

**PROCEEDINGS OF THE INAUGURAL ASIAN CONFERENCE ON
INTEGRATED CARE SINGAPORE 2011**

Contents

Speakers Abstracts.....	S1
Speakers Abstracts: Symposium 1.....	S3
Speakers Abstracts: Symposium 2.....	S5
Speakers Abstracts: Symposium 3.....	S5
Speakers Abstracts: A1.....	S7
Speakers Abstracts: A2.....	S9
Speakers Abstracts: A3.....	S10
Speakers Abstracts: A4.....	S11
Speakers Abstracts: B1.....	S12
Speakers Abstracts: B2.....	S14
Speakers Abstracts: B3.....	S15
Speakers Abstracts: B4.....	S17
Speakers Abstracts: B5.....	S19
Speakers Abstracts: C1.....	S20
Speakers Abstracts: C2.....	S21
Speakers Abstracts: C3.....	S23
Speakers Abstracts: C4.....	S24
Speakers Abstracts: C5.....	S25
Speakers Abstracts: C6.....	S27
 Oral Presentations.....	 S29
 Poster Presentations.....	 S33
 Workshops	 S46
 Index of First Author.....	 S47



PROCEEDINGS OF
The
Inaugural Asian
Conference
on
Integrated
Care



SINGAPORE

GRAND COPTHORNE WATERFRONT HOTEL

25 & 26 February, 2011

Organised by:



In Partnership with:



Integrate Now, Create Health

Population ageing is arguably humanity's greatest challenge in the 21st century. The magnitude of this phenomenon, compounded by the increasing burden of chronic illnesses and the question of longevity and quality of life, will undoubtedly create health, economic and social demands on all developed and developing countries. Singapore is the second most rapidly ageing population in the world today, due mainly to 2 key factors — the rapidly declining total fertility rate, and the increasing life expectancy at birth. While the population is still generally young now (8.5% are over 65 years of age), the proportion of elderly is set to almost triple within the next 25 years.

This impending 'silver tsunami' has forced our healthcare system to re-organise how we deliver care. With the changing demographic profile, increasing acuity of illness, and greater frailty of elderly patients, more will require a longer period of care to recover. Many will need continued rehabilitation, a significant number will need some level of transitional care support at home, while others may need convalescence in nursing homes and other aged care facilities. Hence, our care delivery system is undergoing a massive restructuring, moving from a 'silo or compartmentalised episodic care' to a more integrated approach by forming regional health systems (RHS).

Regional Healthcare Services



Centrally embedded within the health ecosystem is the patient, whereby his/her healthcare needs would be served a continuum of services from preventive and primary care, acute and to community/residential care. Specifically, each Regional Health System will be anchored by an acute general hospital linked to a community rehabilitation hospital. They would be supported by a network of primary care providers, community home care teams and day rehabilitation centres as partners. The importance for close coordination and effective collaboration between the acute hospitals and their clinical partners in the community will be imperative so that patients can transition seamlessly from one provider and setting to another. Underpinning the restructuring is an electronic health record system that is being developed nationally. It is due to pilot from March 2011. This virtual and longitudinal health record will be accessible to all authorised medical practitioners at our hospitals and primary care sector. It will allow for more effective treatment and monitoring of patients, who may receive a spectrum of healthcare services from different providers. The notion of integrated regional health systems is certainly not a new concept nor model, but few countries or health systems have managed to successfully implement this on a national scale. Some of the examples that have been often mentioned in the literature (e.g. Jonkoping in Sweden, Geisinger, Group Health of Puget Sound, InterMountain Health Care and Kaiser Permanente in the US) are exceptions rather than the rule. A key consideration is the political and social milieu within which the healthcare system operates, the financing system and the presence of real leadership to drive the change and integration that is necessary.

Singapore has the advantage of being a very small nation of some 5 million residents. It also has the advantage of having a relatively high penetration of the use of technology by individuals and in the homes. Such infrastructure has played a key role in fostering integration of care at a faster pace. In addition, Singapore's healthcare system is underpinned on a unique philosophy of individual responsibility, coupled with a national system of individual health savings accounts and co-payment. In this regard, health policy has managed to influence individual behaviour towards maintaining healthy and avoiding unnecessary healthcare utilisation. Despite these however, we do have multiple challenges that lay ahead. The demand for more healthcare services as the population ages and growing prevalence of chronic diseases such as diabetes, hypertension and stroke will continue unabated. Also, our current fee for service payments does not incentivise collaboration of providers across the continuum, hindering integration. This has inevitably in some way pushed the fragmentation of services with each provider adopting a 'silo' approach to care of the patient. Fragmentation also exists within primary and community care and has been exacerbated with the lack of resources and manpower in these sectors. All these have compounded to make the patient's journey through the system bumpier, arduous and confusing.

While challenges abound, there are certain developments within the system that look promising. First, increasingly, there is a greater clarity of roles between specialists and primary care physicians with the growth of more shared care programmes for chronic conditions. There is also the recognition of the expanded roles of nurses and allied health professionals in the ILTC setting such as the attempt by Home Nursing Foundation to train their nurses and redesign their processes to provide more holistic care. Second, the seeding of pilot projects on population health management across primary, acute and ILTC providers, for example in Eastern Health Alliance, is to address some of the challenges impeding integration and to achieve the best health outcomes for the patient. Integration will also not materialise if the current gaps of service in catchment areas are unaddressed. Hence, patients living in certain areas that historically do not have providers are beginning to have access to these services. Lastly, integration has been helped with greater innovations in care delivery model like the Singapore Programme for Integrated Care for the Elderly (SPICE). Funded by Temasek Cares, this programme, piloted by Salvation Army's Bedok Multiservice Centre, provides an alternative model of care for eligible nursing home clients to continue to remain at home with their family. It provides a comprehensive suite of services to prevent premature institutionalisation of patients.

As our healthcare system evolves and becomes more integrated in the coming years, a great deal still remains to be done to improve the cost-effectiveness and efficiency of delivering care and to improve the overall health of the population. A number of ambitious frameworks have since been developed which are worth studying – one of which is the Institute for Healthcare Improvement (IHI) Triple Aim – which provides working models and principles for better and more efficient care, keeping costs affordable and keeping populations healthy. This is a model which the Singapore healthcare system is working towards.

As many more integration initiatives will take off in the next few years across many countries, we are pleased to organise the Inaugural Asian Conference on Integrated Care in Singapore from 25 to 26 February 2011. This compilation of the abstracts provides a summary of the papers that are presented at the conference. We hope that the conference programme has created a synergistic platform that can stimulate engaging conversations, throw up new ideas and generate inspiration for all. In short, this is a start to our journey towards integration.

Dr Jason CHEAH
CEO, Agency for Integrated Care
Chairperson, Organising Committee

Dr WONG Loong Mun
Director, Care Integration Division
Agency for Integrated Care

PL1

Integrating Health Systems, Services and Care: What Works and How?

DENNIS KODNER

Professor of Medicine & Gerontology and Director, NYIT Center for Gerontology & Geriatrics, New York College of Osteopathic Medicine of New York Institute of Technology (NYIT), USA

Despite global differences in healthcare policy, financing, infrastructure and provision, policy makers, planners, commissioners/insurers and providers in many countries are increasingly focused on integrating approaches to the organisation and delivery of services across the entire spectrum of care. The integration of health systems, services and care — part science and part artful practice — is now considered an essential reform strategy aimed at reducing fragmentation, boosting efficiency, improving quality, enhancing personal health outcomes, and containing costs — especially for vulnerable, high-risk and costly patient/client populations with long-term, chronic, disabling and/or medically complex conditions. After first introducing an overall definition of ‘integration’ and ‘integrated care’ and briefly examining their context and rationale, the keynote concentrates on what works best in the integration of health systems, services and care and how. The latter is based on the most up-to-date evidence from this quickly evolving field. In addition to describing the many positive results possible from healthcare system/service integration on the macro, meso and micro levels, the presentation identifies the 10 key ingredients found in successful integrated care initiatives, as well as other important lessons relevant to the design and implementation of effective programmes. Finally, the address concludes with a discussion of the many ‘enemies’ of integrated care that are likely to be encountered — and also must be creatively countered — along the way.

PL2

Health and Social Care Partnerships: Leading and Managing Networks of Care

NICHOLAS GOODWIN

Senior Fellow, Department of Health Policy, The King's Fund, United Kingdom

Integrated care requires the development of new forms of partnership and networking to be developed between health and social care providers. It represents a step-change in the way services are organised and managed, and those that must develop and lead such new partnerships face special challenges in making them work effectively. Since new professional and organisational ways of working will have a major impact on the future quality of health and social care — and on the experiences of users and carers — a

better understanding of the management of inter-agency partnership and networks is vital for the development of intelligent management practice and policy. However, there is little evidence on how best this may be done.

This paper seeks to answer the following key questions:

- What is the most efficient structure for a partnership or network?
- How formal should the structure be between the members of the partnership?
- How can partnerships and networks be best managed?

The paper shows how networks and partnerships in health and social care in many countries have emerged as organisational responses to the break-up of public sector monopolies. It argues that the effective management of networks and partnerships requires a specific ‘boundary spanning’ function. It also shows that there are many different ‘types’ of network each with their pros and cons as infrastructures to support integrated care. The paper concluded by showing how different ‘forms’ of leadership/management are required depending on the nature of the partnership developed.

PL3

BOOSTing Your Discharge Towards Safety and Patient-Centredness: Introducing Project BOOST

JEFFREY L GREENWALD

Co-Investigator, Project BOOST & Project RED, Inpatient Clinician Educator Service, Massachusetts General Hospital & Harvard Medical School, Physician Leader for Readmissions, Partners Healthcare, USA

The hospital discharge is a non-standardised process that often leaves patients and their families/caregivers ill-equipped to address the myriad of problems they may face once the safety net of the hospital is no longer present. In this session, Dr Greenwald will address:

1. The epidemiology of heart failure readmissions.
2. Barriers to successful discharges.
3. Key literature on the discharge process.
4. An introduction to Project BOOST – a mentored-implementation project that works with clinical process improvement teams to improve the safety and patient-centredness of the discharge transition of care.
5. First steps to improve your hospital's discharge.

PL4

Straddling the Complexities of Integration: Perspectives of a Clinician

TAN BOON YEOW

Medical Director, Medical Department, St Luke's Hospital, Singapore

Medicine has evolved over the centuries from a simple doctor-to-patient relationship where the physician is able to prescribe 'cure' to most of the patient's ailments to one today that is complex and oftentimes requiring multidisciplinary, multispecialty care.

In part, this is due to the explosion of knowledge in medical science through scientific discoveries and technology advancement. On the other hand, patient and society's expectations with respect to standards of healthcare have also risen.

Institutions and governments have to deal with the conundrum of trying to find the sweet point in the divergent tensions of providing universal access, quality healthcare and at affordable cost.

The need for integration of care in this complex healthcare system is a given. However, it is fraught with many challenges as in all complex systems.

The session will explore these challenges in the local context from the perspective of a clinician. It also aims to offer some ideas to set one on the path of finding feasible solutions to this complex problem.

PL5

The Economics of Integrated Care

JOHN OVRETVET

Director of Research, Professor of Health Innovation Implementation and Evaluation, Medical Management Centre, The Karolinska Institute, Stockholm, Sweden

This session presents the results of a review of research into the clinical and cost effectiveness of different interventions to improve coordination. It presents evidence of under-coordination, where the greatest opportunities for improvement lie, and the types of changes which are most effective. The presentation also considers the finance system changes which will be needed in the finance system to provide more incentives to improve coordination and the support providers need to make improvements.

PL6

The Community Matron: Case Management in the UK National Health Service

SANDRA BIRNIE

Service Development Manager, Department of Strategy, Business and Performance, NHS Western Cheshire Primary Care Trust (Provider Services), Cheshire, United Kingdom

In the early part of this century, it was recognised that the ageing demographic within the population in the United Kingdom and the ever increasing prevalence of comorbidity and long-term conditions was creating an unsustainable increase in the cost of healthcare and emergency hospital admissions.

This was not only an issue for the United Kingdom as it was recognised that healthcare systems in general had not kept up with the global burden of chronic disease.

In 2002, the World Health Organisation warned that "if we don't manage chronic diseases successfully then it will become the most expensive problem for the health system."

A number of UK government initiatives were implemented in an attempt to reduce the impact of this demographic shift on acute/secondary care, one of which was the introduction of case management for long-term conditions and the development of the community matron.

This session examines the historical and political drivers in relation to the management of long-term conditions. It outlines development and impact of community matrons within the United Kingdom. It centres on the practical implications of this model of care and the skill set required including the differing levels of case management dependent on patient/client need. It also details the national model and how that has been translated at a local level.

PL7

Guided Care Model of Health Care for Older Patients with Multiple Chronic Conditions

CHAD BOULT

Professor, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, USA

Providing high-quality, cost-effective health care for the growing population of chronically ill older persons is a serious challenge for most societies. One approach, called 'Guided Care,' has produced some promising results.

In Guided Care, a registered nurse joins a primary care practice and works in partnership with 3 to 4 physicians to provide state-of-the-art chronic care for 50 to 60 multi-morbid older patients. This presentation will describe the 8 clinical services provided by Guided Care nurses: comprehensive patient assessment, evidence-based care planning, proactive monitoring and coaching, transitional care, coordination of care providers, engagement of patients in their care, support for family caregivers, and liaison with community agencies.

