, which had a particular focus on prevention and early intervention with vulnerable families, including socially disadvantaged families, Aboriginal and Torres Strait Islander (ATSI) families, people from culturally and linguistically diverse (CALD) backgrounds, and families living in rural areas. Subsequently, the Victorian Department of Education and Early Childhood Development commissioned the *Catalogue of Evidence-Based Strategies* with regular updates by CHSD.

In 2010 we revised narrative reviews and, where necessary, new catalogue entries were provided for the 12 indicators originally reviewed in 2008. The task in updating the catalogue was to check whether any relevant, new evidence had emerged in the academic or grey literature for each of the indicators being reviewed. This meant adding a new strategies and catalogue entries for an indicator, instead of, or in addition to existing strategies. The indicators updated in this work in 2010 included seven adolescent indicators linked to prevention of school disengagement and promotion of success for young people at risk of leaving school early, and in addition, updates were provided for four child and adolescent indicators:

- Hospitalisation rate for asthma
- Low birth weight
- Proportion of children with emotional or behavioural difficulties
- Proportion of families who are food insecure

While our research output plays only a small part in these complex preventive interventions, we see the distribution of the products as good examples of making an impact on the wider system. But to be realistic in terms of putting our research into practice by measuring our own outcomes, we are still at an early stage of becoming more systematic and are little more than anecdotal in how we understand the effects of what we do. Measuring our own impacts is a continuous undertaking and as well as keeping up with how our work is disseminated, we need to reconcile our understanding with academic and international perspectives through peer reviewed publications as well as national and state and territory views of what are useful outcomes, in terms of policy and program refinements and organisational changes promoting health service development.

### **Where to From Here?**

This brief history serves several purposes. It is a way to take stock and learn from past experience. When we look back over our series of CHSD Annual Reports we can see a lot of activity, much of it arguably useful, represented by roughly \$25 million worth of earned income, 335 project reports publications and presentations, successful completion of 100 evaluations big and small and a range of other outputs,

Looking back lets us see how busy we have been, but is more useful to examine strategies and set directions which can take us beyond expecting to do 'more of the same'. When we look forward with expectations of being better supported by our infrastructure and with improved prospects for career paths as well succession planning, then other possibilities open up. We can expect to do both more and different local and international work as well as building on our casemix development, benchmarking and outcome measurement, assessment and integration themes.

The direction of health reform implies that hospital service planning will need to translate into Local Hospital Network (LHN) Service Agreements to help determine the service mix, volumes, pricing, and risk management that has to be part of their planning. But finding ways to promote growth funding for new activity that is not hospital-based will be the hard and interesting work ahead.

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Ways of carving up State funding between LHNs will still be required and integrated capital and service planning will be critical. So needs-based funding models (Resource Distribution Formulae) will be required and help to do integrated capital and service planning will be critical, as will smart purchasing of hospital activity and knowing what to buy or deliver, not just what to pay, will be an important part of planning in the obvious next steps in health reform.

Getting the interfaces right between State and new Commonwealth-funded entities, between LHD, Medicare Local, Aged Care, hospital discharge and chronic disease management programs will also be important for local planning. So will getting the interfaces right between state-funded services like housing, education, police etc, which are also going to be important for better allocative and dynamic efficiency, which also implies a strategy to shift of the focus away from hospitals.

The potential for strengthening local and regional planning, with implications for wider lessons to be drawn in implementing health reforms, is likely to increase in the near future. This direction builds on our health services focus and our approach to working in strong partnerships with those delivering health care. We see it as a way to use scientific methods to produce knowledge about policies, programs and strategies that have the potential to improve the way services and preventive strategies can work together better.

We also see this development as a longer term impact on evaluation research of the analysis that went into the 2008 WHO Report of the Commission on the Social Determinants of Health (the Michael Marmot Report), aimed at offsetting the emphasis in public and population health research of increasingly fine analytic descriptions of increasingly sick populations. This type of work, which we are very familiar with, is driven mainly by concerns to reduce acute care costs rather than the longer term aim of reducing demand for services and improving the health status of people who may not yet be service users.

The potential for a Centre strategy in strengthening planning and building partnerships is in promoting new research in areas where more investment is going to be needed as health reform is implemented. Local primary care and hospital-based organisations will need to understand the type of interventions that will reduce health inequities in the long term, not just alleviate some distress, change health service access or change the eating patterns of people suffering from inequity today. This implies different types of interventions from those familiar to health services, i.e., interventions that have grown out of inter-sectoral strategies like between education and health for nutrition issues, and integration strategies and information management tools to share across other community-based sectors.

With the advent of the Australian Government's Medicare Locals, the University's regional focus now coincides with the same geographic area boundaries of the Local Health District (LHD) and we all share a broad and as yet under-developed role in promoting, protecting and maintaining a healthy community. This suggests there may be potential for creating new opportunities for CHSD in building on and using our staff members' practical experiences in population-level planning as well as our accumulated expertise in evaluating complex health service and health system-level interventions.

A strategic shift in this direction is a logical extension of what CHSD does and may also require a degree of 're-framing' of the Centre's profile to include partnerships and planning issues as another one of our programs, working towards a coordinated local R&D approach. This would have national significance given the shape and expected directions of the health reforms and would be relevant at the same time to key regional priorities, where we would promote the strategy of starting with areas of inequity and high need, and moving outwards to the whole population over time: Aboriginal health and well-being, chronic disease management; and older people across a continuum of levels of need.

If we were to create a new program in the longer term, there would be significant infrastructure costs to consider (well beyond our own internal capacities to fund), including the need for a regional collaboration to build a *Population Health Information Platform*. The program would ideally be supported by work on improving data linkages, integrating the mosaic of data sets, producing profiles of important sub-populations and an ongoing capacity in tracking changes in those profiles over time.

The long term aim of developing a program of work in this area would be to develop a more consolidated set of tools to support a regional research focus with national significance, what we called (in our 2008 NSW Community Health Review, borrowing a description from Julian Tudor Hart) a 'periphery of excellence'. It would not just be about research for its own sake but would take our regional role to a new level where we build tools to help researchers within and beyond CHSD work out if new service models, routine health service activities and population health interventions do actually have useful outcomes for the populations they are meant to serve.

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