Results from the first 2 years of a 3-year, multi-site, cluster-randomised controlled trial of Guided Care showed: improved quality of care, high levels of satisfaction by nurses and physicians, reduced caregiver strain, and possible decreases in the use and costs of care. The Guided Care model has been honoured recently by the American Public Health Association, the American Academy of Family Physicians, the Case Management Society of America, and the BMJ Awards.

The presentation will conclude with a description of resources that are available to help practices adopt the Guided Care model, including a practical implementation manual, online courses for physicians, practice leaders and nurses, and a patient orientation booklet.

Symposium 1 – A Conversation on Integration: Perspectives from the Three Continents

S1.1

A Spanish Perspective

ROBERTO NUÑO SOLINIS

Director, O+Berri (Basque Institute for Healthcare Innovation), Spain

Integrated care is advancing in several regions of Spain. However, the approaches to integration differ a lot. Organisational integration by means of merging the managerial functions of public healthcare providers (hospitals and primary care within a defined geographical area) in a unique structure (usually called *Gerencias Unicas*) is the most popular approach. Preliminary assessments tend to show modest results of this kind of integration. More successful approaches are associated with a combination of organisational, processes, information systems and funding integration. The most radical innovation is being tested in 5 integrated delivery systems in Comunidad Valenciana where the provision of healthcare is being commissioned using public funding to private providers in a concessional model. Within this model, the private provider is responsible

for all healthcare of a defined population and they also bear the financial risks. Currently, the private providers are covering 30% of the population of the region and achieving savings of more than 25% compared to the traditional public model. Another innovative approach is being piloted in the Basque Country where clinical integration related to most common chronic diseases is being used as a trigger to develop and consolidate local integrated health systems. This strategy has been launched in July 2010 and it has not been evaluated at this stage.

S1.2

The State of Integrated Care in Thailand

NIPIT PIRAVEJ

Chief Corporate Officer, Bangkok Chain Hospital, President, Center for Healthcare Management Innovation Thailand Board Member, Thai Medical Informatics Association, Bangkok Chain Hospital PCL and Center for Healthcare Management Innovation, Thailand

In more recent history, Thailand has attempted to reform its healthcare system through 3 major initiatives: (1) the primary health care movement as part of the WHO-driven health for all by the year 2000 agenda, (2) the universal health coverage implementation about 10 years ago to guarantee access to basic health services for all citizens, and (3) the pass of the National Health Act with establishment of National Health Assembly as a multi-stakeholder forum to influence health system at the policy level. Despite these major developments, healthcare delivery system has remained quite fragmented, acute care focused, episode-driven and public-private split with care coordination across health continuum and information flow across providers at sub-optimal level. The situation can have negative impact on both the system and people as the demographic, socio-economic, epidemiological and lifestyle shifts are towards ageing population, widening rural-urban gap, increasing chronic diseases and rising acute care costs; hence making the long-term sustainability of the system at great risk. Another reform is clearly necessary with focus re-directed towards the integration of all health system components around the life-time needs of the individual and population. A transition is also required to move from current “information poor, passive consumer, low outcome” approach to “information rich, pro-active consumer, better outcome” model where self-management and preventive care can be much more effective. This can be built on some previous successful pilots in which a community-based approach championed by the public system was applied for the rural populations, while a worksite-based model supported by the private system was used for the urban setting.

S1.3

Towards Integrated Care in England: A Lost Opportunity?

NICHOLAS GOODWIN

Senior Fellow, Department of Health Policy, The King's Fund, United Kingdom

Over the last decade in England, there have been numerous attempts to develop new forms of integrated care working between health and social care agencies that have sought to improve the care experiences for older people and those with complex and chronic care needs. However, despite a significant amount of innovation, the care system remains fragmented. Recent health sector reforms have moved towards a focus on access, choice and competition across a diverse market of care providers which does not necessarily sit well with the ability to achieve integrated care. This presentation examines why the English NHS has tended not to build on the various initiatives it has piloted in the past to promote integrated care and discusses whether care integration will thrive or perish as a more market-led system is developed.

S1.4

Integration and Integrated Care — A View from America

DENNIS KODNER

Professor of Medicine & Gerontology and Director, NYIT Center for Gerontology & Geriatrics, New York College of Osteopathic Medicine of New York Institute of Technology (NYIT), USA

The American healthcare system is large, complex, and the world's costliest. Despite the very high level of spending, the United States still performs poorly vis-à-vis other countries overall in terms of healthcare coverage, access and outcomes. Nonetheless, the system has for long been a major global exporter of innovative methods and models, including case management, health maintenance organisations, integrated delivery systems, disease management, and chronic care management; all of these approaches are antecedents of what we today collectively refer to as 'integration' and 'integrated care.' With reform of the American system now underway, care integration will play a central role in the way in which primary care, chronic care, and long-term care services and supports are ultimately organised, delivered and financed. After sketching the U.S. health system and its new reform directions, the broad sweep of the current and emerging integrated care landscape will be presented, including discussion of successful American strategies and models and key lessons for policy and practice internationally.

S1.5

Perspective from The Netherlands

BERT VRIJHOEF

Professor & Doctor, Department of Chronic Care & Integrated Care, Tilburg University & Maastricht University Medical Center, The Netherlands

Historically, the Dutch system can be categorised as a social health system based on the Bismarckian model and as a system wherein general practitioners are gatekeepers to secondary care. Major challenges for the Dutch health care system nowadays are how to deal with the growing number of people with chronic conditions, suboptimal level of quality of care, decreasing number of care providers and limited financial means. Concepts such as competition, cooperation, coordination, and integration have been introduced and should go hand in hand to prepare the system for the next decade.

Given that not all incentives in the Dutch system were aligned to deliver high quality care in an efficient way, several reforms took place. In 2006, a mandatory regulated private insurance scheme came into place with an important role for the Dutch Health Care Authority. In 2008, activity based payment was introduced for chronic care by means of bundled, activity-based payments.

Looking at the way chronic care gets delivered, a shift from transmural care to programmatic care was seen. Transmural care was introduced in the 90s and can be defined as "care, attuned to the needs of the patient, provided on the basis of cooperation and coordination between general and specialised caregivers with shared overall responsibility and the specification of delegated responsibilities". Most forms of transmural care focused on managing the interface between acute hospital care and alternative settings for those who are not able to return to a fully independent life, typically involving specialist nurses who have been trained in the care of patients with specific chronic conditions and discharge liaison nurses. With hundreds of transmural care initiatives by the end of the 90s, some of these initiatives evolved towards the integration of processes along the care pathway for those with chronic conditions. In doing so, the focus on the transition of hospitalised patients changed towards a more population-based and systematic approach.

Nowadays GP-formed care groups contract care with health insurers on the basis of a bundled payment system ('chain-DBC') and reorganise care according to the Chronic Care Model, by means of care standards and individual treatment plans. Preliminary results of this programmatic approach for diabetes care show that the newly-formed care groups

vary in number and type of participants, in the content of the packages of care, and negotiated prices (between €258 and €474 per patient per year) and do not result in improved outcomes of care in terms of physiological indicators (12 months follow-up, 10 care groups). Apart from the complexity of delivering integrated care from the perspective of patients (instead of from the financial or organisational perspective), we need to look at how to measure quality of integrated care.

Symposium 2 — Two Decades of Community Care: Looking Back to the Future

S2.1 — S2.4

PANG WENG SUN¹, MARY ANN TSAO², TINA HUNG³, LOW MUI LANG⁴

¹Chairman, Medical Board and Senior Consultant, Department of Geriatric Medicine, Khoo Teck Puat Hospital, Singapore

²President, Tsao Foundation, Singapore

³Deputy Chief Executive Officer and Director, Department of Service Development, National Council of Social Service, Singapore

⁴Executive Director, The Salvation Army Peacehaven Nursing Home, Singapore

For the past 2 decades, Singapore's Ministry of Health has focused on the development of acute and public primary care services, making our acute care services one of the best in the region. However, the improvement in our acute services have not been met with a corresponding improvement in our community and residential services. With the rising chronic disease burden, growing ageing population and the 'problem' of longevity, more will require care outside the hospital and in the community.

While the development of community care services may not have kept in pace with acute care, the history and beginnings of community service have a long and illustrious history. At the turn of the century, it started with St Andrew's Mission Hospital, Little Sisters of the Poor and Tai Pei Old People's Home, set up to address the plight of the destitute poor and immigrant population. Many of our community care services have developed from the vision and actions of our religious and secular leaders, who saw a need to help the poor, old and destitute. There was a burgeoning of services in the 1970s to 1990s like Lions Home, St Joseph, SWAMI, Hua Mei, etc. There were attempts in the past to foster better coordination by NCSS and even to have a centralised agency like the Home Referral Team under MCD. Geriatricians, as part of their work were helping out in the Senior Citizens Health Care Centres under HNF, volunteering at community hospitals, and nursing homes. So in this symposium, the intents are to provide our participants: (i) a glimpse of the

past and history of community and residential care services; (ii) some of the initiatives that were successful and those that failed and (iii) how do we learn from the past to inform the present and future.

Clinical Professor Pang will speak about the development of geriatrics in acute settings, and the involvement of geriatricians in the community and residential care sectors and his vision of how geriatricians can be better involved in the development of policies and practices of these sectors. He will also discuss the role of primary care and ILTC.

Dr Mary Ann Tsao will focus her presentation on the development of Home Care (home medical, home nursing, home rehabilitation and home help) in the past, some of the challenges of growing home care in the past and present; and how we can think ahead in this sector.

Ms Tina Hung will share some highlights of the National Council of Social Service (NCSS) pioneering efforts and challenges in addressing the dynamic and evolving needs of the eldercare sector. Over the past 5 decades, NCSS had advocated a client-centred approach in order to transform services and meet the client's diverse needs, across the social and health divides. Looking forward, Ms Hung will share some ideas about going forward and exploring ways that the social and healthcare sectors could synergise, achieve more effective programming and better client outcomes through innovation, collaboration and integration.

Ms Low Mui Lang will touch on the growth and development of residential care service, that encompass a broad overview of healthcare system changes that were developed to meet the needs of a changing population moving from an industrialised economy to a knowledge economy, and how to remain resilient in meeting future and greater challenges as we face an ageing population.

Symposium 3 — Exemplars from Local Innovations: Successful Ingredients in Chronic Care

S3.1

Finding NEMO (Nephrology Evaluation Management and Optimisation)

LOH PING TYUG

Consultant Nephrologist, Renal Medicine, National University Health System, Singapore

Diabetic nephropathy (DN) is the leading cause of end-stage kidney failure in Singapore as it is in many other parts of

Asia. It is well-established that the control of diabetes and the optimal control of hypertension, if present, constitute the mainstay of prevention of its complications. The use of angiotensin-converting enzyme inhibitors (ACEI) or angiotensin receptor blockers (ARB) has also been demonstrated to mitigate the progression of early DN.

A chronic kidney disease (CKD) workgroup was established at National Health Care Group to address the optimal management of kidney diseases. As part of its focus on DN, the workgroup identified 4 key elements in optimising their care: uniform criteria for diagnosis of CKD, uniform guidelines for management of DN at primary care, uniform criteria for referral to tertiary care and establishment of infrastructural capabilities to implement the guidelines. Standardising testing for DN with quantitative urine protein/creatinine ratios and urine albumin creatinine ratios was implemented to permit early diagnosis as well as to track progress following institution of therapy. Routine reporting of estimated GFR was implemented using an IDMS standardised creatinine assay so as to identify CKD early and to identify those patients with progression of CKD. Uniform guideline development for management of DN called for the use of the highest tolerated dose of ACEI or ARB and referral criteria were established.

Although data mining of the existing Chronic Disease Management Registry reaffirmed that of DN with proteinuria, nearly 80% were receiving ACEI or ARB, a significant proportion were not receiving the highest doses of these therapies. Thus, the fourth and most important aspect of management and optimisation of DN seeks to enhance capabilities in primary care (PC) using information technology (IT) and renal counsellors: at each clinic visit, an IT alert will prompt the PC physician to increase ACEI/ARB dose and order the follow-up investigations. A care counsellor will educate the patient regarding the change and track the follow-up investigations. The cycle will be repeated till the maximal tolerated ACEI/ARB is reached.

This approach highlights that although knowledge in management of chronic diseases is widespread among PC physicians, the implementation of these disease treatments may require structural and systemic changes in the way the disease is diagnosed and the care is delivered.

S3.2

Barriers and Solutions to Exceptional Care in COPD

LIM TOW KEANG

Head, Department of Respiratory and Critical Care Medicine, National University Hospital, Singapore

We have witnessed major advances in the treatment of chronic obstructive pulmonary disease (COPD) in recent years. Yet COPD contributes to a rising burden of care to patients, their families and the healthcare system. The new evidence from clinical trials is not easily translated into practical benefits in routine practice. This is because COPD is a complex disorder which requires interventions by multidisciplinary teams across the full cycle of illness in its natural history. Thus, in order to achieve exceptional outcomes in COPD we need to identify and eliminate barriers to compliance with evidence-based clinical pathways and team management steps. We will describe practical solutions in the prevention and management of COPD exacerbations including the transition to advanced care in refractory illness.

S3.3

Improving Asthma Care: The Individual and Community Approach

TARI HAAHTELA

Professor, Helsinki University Hospital, Finland

In Finland, a **National Asthma Programme** was undertaken from 1994 to 2004 to improve asthma care and prevent an increase in costs. The main goal was to lessen the burden of asthma on individuals and society. The programme comprised both management guidelines and an action plan with prior defined tools to achieve the goals. The process and outcomes were also evaluated. The action plan focused on implementation of new knowledge especially for primary care: "Asthma is an inflammatory disease and should be treated as such from the very beginning". The key for implementation was an effective network of asthma-responsible professionals, and development of a post-hoc evaluation strategy. In 1997, Finnish pharmacies were included in the *Pharmacy Programme*, and in 2002 a *Childhood Asthma mini-Programme* was launched. The burden of asthma has decreased considerably: mortality, number of hospital days and disability have fallen 70% to 85% during the period from 1994 to 2009. In the recent years, only a few asthma deaths/year under the age of 65 have been recorded in Finland (total population 5.3 million).

In spite of increasing prevalence, the overall costs due to asthma (compensation for disability, drugs, hospital care, and outpatient doctor visits) have levelled off and are now decreasing, contrary to what was predicted. Even annual costs per patient attributable to asthma have been reduced by 50%. The overall costs of asthma in 1993 were circa €285 million (loss of production also taken into account) and €230 million in 2005. According to prediction, based on the 1993 trends, the 2005 costs would have been around

€800 million (Reissell et al. Finnish Medical Journal 2010). A conservative estimate of the potential savings only in the year 2005 was €200 to €300 million.

For asthmatic patients, the main improvement has been early detection of the disease and its timely treatment: “Hit early and hit hard!” Patients with chronic asthma have been educated to employ **guided self-management** to act *proactively* (not reactively) in order to prevent exacerbations. Effective **networking of GPs, asthma nurses and pharmacists** has considerably improved the overall asthma awareness and care in Finland.

The Finnish experience shows that it is possible to reduce considerably the morbidity of asthma and its impact on individuals as well as on society. Some improvements would have taken place in Finland even without the programme, but not of this magnitude. Worrying trends continue to be the still high incidence of asthma and the growing drug costs.

There are many examples now from different parts of the world indicating that the basic ideas of the Finnish programme can be more or less reproduced, also in low- and middle income countries. Generic (cheap) and effective asthma drugs are available almost everywhere. Increasing knowledge of their timely use to stop exacerbations makes a major change for the better. **GINA (Global Initiative for Asthma) has announced in 2010, a 5-year global campaign to reduce asthma hospitalisations by 50% till 2015!**

As a continuum to the Finnish Asthma Programme, the Finnish Allergy Programme 2008 to 2018 was launched 2 years ago with the main goal of improving tolerance against allergens and to support a new concept of allergy health. For asthma, the aim is to further reduce emergency visits by 40%. This programme is also included in the WHO GARD-project (Global Alliance against Respiratory Diseases).

Further reading

- Haahntela T, et al. A 10 year asthma programme in Finland: major change for the better. *Thorax* 2006 ;61:663-70.
- Haahntela T, et al. Finnish Allergy Programme 2008-2018 – time to act and change the course. *Allergy*. 2008;63:634-45.
- von Hertzen LC, et al. Scientific rationale for the Finnish Allergy Programme 2008-2018: emphasis on prevention and endorsing tolerance. *Allergy* 2009;64:678-701.

- Global Strategy for Asthma Management and Prevention. GINA Report. Updated 2009. www.ginasthma.com

S3.4

Integrating Care for Diabetes: Testing a Collaborative Care Model

JAMES DUNBAR¹, PRASUNA REDDY²

¹Professor and Director, Greater Green Triangle, University Department of Rural Health Flinders and Deakin Universities, Australia
²Director of Research, Greater Green Triangle, University Department of Rural Health Flinders and Deakin Universities, Australia

Healthcare systems worldwide are under pressure from workforce shortages, increasing costs and an ageing population with a high prevalence of chronic disease. Some groups, such as those who are geographically or socially isolated, have poorer access to services which places them at higher levels on risk factors for diabetes and cardiovascular disease such as cholesterol, blood pressure or obesity. Over the last 15 years, the science of improvement has led to quality improvement techniques, such as collaboratives, managed clinical networks and collaborative care, all of which have been tried successfully in Australia. We focus our presentation on the development and controlled testing of our collaborative care model for the management of diabetes, CHD and comorbid depression in primary care. We also detail the training and support programme that we have established in 6 clinics in Australia to use the existing primary care team more effectively. The key ingredients are the assessment tools, structured management plans and the case manager who assists the patient with self-management goal setting and planning, coordinates the delivery of services, and follows up the patient with timetabled recall visits and measurements.

A1—Measuring Care Integration: The Basic Toolkit

A1.1

Differences and Similarities among Initiators of Integrated Care

STEIN K VIKTORIA

Research Assistant, PostDoc, Institute of Social Medicine, Center for Public Health, Medical University Vienna, Austria

Even though integrated care projects and programmes are implemented in very different settings and health systems, one can find the same main actors everywhere. They share similar goals and principles, which are universal and not unique to one specific country or system. Hence, it is likely that the type of actor, i.e. health insurance, is more influential

on the decision-making process than the health system and surrounding setting. In other words, a health insurer in the Netherlands will have similar priorities for integrated care as a health insurer in Singapore. An international expert questionnaire was conducted to analyse this hypothesis. Responses came from 13 countries across Europe, North America and Singapore, representing all stakeholders and models of integrated care. While direct and/or indirect costs before the introduction of integrated care were most important to health insurers, the image of the disease or target group and the necessity of social service support were most relevant for public administration projects and programmes. Service providers attributed high value to structural and organisational items, such as a sufficient evidence base, the lack of outcomes measurement or the financing system and forms of payment for service providers. Nobody valued patient incentives to join the integrated care project/programme as highly important. The results suggest that, at least when it comes to the initiation of integrated care, the same type of stakeholders share priorities across countries, irrespective of the health systems they work in.

A1.2

What is the Solution to the Challenge of Evaluating Complex Healthcare Interventions?

DAVID MATCHAR

Professor and Director, Department of Health Services and Systems Research, Duke-NUS Graduate Medical School, Singapore

In recent years, there has been an increased appreciation of the importance of integration of care and the deficits of existing healthcare structures for assuring integration. However, interventions aimed at providing integrated care are complex to design and to evaluate and the temptation is to establish new programmes bypassing what is fairly perceived to be a tedious and expensive process. In this talk, I will briefly review the nature of the evaluation task, the reasons the task is challenging, and the characteristics of a desirable solution. I will focus on the use of modeling as a vehicle for design and evaluation that offers a systematic way forward.

A1.3

Cost Effectiveness of Integration

JOHN OVRETVET

Director of Research, Professor of Health Innovation Implementation and Evaluation, Medical Management Centre, The Karolinska Institute, Stockholm, Sweden

“Does care coordination save money and improve quality?” This session presents the results of a review of

research into the clinical and cost-effectiveness of different interventions to improve coordination. It presents evidence of under-coordination, where the greatest opportunities for improvement lie, and which types of changes are most effective. The presentation also considers the finance system changes which will be needed to provide more incentives to improve coordination and the support providers need to make improvements.

A1.4

Evaluating Integrated Care: Where Does One Start?

BERT VRIJHOEF

Professor & Doctor, Department of Chronic Care & Integrated Care, Tilburg University & Maastricht University Medical Center, The Netherlands

‘Integration of care’ and ‘integrated care’ are defined differently between countries. For example, in the United States, integration predominantly refers to the integration of organisations who deliver care and who finance care (Health Maintenance Organisations), whereas in the United Kingdom, integration of care refers to the linkages between healthcare and social care arrangements for people in need for long-term care. Furthermore, existing studies on the impact of integrated care initiatives on the effectiveness of efficiency of care show deficiencies in their methodologic quality. From a review of integrated care initiatives, a mismatch was found between the goals of the interventions and how outcomes get measured. Of 25 studies with the aim to improve cost-effectiveness, 10 studies (40%) do not report the impact on costs; of 18 studies with the aim to improve the level of disease specific knowledge of patients, 6 (33%) do not report the impact on knowledge [Steuten et al. Int J HTA 2006].

Interviews with 22 experts in integration and/or coordination of chronic care from the US (11), UK (3), Australia (2), Canada (2), Netherlands (2), Denmark (1), and Germany (1) were performed to, amongst others, identify measures to assess the impact of strategies to overcome undesirable fragmentation of chronic care. Interviews were held face-to-face or by telephone, were audio-taped and transcribed. Data were analysed by identifying meaningful segments of texts with the editing analysis style.

Results of this study revealed that “the only people that are collecting data on the impact of integration are the ones researching it. As soon as the research is over, there is no such data collection at all.” Furthermore, there is a differentiation between “what you always do when assessing the quality of care” and “measures that relate more

specifically to coordination and/or integration of care” and “in defining goals and measures we have to start from the perspective of the patient which could have implications for the importance of other measures like the ones defined from the perspective of professionals or payers”.

It can be concluded that measuring the impact of integration is an area of exploration and discussion. Similar to nature of integration of care, we need to apply multiple measures on several levels with a focus on process and outcomes, and include the patient perspective on (integration of) care.

Note: this study was financially supported by The Commonwealth Fund.

A2 — Care in Motion: Making Transitions, Shifting Sites

A2.1

Post Acute Care at Home (PACH) Service

TAN KOK LEONG

Senior Consultant Family Physician, Department of Continuing & Community Care, Tan Tock Seng Hospital, Singapore

The period of transition following the discharge from the acute care hospital to convalescing in the home can be stressful to both the patients and the caregivers, especially to those whom have developed new disabilities or suffered further deteriorations in their functional status following the acute medical events.

PACH service from Tan Tock Seng Hospital comprises a multidisciplinary team that includes doctors, nurses, allied health staff, and medical social workers. To facilitate the smooth transition from the hospital to the home, PACH team provides assistance to meet the medical and social care needs of both the patients and caregivers. It functions in providing the ‘hospital care’ in patients’ homes. The objectives of this service include reducing the length of stay (LOS) in the acute hospital and preventing the early readmission to the hospital following discharge.

The PACH team works closely with the hospital medical and surgical disciplines, Agency for Integrated Care (AIC) and the community healthcare partners to facilitate the transfer of care to meet the evolving medical needs of the patients. Challenges in achieving the seamless vertical and horizontal integration of care include clinical information sharing, defined pathways of care, and others.

A2.2

Intermediate Care Services — A Local Approach

SANDRA BIRNIE

Service Development Manager, Department of Strategy, Business and Performance, NHS Western Cheshire Primary Care Trust (Provider Services), Cheshire, United Kingdom

Intermediate Care is a range of integrated services designed to promote faster recovery from illness; prevent unnecessary acute hospital admission and premature admission to long-term residential care; support timely discharge from hospital and maximise independent living.

Services are provided on the basis of a comprehensive assessment, resulting in a structured individual programme of care that is time-limited (normally no longer than 6 weeks and frequently as little as 1 to 2 weeks) and involves active therapy, treatment or opportunity for recovery.

Although this session focuses more specifically on those services provided within the speaker’s own locality of similar models of Intermediate Care services, provision is to be found in many other parts of the United Kingdom.

The session illustrates the circumstances which led to the introduction of the varying Intermediate Care Services and how these have developed and changed over time as the situation has dictated.

It illustrates the range of services that are offered dependent on individual needs whether in an individual’s own home; extra sheltered housing; residential setting or 24-hour nursing care setting.

It also describes the issues that should be taken into consideration when developing integrated teams of health and social care professionals; the skills and training required; the development of shared competencies and the opportunities and threats to managing care across organisational boundaries; whilst also identifying the benefits of this approach to patient care and health outcomes.

A2.3

“马死落地行” – “Even when the horse is dead, you get down and keep walking.” Listening to Elderly Patients and their Families and their Use of Post-Acute Care Services

GOH SOON NOI

Senior Manager & Chief Medical Social Worker, Department of Medical Social Services, Changi General Hospital, Singapore

Service provision in Singapore is very much expert-driven and planned from top-down. The paper attempts to facilitate the voice of elderly patients and their families to understand the way in which they use post acute care services and how this is woven into family care. The empirical evidence can provide a model of state-community-family partnership where policies and programmes incorporate the Asian form of family support whilst expanding on Western forms of public services.

A3 — State of In-Dependence: How Rehabilitation Works?

A3.1

The Negative Effect of Caregiver Availability on Functional Outcomes during Inpatient and Outpatient Stroke Rehabilitation: An Asian Phenomenon?

GERALD KOH

Assistant Professor, Department of Epidemiology and Public Health (EPH), Yong Loo Lin School of Medicine (YLLSoM), National University of Singapore, Singapore

Studies from Western countries report that greater social support is predictive of better post-stroke functional recovery. However, local studies suggest that stroke patients with at least 1 caregiver available paradoxically have poorer functional recovery during inpatient rehabilitation and lower participation rates in supervised therapy at day rehabilitation centres during outpatient rehabilitation, compared to those with no caregivers. In a retrospective study of 2810 stroke patients admitted into 2 local community hospitals from 1996 to 2005 for rehabilitation, caregiver availability was independently predictive of poorer rehabilitation effectiveness [$\beta = -6.8$ (range, -10.8 to -2.7), $P < 0.001$] and log rehabilitation efficiency [$\beta = -0.17$ (range, -0.31 to -0.02, $P = 0.02$)]. A possible reason could have been that patients with caregivers were discharged earlier because they could continue the rehabilitation at home with the help of the caregiver. However, in our multivariate analysis, both caregiver availability and length of stay were independent predictors of rehabilitation effectiveness and efficiency. Moreover, there was no association between length of stay and number of caregivers available (Spearman correlation coefficient, $r_s = 0.01$, $P = 0.55$). In a 1-year cohort study of 200 stroke patients who were admitted into 2 community hospitals and recommended for post-discharge community rehabilitation, caregiver availability at discharge was independently predictive of lower participation rates in post-discharge community rehabilitation 6 months later [adjusted OR = 0.07 (range, 0.01 to 0.49), $P = 0.007$].

A possible explanation could be that patients with caregivers were performing more unsupervised therapy at home which supplanted their self-perceived need for performing supervised therapy at day rehabilitation centres. However, this was unlikely because unsupervised therapy performance at 1 month was not associated with supervised therapy performance at 6 months, and higher frequency of unsupervised therapy participation was associated with higher frequency of supervised therapy participation at all time points. A possible explanation for this paradoxical phenomenon is that stroke patients without caregivers have no one to rely on and hence were more motivated in rehabilitation. Another possible explanation could be that subjects with caregivers were over-protected by their caregivers and reduced patient's motivation to participate in rehabilitation. Our finding may be unique to the Asian culture where the sense of filial piety is stronger, and caregivers, out of good intentions, may perform activities of daily living for patients even when they are capable, inadvertently hindering rehabilitation and promoting dependency. This hypothesis is supported by social studies which have found that unlike Western older persons who generally avoided dependence on their children for support, Chinese elderly perceive children caring for them as a source of parental pride. The implications of these findings on rehabilitation in Asian cultures and national disability burden in Asian countries will be discussed.

A3.2

Interfacing Person-Occupation-Environment for Optimal Rehabilitation Outcomes

JENNY CHUNG

Department of Rehabilitation Services, The Hong Kong Polytechnic University, Hong Kong, China

Rehabilitation is not merely providing therapies and interventions to patients. In occupational therapy practice, the functional tasks and occupations associated with patients' life roles and the environment and context patients live and work should be duly considered and intervened. Optimised rehabilitation outcomes can only be brought about by creating congruence fit among person (patients), their occupations and roles, and the environments in which they live, work and play.

Following an illness and/or injury, patients' personal competences (e.g., sensori-motor, cognitive, affective state, general health) are impaired and as are their life roles. Functional tasks they previously enjoyed and engaged in are disrupted as a result of impaired personal competences as well as a misfit with their environment (physical, social, cultural) and context. A lack of fit among person, occupation,

and environment leads to less satisfactory rehabilitation outcomes.

Using a transactive approach to analyse the interaction between the components – (1) person and occupation, (2) occupation and environment and (3) person and environment ensures the prescribed rehabilitation regimes and training strategies are congruent with patients' competences, abilities, occupational needs, living context and environment. Geriatric case studies will be used to illustrate how congruence can be created among the 3 components (person, environment, occupation) for optimising the overall rehabilitation outcomes.

A3.3

Rehabilitation for Community Living: It's Not Just the Maid

ROY LEE

Senior Consultant, Department of Rehabilitation Medicine, Changi General Hospital, Singapore

Rehabilitation in the inpatient setting is a goal-directed, multidisciplinary and multimodal practice aiming to reduce the impairment and disability of patients after illness or injury. There is evidence that these programmes are effective especially with greater intensity. However, health economics demand that inpatient stays are efficient, and that patients return back to the community in as short a time as possible. The goals and efficiency of a rehabilitation programme depend upon the attitude and support within the community.

The author has been a General Practitioner in Australia and then the Director of Rehabilitation Medicine in a teaching hospital in Adelaide prior to being in Singapore.

This paper gives an historical account of the domiciliary care and community rehabilitation services in Adelaide, South Australia and gives the author's view about local issues such as finances, patient advocacy, healthcare support, social and cultural factors and how these may have influenced the practice of inpatient rehabilitation in a hospital in Singapore.

A4 — Disease Management — Care in Continuum

A4.1

ICARUSS – A Telemedicine-based Model for Prevention of Secondary Stroke

JACQUES JOUBERT

Neurologist, Department of Neurology, Royal Melbourne Hospital, Australia

Stroke is an example of a largely preventable disease that presents acutely, with a significant opportunity for secondary prevention. It is associated with a high mortality rate, a significant risk for residual disability, and has a large impact on society, the patients and their families. Stroke recurrence results in a stepwise decline into dependency, resulting in a financial burden on society.

Telestroke

Telemedicine has been defined as “the process by which electronic, visual and audio communication (including the telephone) are used to provide diagnostic and consultation support to practitioners at distant sites, assist in or directly deliver medical care to patients at distant sites, and enhance the skills and knowledge of distant medical care providers.” Telestroke has the potential to improve the care of the stroke patient in the acute phase, the subacute phase, the rehabilitation phase and in the long-term for the prevention of recurrence of cerebrovascular or cardiovascular events. Attention at all these levels can substantially lower the net cost of the condition to society by reduction of lost productivity, nursing home costs and rehabilitation.

Telestroke in a Secondary Prevention Model (ICARUSS)

The most effective way to reduce the burden of recurrent cerebrovascular disease on society is by prevention. Long-term effective risk factor management presents a positive challenge to stroke management as the risk for recurrent stroke can be reduced by around 70% to 80% if simple best-practice recommendations are implemented. The ICARUSS programme is an Australian project; there is bi-directional information sharing regarding risk factor status of stroke survivors between the coordinator, specialist stroke services and the primary care physician. Reaction to persistently abnormal values is an integral part of the EDC. The telephone support from the specialist physician to the primary care physician is part of the “shared care” component of ICARUSS. In this model, screening for symptoms of depression is done on a 3-monthly basis and the results faxed to the primary care physician. ICARUSS

also provides an example of a telestroke model that maintains specialist involvement throughout. The immediate, real time potential specialist support to the primary care physician provides the “contemporaneous sharing of responsibility” between primary care physicians and specialist, which is the element of shared care. Both in the pilot study and early results of the definitive urban study have shown significant benefit from exposure to the model compared to “usual care”.

In this presentation, the outcomes of the ICARUSS model will be presented focusing on the relevance of this integrated care programme as a model for chronic disease management not only in stroke but of relevance in multiple chronic medical conditions.

A4.2

Integration in Asthma Care – Boon or Bane?

CHAY OH MOH

Chairman, Division of Medicine, KK Women’s & Children’s Hospital, Singapore

Bronchial asthma is the commonest chronic disease in children. Cost-effective treatment is available and yet, the disease control has been suboptimal with acute exacerbation of asthma persistently in the top list of conditions seen in acute care setting. Why are these children not receiving the appropriate level of care?

Resources from the SNAP programme have helped institutions identify the patients who need subspecialty care. New strategies were in place to reach out to these patients who would otherwise not be in the surveillance of a busy acute care setting. Self-help, home management and cost-effective treatment approaches were encouraged and facilitated. Appropriate anti-inflammatory treatment resulted in achieving control in about 80% of children, and reduction in re-attendances at Children’s Emergency and readmissions.

KKH has database of about 4000 patients. For long-term sustainability, it is pertinent for us to promote integrated and appropriate level of care. Those who have benefited from the comprehensive care should be right-sited so that resources can be effectively redeployed to treat new patients. From the patient’s perspective, is it a boon or bane? Parents often view right-siting adversely as they perceive that they will not be receiving high quality of care and often feel abandoned. Parents in particular need to be confident that their child will be receiving good quality of care and that specialist care is still easily accessible should there be a need in future.

Careful planning is critical to ensure a win-win situation for the patients, families and the healthcare providers in ensuring continuing quality care.

A4.3

Heart Failure: Improving the ‘Hand-off’

ERIC E HOWELL

Chief, Division of Hospital Medicine, Department of Medicine, Johns Hopkins Bayview, Johns Hopkins University School of Medicine, USA

This lecture will focus on deficiencies in current hand-off processes as they specifically relate to the discharge practices of heart failure patients. The lecturer will review the available data on weaknesses in the current practice, and review methodologies that have been shown to improve the discharge process. The lecturer will review quality improvement initiatives, such as project BOOST (Better Outcomes for Older adults through Safe Transitions), that have incorporated the best evidence available for improving the discharge process.

B1 — The Value Proposition of Quality in Community and Residential Care

B1.1

Development of Quality in Intermediate and Long-Term Care Services

JOHN OVRETVEIT

Director of Research, Professor of Health Innovation Implementation and Evaluation, Medical Management Centre, The Karolinska Institute, Stockholm, Sweden

This presentation will consider evidence of unnecessary and avoidable hospital admissions, the costs, and the effectiveness of methods for reducing preventable admissions and readmissions through long-term community and institutional care programmes.

B1.2

Embracing Care Integration with the Adoption of IT in a Nursing Home in Singapore

LINA MA

Deputy Executive Director, Lions Home for the Elders, Singapore

The combination of an ageing population, increased demand for quality healthcare coupled with escalating healthcare expenditure, intermediate and long-term care (ILTC) is gradually being recognised and acknowledged as a major

component in the continuum of care. Community-based healthcare providers such as nursing homes must be better equipped to provide seamless care for the elderly to move from one care setting to another in a more coordinated and effective manner. Information technologies are likely to play a vital role in connecting the older person from nursing homes to community-based clinics, and hospital-based healthcare team members. Mobile devices and tailor-made web-based learning have also shown great promise in the delivery of care, and hence, revolutionised nursing home long-term care strategies to meet healthcare needs of the residents.

B1.3

Three Clinical Care Collaborative Projects Illustrated the Service Integration of Day Care and Home Care Services, Hospital and Community Care in Hong Kong

TONG CHOI YING

Programme Director, Department of Elderly Care, Christian Family Service Centre, Hong Kong, China

The Long Term Care Continuum in Hong Kong is separated into 2 main categories of services, namely:

1. the community care (CCS),
2. the residential care (RS).

Services in the CCS are rather fragmented and user overlapping is not allowed in the allocation system. Elder users may suffer sometimes from pre-mature enrollment to residential care because of the incomplete community support for them and the 'ageing in place' policy objective is violated.

The Christian Family Service Centre (CFSC) in Hong Kong had kicked off an integration between the Day Care Service and Home Care Service (of CCS) in 2009 to remedy the insufficiency of the 2 services. Three Clinical Care Collaborative Projects were conducted for strengthening the hospital-community interfacing, collaborating with district hospitals, university, community volunteer partners for a more comprehensive care for the service users. CFSC adopted a 6-Faceted Care Practice which includes aspects of: Community Health Care Professionals, Community Care Workers, Community Volunteers, Hospital Health Care Professionals, Hospital Doctors, and Family Carers. Three projects namely, (i) the Urinary Incontinence Project, (ii) the Mild Cognitive Impairment Project and (iii) the Mild Depression Project, have been started and evaluated for the pilot phase. With the closer interfacing

with hospitals and district clinics, more frequent monitoring and implementation of self-care, and the greater support in community volunteers for home training, all of the 3 projects have produced good results with regards to health conditions and other aspects of life of the users.

B1.4

Collaboration: What's The Point?

HELEN DICKINSON

Lecturer, Health Services Management Centre, University of Birmingham, United Kingdom

Collaborative working is an important part of healthcare systems around the world. Many societies are experiencing transitional times as they work out how to handle ageing populations who have different types of health needs, alongside new innovations in technologies and the need to contain costs. Collaborative working is most frequently advocated on the basis that it should improve services and therefore outcomes for service users — yet the evidence of this is lacking. Collaboration should not only improve the quality of services delivered but do so in a more efficient manner. This way of working is therefore necessary in re-orientating the English welfare system from a twentieth-century system to one which is capable of delivering the types of services which are required in the twenty-first century.

Operating under a rational model of policy analysis, the observation that partnerships have not improved service user outcomes is potentially problematic. This paper reports on research on English health and social care collaboration and proposes that collaboration has never been fundamentally concerned with improving service user outcomes. This paper makes a case for understanding collaboration in a different way that goes beyond seeing this as a mode of governance but instead as an active tool of governance. This new perspective of collaboration argues that this is a political discourse which has been variously harnessed as an active tool of governance in order to engage stakeholders in a series of reform processes. The value of collaboration therefore is not as an instrumental tool of improvement; but instead in the efficacy of this term which has been exploited as a way of engaging individuals and groups in processes of reform which they might otherwise reject.

B2 — Bringing Innovation into Community Care

B2.1

Following the Logic of Long-Term Care: Creating an Integrated System of Services and Supports

DENNIS KODNER

Professor of Medicine & Gerontology and Director, NYIT Center for Gerontology & Geriatrics, New York College of Osteopathic Medicine of New York Institute of Technology (NYIT), USA

Population ageing — coupled with the dramatic growth in chronic illness — calls into question the ability of healthcare and social service systems around the world to adequately meet the complex, multiple and costly needs of increasing numbers of long-term care (LTC) clients — both the frail elderly and younger persons with disabling conditions. LTC encompasses a wide range of primarily low-tech services provided in home, community and institutional settings by paid professionals and paraprofessionals and unpaid family members and other ‘informal’ helpers. International evidence on the organisation and delivery of LTC services and supports more or less suggests that care is poorly coordinated and disjointed, and frequently suffers from less than optimum quality, efficiency, and accountability and difficult to control costs. If we follow the logic of LTC, an integrated approach is clearly demanded. This presentation examines the rationale for integrated LTC, and suggests key policies, building blocks, strategies, and models that should be seriously considered in forging such a system.

B2.2

Intermediate Long-Term Care in The Netherlands: One for All and All for One

BERT VRIJHOEF¹, BARELDS A², HOLTMAAT V⁴, LUIJKX K²

¹Professor & Doctor, Dept of Chronic Care & Integrated Care, Tilburg University & Maastricht University Medical Center, The Netherlands

²Tilburg University, The Netherlands

³VeroConsult, The Netherlands

New initiatives are being piloted to improve quality of care for people with dementia in the Netherlands. Their common denominator is to improve the outcomes of care by strengthening the interactions of collaborating health care providers with patients and their relatives. Given the complex needs of people with dementia, case management is being applied, whilst a redesign of the care pathway simultaneously takes place. It is hypothesised that case management supports the coordination of care delivery. However, case management needs to contribute to the redesign of how care gets delivered for people with dementia.

In a pilot project in the middle part of the province of North-Brabant, the Netherlands, a study is being conducted to describe the current care pathway for people with dementia, the level of integration within this care pathway, and to what extent case management has an impact on the level of integration of the care pathway for people with dementia.

Data are being collected from 180 patients and their caretakers, 30 case managers and representatives of care providers who play a role in the dementia care pathway. Instruments being used are the Patient Assessment of Chronic Illness Care (PACIC), the Assessment of Chronic Illness Care (ACIC), registries of activities performed by case managers, and group interviews with case managers. Measurements are taken at baseline, +12 and +18 months.

Preliminary results show that case management varies as a result of the professional background of care managers, the needs of patients for whom they manage care, and their working context. More results and conclusions will be presented during the conference.

B2.3

Intergenerational Community-based Rehabilitation Programmes for Less Well Older Adults

JENNY CHUNG

Department of Rehabilitation Services, The Hong Kong Polytechnic University, Hong Kong, China

Adopting an intergenerational approach in the delivery of community care services to older adults may create a win-win situation. Hong Kong, similar to many contemporary societies, has witnessed a weakened bonding between the young and the old generations because of the rise of nuclear families. Getting young people involved in elderly service provision is not only considered a form of service learning but also provides them an opportunity to interact and understand needs of older persons. Moreover, the intergenerational work is seen as a social vehicle, creating purposeful and reciprocal exchange of resources and learning among older and younger generations.

Two community-based rehabilitation programmes, adopting the intergenerational approach, were developed. One is an intergenerational reminiscence (IR) programme, which successfully engaged 121 youth volunteers (secondary school students) in the delivery of 12 reminiscence sessions, with guidance and ongoing support from an occupational therapist to 51 older adults with early dementia. Upon the completion of the IR programme, the psychological functioning of older adults with early dementia and the

knowledge of ageing and dementia and self-esteem of youth volunteers were examined. Another project is named 'Safety Angels for Fall-Risk Prone Older Adults', in which 55 university students and working younger adults conducted home safety assessments and follow-up intervention, under supervision and guidance of occupational therapists to community-dwelling older adults who have had prior history of falls. Both programmes suggested the values and feasibility of engaging the younger generations in the delivery of community-based services to older adults who are less well.

B2.4

Bringing Innovation into Community Care

NIPIT PIRAVEJ

Chief Corporate Officer, Bangkok Chain Hospital, President, Center for Healthcare Management Innovation Thailand Board Member, Thai Medical Informatics Association, Bangkok Chain Hospital PCL and Center for Healthcare Management Innovation, Thailand

The new healthcare system will be driven by higher consumer demand and expectation as a result of ageing boomers and rising generation X and Y. The consumers' perspective of healthcare quality is no longer limited to patient safety, good health outcome, but will also extend to nice experience and reasonable price. For the regulators and quality improvement organisations, the response will be to raise their standards further to ultra micro issues, requiring clinical documentation and reconciliation to almost all aspects of patient care in utmost details, making it beyond the capability of the traditional system to cope with. On the other hand, medical professionals will react by moving towards super sub-specialisation to reduce their own immediate risks, leaving the system and care to become even more fragmented and very likely also resource intensive. Moreover, to be more effective in chronic care which will be the challenge of the near future, it is also well known that patients need to be informed and activated for their own self-management. Under the traditional system, the process of information collection, communication, education and motivation is again very resource intensive. In brief, the new healthcare system, even at the front line community level, will be very information, integration, coordination, communication and hence resource intensive. The most feasible way is to use information communication technology (ICT) as key enabler tool through establishing an ICT platform that links patients or healthcare consumers (as well as their automated devices) from their homes and/or work places to their community centres which will on the other hand be connected to secondary and tertiary care networks. This closed loop system will also ensure that patients and their providers are fully engaged so that care

can be provided anytime and anywhere to the users for better and more sustainable health outcome.

B3 — New Models of Care for the Frail Elderly: Programmes and Practices for the Complex Patient

B3.1

Successful Models of Primary Care for Patients with Chronic Conditions

CHAD BOULT

Professor, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, USA

Older patients with multiple chronic health conditions and complex healthcare needs often receive care that is fragmented, incomplete, inefficient, and ineffective. To help inform efforts to overhaul ailing healthcare systems, including those related to the 'medical home', we sought to identify new comprehensive primary care models which have improved the quality, efficiency, and/or health-related outcomes of care for older persons with multiple chronic illnesses.

We searched the MEDLINE database for articles published in English from 1 September 1999 to 31 August 2010 that reported positive results from high-quality studies of comprehensive models of primary care for multi-problem high-cost older patients. From this search, we identified 2 types of models that have improved at least 1 of the target outcomes: interdisciplinary comprehensive primary care teams and traditional primary care augmented by specialised health-related services. Four processes were essential components of both of these model types: comprehensive patient assessment, evidence-based care planning and monitoring, promoting patients' and (family caregivers') active engagement in care, and coordination of providers of healthcare — all tailored to the patient's goals and preferences.

Policy makers and healthcare leaders should consider including these processes and models of healthcare in their plans for transforming present healthcare into high-quality, cost-effective systems for the future.

B3.2

The Pharmacy Outreach Programme (POP) Experience at NUH

CHAICHARN LUANGKAMTHORN

Senior Pharmacist, Pharmacy, Clinical Support Services, National University Hospital, Singapore

Aim: The purpose of the study is to identify and document poor medication management during pharmacist-care-coordinator joint home visits and to explore the factors affecting poor medication management.

Introduction: As a result of an earlier study done to identify the extent of poor medication management in the homes of the elderly using Coleman's Medication Discrepancy Tool (MDT), the study triggered the need for the service of the pharmacist, hence the Pharmacist Outreach Program (POP) was proposed. This programme includes a joint home visitation by the pharmacist and the care coordinator with a focus on identifying and documenting patient level and system level discrepancies, assessing medication adherence, performing medication reconciliation, assessing proper usage of medication devices, performing drug utilisation review, resolving identified issues through follow-up and collaboration with the prescribers when necessary, and answering questions and concerns that patients/caregivers may have about medications.

Methods: Coleman's Medication Discrepancy Tool (MDT) was used for this pilot study.

Results: As of December 2010, 22 patients were recruited for the study. Demographic information showed that 63% were female, 82% of them were above 70 years of age, 50% lived with their children and 41% identified the maid as the main caretaker. Clinical information revealed that 50% of them had more than 5 comorbidities and 72% had more than 6 long-term medications. Causes and contributing factors at the patient level identified that 31% and 41% of patients were non-adherent to their medications intentionally and unintentionally, respectively. Twenty-seven percent of the patients were also found to have performance deficit. At system level, 13% had conflicting information from different sources and 5% had discharge instructions incomplete, inaccurate or illegible. Patient medication education was surveyed at the end of 1 month. An average rating of 3.2 out of possible highest 4 points was rated by the patients.

Conclusion: While this is still an ongoing study, the preliminary findings have demonstrated the changing landscape of social and demographic population of Singapore. Many factors can contribute to medication

discrepancy and can result in patient non-adherence. These factors need to be identified and recognised by healthcare professionals and appropriate actions should be taken to decrease patient non-adherence and to increase patient compliance. It is also of vital importance to educate both the patients and caretakers on how to properly take/give medications.

B3.3

The Value of the Community Matron in Managing Complex Patients

SANDRA BIRNIE

Service Development Manager, Department of Strategy, Business and Performance, NHS Western Cheshire Primary Care Trust (Provider Services), Cheshire, United Kingdom

Over 15 million people in England report living with a long-term condition. While many receive quality health and social care, there is a need to ensure that this care — particularly for those with the most complex conditions — is properly coordinated.

Case management is a generic title for a range of approaches to improve the organisation and coordination of services for people with the most severe, complex health problems.

Through proactive case-finding, coordinating, managing and reviewing the care of an individual, case management contributes to supporting patients to manage their own condition and the avoidance of unplanned hospital admissions.

However, there are some individuals with very complex and intensive clinical needs who will require input from a Community Matron, a qualified nurse who can provide advanced nursing and clinical care as well as effective case management.

This session uses a case study approach to demonstrate the way in which the additional skills of Community Matrons can be effective in reducing unscheduled hospital admissions for a patient with complex long-term conditions living in the community.

The case study illustrates the way in which the Community Matron uses advanced skills in clinical examination and diagnostics to assess the patient to inform the development of the ongoing personalised management plan. It also shows how the prescribing of medication by the Community Matron is an integral part of the process and how crisis situations can be managed without necessarily resulting in an acute admission.

B3.4

A Model for Integration between an Acute and a Community Hospital

TAN THAI LIAN

Clinical Director, Ren Ci Hospital & Medicare Centre, Singapore

Introduction: With different institutional models of healthcare and financing policies, implementing a continuum of care for patients to transit smoothly from a restructured hospital to a community hospital setting presents a set of challenges and inefficiencies that need to be addressed. Ren Ci Hospital and Medicare Centre and Tan Tock Seng Hospital have attempted to work on care integration through the appointment of a Joint Clinical Governance Working to oversee the clinical governance and manpower capacity matters for better care integration.

Methods: The initiatives that have been implemented include manpower secondment of medical, nursing, and operations staff, skills-based training to provide for higher care needs, provision of onsite specialist services from various medical, nursing and allied health disciplines, access to clinical support services (e.g. laboratory, radiology), facilitated direct admissions to TTSH, and access to clinical data systems, etc.

Results: There was a three-fold increase in admissions to Ren Ci over 15 months from January 2009 to March 2010; a 61% reduction on unplanned admission rates from Ren Ci to restructured hospitals over 1 year; and savings in acute bed days arising from Ren Ci's continued care for patients who required intravenous antibiotics.

Discussion and Conclusion: The Ren Ci-TTSH care integration model has provided benefits to both institutions as well as the patients along the continuum of care. For the rapidly ageing population of Singapore, such collaborations are crucial to ensure that older patients with complex medical conditions who require slow stream rehabilitation receive the most appropriate level of care and clinical services.

B4 — *Unbecoming Sick: The Roles of Disease Prevention and Health Promotion*

B4.1

Health Promoting Health Services – The Singapore Approach

RUTH PANG

Manager, Integrated Screening, Healthy Ageing Division, Health Promotion Board, Singapore

Healthcare services in Singapore have been involved in health promotion activities since the early 1980s, when smoking cessation services were offered at polyclinics and public hospitals. The launch of the National Healthy Lifestyle Campaign in 1992 increased awareness of the importance of preventive health and provided the impetus for healthcare services to broaden the scope of health promotion activities.

To meet the challenges of Singapore's rapidly ageing population and increasing chronic disease burden, health services are re-orienting to meet not only the needs of the unhealthy, but also the at-risk population, to encourage our people to age well in place.

To better integrate and align national preventive health efforts, HPB formed the Health Promoting Health Services (HPHS), a coalition of health services sharing the vision of better health for all through primary prevention. The HPHS coalition aims to improve the health of patients, staff and community by providing leadership and guiding principles to help health service providers improve population health outcomes through coordinated evidence-informed strategies and programmes. The objective is to prevent or delay the onset of diseases, to reduce the burden on the healthcare system.

HPB supports the HPHS coalition by providing *leadership* and *funding* to achieve alignment for national preventive health priority areas, *capacity building* to develop and implement effective preventive health initiatives, *structured tools* to track and evaluate progress, and *networking opportunities* both locally and internationally, together with the World Health Organisation's International Network of Health Promoting Hospitals and Health Services, to learn and share to optimise health outcomes.

B4.2

The Singapore Action Plan to Improve Health Literacy

SHIRIN WADIA

Manager, Healthy Ageing Division, Health Promotion Board, Singapore

Introduction: Recent research has demonstrated that while general literacy levels are important, high levels of the same do not necessarily imply good health outcomes in a population. ¹Singapore has a high level of literacy, with almost 96% of its population aged 15 and above being literate. ²However, as evidence demonstrates, this does not necessarily translate into high levels of health literacy and consequently, better health outcomes.

As in many parts of the world, health literacy in Singapore is a relatively new area albeit one that has important ramifications for health promotion and disease prevention. HPB defines health literacy as “the degree to which people have the ability to obtain, understand, assess and communicate health information and services needed to guide healthier decisions. These decisions occur at home, at work, in school, in the healthcare system and in society as a whole.”

Methods: In 2010, Health Promotion Board (HPB) developed an Action Plan to Improve Health Literacy in Singapore. Priority areas identified were — supporting health literacy research, evaluation, training and practice; enhancing the dissemination of timely, accurate and appropriate health information to health professionals and the public, and designing health literacy improvements to healthcare and public health systems that enhance access to health services.

Results: The presentation will detail some of HPB’s current efforts in the area of operationalising the Action Plan. These include developing plain language guidelines for health communication as well as developing an appropriate tool to measure health literacy levels locally.

Conclusion: HPB hopes to work closely with its partners across the healthcare family to achieve its vision for a health literate Singapore “where people can find, understand and use health-related information and services that will guide them in making informed decisions to enhance their quality of life.”

REFERENCES

1. Crawley, 2000; UNICEF, 2000; cited in Kickbusch Ilona S. Health Literacy: Addressing the Health and Education Divide Health Promotion International 2001; Vol.16, No.3 289-297.
2. Department of Statistics, Singapore, Yearbook of Statistics, 2009. <http://www.singstat.gov.sg/pubn/reference/yos09/yos2009.pdf>

B4.3

Diabetes Prevention: Successful Implementation of Public Health Programmes

JAMES DUNBAR¹, PRASUNA REDDY²

¹Professor and Director, Greater Green Triangle, University Department of Rural Health Flinders and Deakin Universities, Australia

²Director of Research, Greater Green Triangle, University Department of Rural Health Flinders & Deakin Universities, Australia

Type 2 diabetes is an escalating problem worldwide and is of great public health concern. There is good evidence from randomised controlled trials that structured lifestyle programmes can prevent or delay the onset of type 2 diabetes, but they are costly, individual-based intensive diet and physical activity interventions. In Australia, our research team has developed a group-based lifestyle intervention programme for adults who are at high risk of diabetes. The programme provides practical skills, including goal setting and problem solving to meet targets for improved nutrition, physical activity and moderate weight loss. The 6-session programme is delivered by specially trained health professionals who have completed an accredited facilitator programme. A quality assurance process is in place to ensure the program is delivered to a consistent standard. To date, nearly 6000 people have enrolled in the group sessions. This paper describes the development of the Australian diabetes prevention programme, the results of the implementation trial, the training of facilitators, and the process of scaling up the programme to a public health intervention. We also present insight into the behavioural change process attained through analysis of quantitative and qualitative data provided by participants.

B4.4

Engage in Life

AUDREY TAN

Senior Consultant, Health Promotion, Department of Clinical Programmes, National Healthcare Group, Singapore

Engage in Life is a programme based on a Swedish programme called ‘Passion for Life’. It was modified to our local context by a team from the Department of Continuing and Community Care, Tan Tock Seng Hospital and National Healthcare Group.

The original Passion for Life programme consists of 6 Life Café sessions where groups of about 15 to 20 people meet once a month to discuss different health topics at each session. The key component of the programme is using the PDSA (Plan, Do, Study, Act) cycle to help participants build bridges between what they know they should do and actually implementing them in their lives.

Engage in Life is targeted at people 50 years old and above. It aims to impart information and skills on good health habits so that participants are empowered to prevent ill-health, to improve their quality of life and be able to live life to the fullest. During the 6 three-hour sessions, participants were given information on successful ageing, osteoporosis, home safety, healthy eating, physical activity

and social networking. They were asked to observe their current practice in each of these areas, and then think about how they could improve in each of these areas using the PDSA approach.

One pilot run of the programme was carried out from August to September 2010. Majority of the participants found it useful and that it had given them the information and skills to live a more fulfilling life. Feedback and comments on the programme were very positive.

Based on the feedback, further improvements will be made. The course will be offered to the community and further evaluated.

B5 — Enabling Care at Home — The Role of Technology

B5.1

Tectonic Shifts in Healthcare: Lessons Learned from Emerging Models

RAVINDER SINGH

Head of APAC Sales Consulting for Oracle Health Science Global Business Unit, Oracle Corporation, Singapore

Resource scarcity and the steady uptake of ICT in healthcare are 2 transformative forces which are bringing a radical redesign of the processes through which care is delivered. Economic and ethical decisions must be made by any society as to how these resources will be allocated to keep its citizens and financial system healthy. This paper explores some emerging care collaboration models worldwide, framed by evidence-based health outcomes and related policies.

B5.2

Mobile Health: Improving Patient Outcomes on the Move

GAYL HUMPHREY

Manager, Strategy and Implementation, Auckland District Health Board, New Zealand

The growth in the number of people affected by long-term condition(s) is growing globally. The current models of care from diagnosis, to treatment, to maintenance, to end-of-life care are rapidly being challenged. These challenges are multifaceted (e.g. workforce shortages, reduced financial resources, increasingly expensive treatments and pharmacotherapy, changing demographics and pandemics). Technology has the potential to act as an enabler for change

to our models of care.

Telehealth is one such enabling technology which is now rapidly gaining momentum worldwide. This presentation describes a small Telehealth Heart Failure Proof of Principle study. The underlying principal of the study was that through supporting and empowering patients, they could have greater control over their well being and actively make informed decisions about their health needs. The benefit of telehealth technology is that it enables biometric measurements and any key symptoms, to be taken at home (or anywhere) and then transmitted to healthcare professionals who are able to monitor and review the conditions. This connected health approach offers support to patients when learning about their condition(s) and taking appropriate actions.

The key difference is that we used a non-dedicated health unit to collect and transmit readings, that is, the Mobile Phone and blue tooth technology. The biometric equipment utilised are medically approved blood pressure and pulse monitors, and weight scales to ensure accuracy and confidence by the health team and these were blue tooth enabled. One benefit of using Mobile Telehealth is that it can be used anywhere where there is mobile phone coverage, and the uptake and familiarity of mobile phones amongst the New Zealand population is high. Furthermore, patients are not limited by the technology. In other words, the mobile ability means that they are able to take the solution with them when travelling or when going on a holiday. Healthcare professionals could also be located anywhere as it is a web-based programme.

A brief summary of the study and key outcomes will be presented, as well as the direct and wider learnings the project provided and plans for further developments.

B5.3

Healthcare 2015 and Care Delivery

BARBARA ARCHBOLD

Healthcare Leader SE Asia (ASEAN), IBM Government and Healthcare Services, IBM Singapore

The landscape for Care Delivery Organisations (CDO) are changing. CDOs and clinicians should prepare for the shift to a value-based healthcare environment featuring greater citizen activation and new care delivery models, but under resource challenges. CDOs can lead or participate in multiple types of innovation in business model, services or product innovations, examining possibilities of hospital care at home, concierge medicine, new medical devices among other innovations. This session will touch on possible service delivery models, enabled by various technology and recommendations for care providers.

C1 — Transforming Centre-Based Care for the Frail Elderly

C1.1

Lessons from On Lok

MARIE-LOUISE ANSAK

Founding Director, On Lok Senior Health Services and PACE, Singapore

On Lok Senior Health Services is a programme started in 1972 in San Francisco, California as an alternative to the construction of a culturally-sensitive nursing home in the community.

It started as a small ‘day health centre’ modelled after the British day hospital, led and operated by a multidisciplinary team in cooperation with the participants and their family. This experiment soon demonstrated the need to integrate home care, medical care and housing into the programme.

With its success and research documentation, it was able to convince the US federal government’s Medicare programme to fund the resulting integrated long-term care programme into a demonstration project with ‘capitated’ reimbursement for all health and social services to its enrolled nursing home eligible elderly.

Another successful demonstration period led ultimately to permanent funding legislation and a replication effort which today operates close to a hundred programmes all over the United States under the name of PACE (Program of All-inclusive Care for the Elderly).

C1.2

Moving from ICP to SPICE

PEE LAY LAY

Centre Manager, Bedok Multiservice Centre, Singapore

In September 2008, Integrated Care in Place (ICP) programme was implemented at Bedok Multiservice Centre with funding from the Lien Foundation. This 2-year programme introduced a new model of Eldercare case management in Singapore with objectives to prevent **early institutionalisation** and to promote **active ageing** in place.

The ICP programme had a multidisciplinary team made up of a registered nurse, a social worker, an occupational therapist and a psycho-geriatrician. Some of the services rendered by the team included cognitive assessments, nursing procedures (such as wound dressing, removal of stitches, catheter change, and medication management),

coordination of medical appointments/transportation, home assessments, behaviour management, caregiver trainings, family mediation, counselling and mobilisation of other community resources. At the end of the 2-year ICP programme in September 2010, ICP had benefitted about 80% of clients at Bedok Multiservice Centre, of which about 10% were admitted into a nursing home as a last resort.

However, with the restructuring of day care programmes by the Ministry, Bedok Multiservice Centre moved on to take on more dependent cases and the original concept of ‘**early intervention**’ as introduced by the ICP programme became impossible. Thus the services rendered became one of **delaying institutionalisation** and to alleviate the tight bed situation in restructured hospitals and nursing homes.

With the acceptance of these more dependent cases, Bedok Multiservice Centre decided to adopt the SPICE model introduced by the Agency for Integrated Care (AIC) with funding from Temasek Care. SPICE still provides similar services as those of ICP but functions with more manpower, better-equipped transportation facilities (staircrawls), more meals and extended operation hours to cater to the needs of the now more dependent cases.

C1.3

Care Beyond the Centre — An ‘IN-Community-Care’ Approach in CFSC Day Care Centre for the Elderly, Hong Kong

JANICE YUEN SUK YEE

Programme Director (Elderly Care), Christian Family Service Centre, Hong Kong, China

‘IN’ is a slang in Hong Kong to connote a sense of modernity, advancement, trendiness or something integral. Other than that the first letter I represents Innovative. Services of Day Care Centre for the Elderly (D/E) in Hong Kong conventionally are not ‘IN’ as the elders are usually cared for in geriatric chairs like economy class flight seats and they always have to sit. Besides, activities are usually confined to the centre, which are partitioned into dining room or activity room.

In 2009, Christian Family Service Centre (CFSC) was offered by the SAR Government to operate a D/E with its innovative ‘IN-Community-Approach’ at a new public housing estate. The first ‘IN’ is its home-like physical setting which makes the users receive family and friendly care. The second ‘IN’ is the welcome of users’ domestic maids to become the D/E volunteers and assist in the care of the elders. Their involvement not only enhances their caring

skills but also enables them to have mutual support and relieve stress. The device of the geriatric chair is another 'IN' as the chair can be reclined like a bed for the users to enjoy a nap, which is rare at most space-limited D/Es in Hong Kong. The most prominent 'IN' is the integration with CFSC's other service units especially the 2 District Elderly Community Centres (DECC) and Health Centres. Social Workers from the DECCs are regularly stationed at the D/E to provide counselling, caregivers' support, educational outreach and volunteer activities for its users. Multi-professionals including dentists, dietitians and Chinese medical practitioners from CFSC Health Centre will also be invited to the D/E to provide consultation or educational programmes for improving users' health. Another significant 'IN' is its extension of support service to other community users with collaboration with other professionals, community leaders, church and local bodies. These extended services include community-orientation programmes, repair and maintenance of rehabilitation equipments, neighbouring-link activities, home modification consultation and help desk which aim to empower the elders and their caregivers to age with their families. These open-door services have indeed instilled a great sense of community care in the new housing estate for which not only the users but all the elders in the community have greatly benefitted. In conclusion, the above 'IN' service strategies are based on a holistic view from which integrated care at the D/E is radiated for the elderly at the community physically, socially, economically, psychologically or spiritually.

C1.4

Integrating Health and Long-Term Care in New Zealand: An Assessment

ROBIN GAULD

Associate Professor of Health Policy, Dept of Preventive and Social Medicine, University of Otago, New Zealand

Policy makers and service providers in New Zealand have over a decade of experience in working to integrate health and long-term care for older people (over 65 years old). A range of approaches and organisational forms have resulted. This paper will look at the policy drivers and settings for integrated care initiatives, the various funding and organisational models for integration and programmes that have emerged, and explain why, for the most part, genuine integration of health and long-term care services has not transpired. The paper will also look at the prospects for present attempts by the government to propel progress with integration of older person services via new Integrated Family Health Centres.

C2 — Sustaining Patients at Home: The Role of Home Based Care

C2.1

Engaging the Elderly in Preventing Falls in the Community

NOOR HAFIZAH ISMAIL

Senior Consultant Geriatrician, Department of Community and Continuing Care, Tan Tock Seng Hospital, Singapore

Engaging the community to promote health prevention activity is not a new concept and it has been a good way to achieve public health goals especially in groups with poor health. It involves partnership and collaboration to help mobilise resources, change mindsets and behaviour and perhaps even influence systems.

Falls are common causes of accidental injury in the elderly, resulting in significant use of acute health resources and long-term care as a result of permanent disability. Fall prevention research has shown that community-based programmes that involve evaluation and multi-factorial intervention which include physical exercise have shown reduction in fall rates. Translating these evidence into practice which is acceptable to the elderly was the challenge that we faced as we attempt to engage them in fall prevention activities. The elderly are well known for their reticence to change. However, research has shown that the elderly value their independence, confidence and a positive self-identity. Promoting this programme as a preventive health approach to improve physical function and maintain independence as well as self-empowerment has helped in the buy in of the programme. By implementing this programme in the community where the elderly socialise in groups has encouraged the elderly to view it as an acceptable and positive activity and encourage adherence. The impact of the programme on falls and health utilisation in the community will only be evident many years later when change in behaviour has taken place in the community. The short-term outcomes from the pilot project have shown improvement in physical functional measures and falls efficacy.

C2.2

The Beauty and Challenges of Home Care Nursing Practice in the Hua Mei Mobile Clinic

FONG YOKE HIONG

Senior Nursing Officer, Hua Mei Mobile Clinic, Tsao Foundation, Singapore

Hua Mei Mobile Clinic is a team-managed, home-based, primary care practice that cares for the homebound

frail elders. The nurse in the team has a unique role and responsibility. This presentation shares and discusses on the training, the roles and the nature of work for a home care nurse working in a team.

C2.3

Home Ventilation

CHAN YOKE HWEE

Senior Consultant, Department of Paediatric Subspecialties, KK Women's and Children's Hospital, Singapore

The advance in medical knowledge and technology has brought about the advent of home-based medical care for chronically ill children, including ventilator-dependent children. The shift towards home-based care for these children requiring chronic medical support stems from various factors: improved survival of critically ill children, availability of home medical equipment including ventilators, move towards reducing hospital healthcare costs as well as awareness of the psychological and developmental benefits of homecare.

The main aims of a homecare programme is to facilitate holistic and integrated care for this group of patients with multiple medical problems, to enable integration of child and family into the community, to provide financial and psychological support as well as to decrease hospital admissions.

For a paediatric home care programme to be effective and safe, it should comprise of a multidisciplinary team of paediatric pulmonologist or intensive care specialist, homecare nurse specialist, social worker and respiratory therapist. Careful patient selection is done based on various criteria including cardiopulmonary stability, availability of caregivers who are adequately trained, psychological readiness of the caregivers, and a home environment that is assessed to be safe. A 24-hour emergency equipment support service must be available. Medical or nursing help must be readily accessible.

Home care may not be the best choice for every technologically dependent child. The psychological and financial impact of prolonged hospital stay must be weighed against the stresses and the readiness of the society of caring for these children in the community.

C2.4

Implementation of a Home Rehabilitation Service for Patients in Changi General Hospital

ADELINE LEE

Senior Occupational Therapist, Rehabilitative Services, Changi General Hospital, Singapore

Introduction: Demand for home rehabilitation has increased due to the increase in elderly population in Singapore. With increasing pressure on centre-based facilities due to the ageing population, home therapy has grown increasingly attractive as the alternative for elderly patients who lack the ability to access centre-based rehabilitation.

Aim: This article focuses on the implementation of a home-based rehabilitation service to CGH patients.

Methods: This service consists of a home-based assessment and rehabilitation programme delivered to patients referred from CGH clinics and wards by experienced senior therapists from physiotherapy, occupational therapy and speech therapy. Workflow, services offered, referral procedures, costing and billing arrangements, electronic appointment scheduling, portable therapy equipment were identified, reviewed and implemented in 7 months. Service information and referral procedures were briefed to the hospital wards and clinic managers during a series of road shows to create awareness and improve referral volume and case acceptance rates. To optimise the programme, the therapy team consulted external agencies offering a similar service to learn best practices.

Results and Conclusion: Since service inception in May 2010, a total of 32 patients have received this service, with a total of 88 visits in 5 months. A monthly multidisciplinary case conference was instituted 3 months into the service to review and update individual patient's therapy programmes to improve outcomes. The biggest obstacles to the programme's success are lack of awareness, coupled with cost recovery from delivering the programme. Further research into home-based care is required to optimise delivery of care to patients.

C3 — Techniques of Empowerment: Using Motivation, Support and Self Care with Patients

C3.1

Empowering Patients to Make Meaningful Decisions through Motivational Interviewing: The Asian Experience

FIONA MCMASTER

Project Director, BMI squared, Health Behavior and Health Education, University of Michigan, United States

Introduction: Motivational Interviewing (MI) is a client-centred counselling technique that has been evaluated in over 200 randomised controlled trials across a range of behaviours and settings, yet questions remain about the extent to which this is appropriate with Asian populations.

Aim: This presentation will explore the experiences of clinicians who have been trained in Motivational Interviewing in Singapore, and review the evidence around using MI in Asian Populations.

Methods: Using purposive sampling, groups of MI-trained clinicians were invited to participate in semi-structured interviews. Interviews were recorded and transcribed, and analysed thematically.

Results: All had received a minimum of 2 days of MI training, but limited follow-up training or supervision. Clinicians had all been incorporating MI into their practice during the months following training. They generally accepted that MI could be useful in their setting, and many gave concrete examples of positive outcomes observed in their patients. All participants cited institutional support as being key to maintaining and developing their MI skills, with several clinicians reporting feeling isolated as lone MI practitioners within their workplace. They diverged over whether they used MI in different languages and with different ethnic groups.

Conclusion: Clinicians find MI a useful tool in counseling patients, and in improving both immediate and longer term disease outcomes in patients, but need peer and institutional support to be able to maintain their skills.

C3.2

A New Approach to the Clinical Challenge of Diabetes Care: Peer-facilitated Group Programmes

JAMES DUNBAR¹, PRASUNA REDDY²

¹Professor and Director, Greater Green Triangle, University Department of Rural Health Flinders and Deakin Universities, Australia
²Director of Research, Greater Green Triangle, University Department of Rural Health Flinders & Deakin Universities, Australia

The need for regular lifetime clinical care and the daily requirements for self-management of chronic disease argue for creative systemic solutions that enable individuals, health professionals and society to manage diabetes. People with diabetes need more than medical treatment from their healthcare providers: they also need support in mastering and sustaining complex self-care behaviours and controlling multiple risk factors. Primary care health professionals often find it impossible or too costly to provide close supervision on an ongoing basis. Many patients will not succeed in managing their condition well, leading to poor health outcomes, including avoidable expensive and debilitating complications. Providing high-quality peer support allows for better self-management and use of clinical services, and also functions to assist people dealing with the impact of diabetes on daily living and quality of life. In this presentation, we introduce a sustainable approach to enhancing diabetes primary care. It uses lay peer leaders, diabetes self-care education and non-directive group facilitation as the basis for peer support linked to the patient's clinical care. The programme can play a significant and cost-effective role in managing the impact of diabetes, especially among people with low health literacy.

C3.3

Strategies to Support Self-Management in Chronic Conditions

PATRICK MCGOWAN

Associate Professor, Centre on Aging, University of Victoria, Canada

Introduction: Over the past decade, a dramatic rise in the prevalence of chronic conditions has emerged, altering the way in which care is delivered and received. This has resulted in the formation of partnerships between healthcare providers and patients with the aim of enhancing self-management of chronic conditions.

Methods: A provincial nursing association conducted a survey that uncovered an expressed need from Registered Nurses for a Best Practice Guideline on Self-Management Support. The guideline was developed based on an established guideline development methodology involving an expert panel, a comprehensive literature review, and

stakeholder analysis.

Results: The outcome of this project is an evidence-based Best Practice Guideline that supports nurses and other allied health care professionals in all practice settings, including community health, in providing self-management support for patients and families with chronic conditions. Optimal self-management for the individual living with a chronic illness is not always possible. Recognition of such difficulties has led to the development of this best practice guideline which serves as a resource for nurses and other health providers as they continue to engage patients in the use and proficiency of self-management interventions.

Conclusion: The self-management support guideline was completed in September 2010. Participants of this presentation will gain: (1) an understanding of the significance of self-management support in community health, (2) an overview of the self-management support guideline key recommendations; and (3) an overview of how to apply the self-management support guideline to community nursing practice.

C4—Integrated Care Pathways : The Next Frontier

C4.1

Integrating Delivery Systems to Achieve High Performance: What are the Commonalities?

NICHOLAS GOODWIN

Senior Fellow, Department of Health Policy, The King's Fund, United Kingdom

This paper seeks to describe some international examples of care integration at a systems level where there is evidence of positive impact in terms of care quality and productivity. A number of examples of integrated delivery systems are described including an investigation of the core components that appear to be common in achieving better outcomes over what might be described as 'usual care'.

These components include:

- multispecialty medical groups in which generalists work alongside specialists to deliver integrated care;
- care co-ordination in which care providers act as pro-active advocates in securing the right care for patients according to their needs;
- a focus on prevention, both primary and secondary;

- pro-active patients, supported in the management of their own illness and empowered to make choices about their care;
- aligned governance and financial incentives;
- information technology that supports the delivery of integrated care, especially via the electronic medical record and the use of clinical decision support systems;
- the use of guidelines to promote best practice;
- accountability for performance to stakeholders and the public and a commitment to quality improvement;
- working with a defined population;
- effective medicine-management by linking clinical and organisational skills; and
- a collaborative culture that emphasises team working and patient-centred care.

The performance of integrated systems therefore rests on a bundle of factors. Although there have been no studies that have examined the relative importance of these factors, it is plausible to argue that it is their combined impact that lies behind the achievements of integrated systems rather than individual factors.

C4.2

How can System Re-design Facilitate Healthcare Integration?

BERT VRIJHOEF

Professor & Doctor, Department of Chronic Care & Integrated Care, Tilburg University & Maastricht University Medical Center, The Netherlands

Current healthcare systems are designed to predominantly deliver care for people with acute healthcare problems. Care is being provided to deal with symptoms on a reactive base with medical expertise as main source for decision making. Given the specific needs of people with chronic diseases and the increasing number of people with such health problems, systems need to be redesigned. Keeping existing systems unchanged will certainly not be sufficient.

Various strategies are being introduced to improve the quality of chronic care by means of overcoming fragmentation. Well known examples of these strategies are disease management programmes and the chronic care model. To assess to what extent these strategies overcome fragmentation and thus

strengthen integration, one has to identify what is causing fragmentation in order to implement strategies to improve the suboptimal situation.

International reviews show that disease management programmes at most result in outcomes equivalent to those stemming from usual care. When ‘external’ vendors deliver such programmes, the level of fragmentation (e.g. care delivery, communication) might even increase. Disease management programmes are not population-based, as these programmes enroll people already diagnosed with a disease. Further, these programmes address single disease instead of comorbidity and focus on patient communication and education only.

For patients to engage in proactive care (delivery system design), practices need to be able to view all of the patients in their panels (clinical information systems) who need certain guideline-based treatments (decision support), and patients must agree to any changes in their care and integrate them into their lives (self-management support). Chronic Care Model based interventions focus on practice redesign across most or all of 6 elements. The Chronic Care Model is not a discrete, immediately replicable intervention; it is a framework within which care delivery organisations translate general ideas for change into specific, often locally distinctive applications. Although not definitive, published evidence suggests that practices redesigned in accord with the Chronic Care Model generally improve the quality of care and the outcomes for patients with various chronic illnesses.

C4.3

Financing for Better Integration

ANTHONY TAN

Director, Healthcare Finance & Corporate Services Division, Ministry of Health, Singapore

Healthcare integration will require proper financial systems and processes to be in place to enable the right-siting of patients. Effective financial counselling and hassle-free patient transfers are key determinants of patient satisfaction and ultimately, enablers that facilitate right-siting. However, in reality, financial counselling in our public healthcare system as well as ILTC sector have fallen short of expectations and patient transfers are cumbersome. In addition, there is a need to ensure that the government subsidies and patient financing framework (in the form of Medisave, MediShield and ElderShield) do not present obstacles for patients seeking treatment in the clinically most appropriate and cost-effective setting. Until these issues

are resolved, true and effective integration of healthcare in Singapore will be difficult to realise. The presentation aims to outline the work done so far by MOH in the area of financing integrated care and presents the challenges going forward.

C4.4

Singapore’s ICP Programmes: Hip Fracture in TTSH

GANESAN NAIDU

Consultant, Department of Orthopaedic Surgery, Tan Tock Seng Hospital, Singapore

The Hipcare Pathway in Tan Tock Seng Hospital has been in place for the last 10 years. It follows patients with hip fractures from admission to discharge and has uplifted the quality of care in terms of less complications and favourable outcome. This is achieved via integration of care among the various stakeholders, namely Orthopaedics, Geriatric Medicine, Physiotherapy, Occupational Therapy, Nursing and Rehabilitation Medicine. Case managers (care coordinators) steer the patient through the care process and ensure the patient is appropriately discharged and right-sited for continuation of care.

With the ageing population, hip fractures will rise exponentially. The Hipcare Pathway has to be optimised and integrated with the community and primary care to ensure the continued success of our programme. This is not only possible but reproducible in each regional cluster. In the long run, integration of this complex medical condition is guaranteed to cut healthcare costs and more importantly, optimise patient recovery, activity and benefit society in general.

C5—*Talking about Life! : The Meaning of Advanced Care Planning*

C5.1

Project CARE

SIEW CHEE WENG

Associate Consultant, Tan Tock Seng Hospital, Singapore

A collaborative pilot programme between Tan Tock Seng Hospital and voluntary nursing homes that deals with the introduction of a system change in end-of-life care provision is discussed.

C5.2

Advance Care Planning – Insights from a Palliative Programme for Advanced Diseases

ANGELINE SEAH SOEK TIAN

Consultant, Department of General Medicine, National University Health System, Singapore

The NHG Advance Care programme integrates hospital specialist and community palliative resources in managing patients suffering from end-stage heart, lung and renal disease. The programme started admitting patients from May 2008 and has managed 446 patients at the end of September 2010, with 50 deaths from COPD, 102 from end-stage heart failure, and 112 from end-stage renal failure.

Apart from symptom control, carer training and support, a key component of the intervention is open communication regarding the degree of severity of the medical condition, prognosis and disease trajectory. Interweaving this medical communication is Advance Care Planning. While this has been understood to be a process of shared decision-making with patients, family and healthcare providers for healthcare decisions, the process of eliciting an accurate reflection of appropriate care for these vulnerable patients takes several steps. Firstly, the patient's values are sought utilising life review which recalls significant life events and choices made. Patient and families are guided to reflect upon these conversations to affirm, focus and make sense of the patient's life, in the context of nearing life completion. Emphasising the patient's own values and preferences, with a clear knowledge of the medical condition and options available, Preferred Care Plans are documented. These plans guide treatment decisions and relieve families of the burden of making the decisions for their loved ones in a time of grief.

A complex, individualised and challenging aspect of holistic medical care, Advance Care Planning is an increasingly important piece of information which provides clinical guidance in this era of technological medical advancement.

C5.3

Advance Care Planning in End-Stage Renal Disease – The Singapore Experience

GRACE LEE

Senior Consultant, Department of Renal Medicine, Gleneagles Hospital, Singapore

End-stage renal disease (ESRD) is a chronic illness with reduced life expectancy. Patients nearing their end-of-life frequently are maintained on dialysis despite poor prognosis and quality of life. Studies have shown that patients with advance directives and who electively withdraw from

dialysis are more likely to experience good deaths.

The renal palliative care initiative (RPCI) was formed in August 2007 with the aim to develop and implement a comprehensive advance care planning (ACP) programme for patients with renal disease in Singapore. There are 4 planned phases: (1) to increase awareness and educate renal healthcare professionals and (2) to increase awareness and educate patients and their families, (3) to develop of a clinical care pathway for the ACP process in dialysis patients and (4) subsequently for pre-dialysis patients.

The first phase has been completed with approximately 300 healthcare professionals (doctors, renal nurses, social workers and coordinators) having attended a 1-day workshop that included participation in role play for ACP facilitation. A 41-item questionnaire assessing ACP knowledge, attitudes and experience was conducted in 546 renal healthcare professionals. The survey showed that ACP knowledge was good, the majority favoured the use of ACP and the main barriers to ACP discussion were the fear of upsetting the family, a lack of time and the perception that Singaporeans may not be ready for ACP discussion.

The second and third phase are currently in progress with 1 pilot project to assess the effectiveness of an ACP pamphlet in educating the dialysis patients and their families and a second pilot project to assess formal ACP facilitation in a small group of haemodialysis patients.

C5.4

Effective Communication on Discharge Planning and End-of-Life Care: The Lived Experiences of Postgraduate Nurses

MANIKAM AMBELORFAM

Lecturer, School of Health Science, Nanyang Polytechnic, Singapore

This phenomenological study explored the lived experience of postgraduate nurses in the discharge planning of older adults. The main aim of the study was to explore nurses' role and challenges in discharge planning. Using Husserl's phenomenological approach, in-depth interviews with 8 postgraduate nurses were conducted; each was tape recorded lasting about 75 minutes. Transcripts were analysed using Colaizzi's (1978) method of data analysis. Four key cluster themes emerged: 'making a proper hospital discharge', 'dealing with barriers to a proper hospital discharge', 'the paper work' and 'nurses' role in discharge planning'.

The findings of this study indicate a multidisciplinary team (MDT) approach with effective communication across all

service sectors between the primary and secondary care which was central in achieving a proper hospital discharge. One aspect in particular was open communication between patient and family members and it raised pertinent issues on how to handle end-of-life decision-making. The study participants spoke of their challenges in providing care for the death and dying. It demonstrated an understanding of the values and wishes of patients and their families in accepting terminal diagnosis and the impact of impending death upon discharge.

Nurses' emphasised the need to communicate effectively with patients and family members on discharge and end-of-life care. The findings also highlight barriers to proper communication on Advanced Care Planning and discharge.

The findings have important implications for nurses and the MDT to improve communication at every layer of the discharge planning and end-of-life issues. Nurses need to acquire specialist skills on the care of older people at advanced level to equip them well in order to provide seamless care between the primary and secondary care sectors.

C6 — Working With and Between the Providers, Professionals and Patients

C6.1

Expanding the Role of the Nurse within Primary Care

SANDRA BIRNIE

Service Development Manager, Department of Strategy, Business and Performance, NHS Western Cheshire Primary Care Trust (Provider Services), Cheshire, United Kingdom

In the United Kingdom, primary care today refers to a range of community based services that are usually the first and often the only, point of contact that patients make with the health service in their lifetime.

Although there are a number of services providing primary care, by far the largest and most well known are GPs, who work with nurses and other staff to treat patients for a range of health problems.

As the complexity of healthcare problems continues to escalate and the average age of patients increases, there has been an epidemiological shift of health patterns away from acute care to long-term ailments which are managed almost exclusively in the community.

This session outlines how primary care has developed since the early days of the National Health Service when GPs worked single handedly, to where we are today, with GPs as core members of a much broader multidisciplinary primary healthcare team providing around 90% of total patient contact with health services.

It illustrates the key drivers and contributory factors that have impacted on primary care and forced GP practices to review changes not only in what can be delivered but also to the way in which it is delivered and by who.

The presentation focuses specifically on the expanding role of nursing in general practice. How, through advancing practice and skill mix, nurses have developed to provide much of the care that is delivered in general practice and how, by adopting a multidisciplinary approach, total patient care can be achieved in primary care alone.

C6.2

Improving Transitional Care for Persons with Complex Care Needs

CHAD BOULT

Professor, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, USA

For a person with several chronic conditions, the transition from a hospital to a post-acute site of care may be disorganised and chaotic, resulting in a potentially avoidable re-admission to the hospital. Guided care, a new model of primary care, is designed to improve the quality and outcomes of hospital-to-home transitions. In this session, the guided care approach to transitions will be described, and the relevant results from a randomised controlled trial will be presented.

C6.3

Care of Older Persons in the Community: Role of the Primary Care Doctor

THAM WENG YEW

Home Care Physician, Code 4 Private Limited, Singapore

Hospitalisation constitutes a transition in care for acutely ill older persons who must eventually return to the community where the primary care doctor plays an integral role in intermediate and long-term care. Other than the familiar general practice clinic, primary care for the older person can also be delivered in a variety of other settings including home care, day care centres and nursing homes. This novel area of primary care is fraught with many challenges but

has its share of fulfilling rewards. A practice dedicated to the primary care of older persons in the community could eventually evolve to become an attractive and viable career option.

C6.4

Role of Family Physicians in the Face of Silver Tsunami and Rise in Chronic Diseases

DAVID YONG

Senior Aged Care Physician, Department Geriatric Medicine, Changi General Hospital, Singapore

Care integration requires not just policies and hardware but also drivers (software) on the ground that provide much of the care. The uncommon role of the common family physician/general practitioner is often unrecognised and untapped. As the population ages and moves into chronic diseases, the traditional and limited role of the primary care doctor would also need to evolve. This presentation will focus on real live family doctor role models who have laid aside the usual for the unusual. These family doctors have chosen a different but rewarding path to make a greater impact on community health for the elderly. Their stories will illustrate the opportunities and roles that family doctors can embrace in this changing landscape of chronic care. It will provide the motivation for and also offer practical steps to getting involved with the many exciting developments in healthcare today.

A5 - Free Paper

A5.1

Embracing Integrated Care by Adopting Otago Exercise Programme in the Intermediate and Long-Term Care Sector

PG KAJI¹

¹Department of Nursing, Lions Home for the Elders (Toa Payoh), Singapore

The Otago Exercise Programme is a strength and balance retraining programme designed to prevent falls for elderly in the community. The purpose of this pilot project was to determine the effective implementation of the Otago Exercise Programme among residents in the Assisted Living Unit at Lions Home for the Elders. It was a collaboration between Changi General Hospital and Lions Home as part of an integrated project to ensure the continuum of care, and also to address the challenges of providing such care in the intermediate and long-term care setting. Ten Assisted Living Unit residents aged 70 to 85 years were selected — they were mobile, independent or required supervision with their daily activities, and had history of falls. Their balance and stability were assessed using Berg's Balance Scale. The physiotherapy department staffs were trained by the trainers from Changi General Hospital to carry out and continue the programme. Number of falls, balance and stability and compliance to the programme were evaluated after 6 months. There were gradual improvements in the balance and stability of these residents, with good adherence rate. The Otago Exercise Programme is effectively adopted by Lions Home and has helped in fostering better integration of care between community and the intermediate and long-term care sectors.

A5.2

Reducing Nursing Home Pneumonias: a Cost-Effective Approach

HL YANG¹, HH YONG², DARREN TAN³

¹Speech Therapy, Changi General Hospital, Singapore

²Geriatric Medicine, Changi General Hospital, Singapore

³Operations (ILTC Division), Changi General Hospital, Singapore

Introduction: An audit has shown that two thirds of Nursing Home (NH) residents visits to the accident & emergency department were due to infections of which 45% were caused by pneumonia alone. In this NH, there were 88 pneumonia episodes in the past year with 12 needing hospital admissions. These residents hospitalised for pneumonia stayed an average of 11 days, spent \$84,687 and had a high mortality rate (58%). Dysphagia is a known

predictive factor for NH pneumonia. In this NH, 54% of residents had dysphagia. In view of high care costs and mortality rate for pneumonia-inflicted NH residents, the objective of this study was to find ways to reduce pneumonia incidence in this group.

Methods: A quality improvement project called SAFEED was developed. This comprised a 2.5-hour educational component (including bedside live demonstration), monthly 2.5-hour site visits (X 12) by the speech therapist (ST), SAFEED champions, 'dysphagia' posters and an interactive quiz.

Results: Preliminary results (first 4 months) showed a 39% decrease in pneumonia episodes (or 11 less pneumonia cases). Calculated cost savings was \$11,055 (vs the \$9000 cost of SAFEED and 12 site visits by the ST).

Conclusion: Pneumonia in NH residents can be cost-effectively reduced by staff education and dysphagia assessment and intervention with speech therapy services.

A5.3

A Study into Factors Influencing Medication Discrepancies amongst the Elderly Discharged To Their Own Home

SHAIKH KADIR F¹, KAAUR K², MAHMOOD Z³, AMIRA⁴, LH LIM⁴, PC CHEW⁵, JOSEPH CHEONG⁵

¹CID, Agency for Integrated Care, Singapore

²ACTION team, SGH, Singapore

³ACTION team, CGH, Singapore

⁴ACTION Team, NUH, Singapore

⁵ACTION team, TTSH, Singapore

Introduction: Singapore is experiencing an exponential growth in the elderly population, which will have an impact on the healthcare system. Elderly patients tend to have multiple comorbidities and often with complex medical conditions.

A project funded by Ministry of Health (MOH) and AIC Agency for Integrated Care (AIC), called Aged Care Transition (ACTION) commenced in June 2008. A team of care coordinators in this hospital identified appropriate patients and recruited them into this programme.

Methods: Coleman's Medication Discrepancy Tool (MDT[®]) was deployed for this pilot project. MDT is a tool for identifying and characterising medication discrepancies that arise when patients made the transition between sites of care.

All patients will be screened during the home visits by the care coordinator using the MDT tool which help guide the care coordinator on the various medication discrepancies and the appropriate advice to be given.

Research Design and Sampling: This is a prospective, descriptive design study of elderly patients using convenience sampling method. Only those with home visitations done were included in this study.

Ethical Consideration: Verbal consent from patients and approval from the research board were obtained.

Data Collection and Analysis: All patients were recruited during the home visitations done by the care coordinator. The data collection includes demographic data of patient profiles, clinical information on chronic medical conditions and history of medications taken by patients. The medication compliance and management was screened using the MDT and advised accordingly. Results generated using the data collection form was analysed using SPSS version 18.

Reliability and Validity: The reliability of this tool, both inter-rater and intra-rater, was tested.

Results: There were 314 patients recruited in this study, of which 45% were above 81 years old and 56% were female. Exploring the social profile, 78% lived with family whilst 16% lived alone. Twenty-three percent of those living alone were unable to manage themselves prior to admission. The caregivers were equally distributed between the maid and children at 22%, of which 10% of caregivers reported coping challenges with care. Almost 36% of patients were taking 4 to 6 long-term medications, 62% were unable to manage their own medications requiring the caregivers to assist them. Exploring the medication discrepancy, 33% had at least one discrepancy at patient level whilst 25% had at least one medication discrepancy at system level.

Implementation: The teams of care coordinators are currently working in collaboration with the pharmacist to help manage patient's medication discrepancy. The project named pharmacist outreach programme (POP) hopes to address or reduce the risk of medication discrepancy amongst this group of elderly.

Limitations: The study was limited to patients who had home visits done by the care coordinators. Hence those who either refused or were not contactable for home visitations were excluded and these may be the group that could have challenges with medication management. Also, the study subjects are cases managed by the care coordinators, whilst

those not under their purview were excluded.

Conclusion: Fragmented care between hospitals and community or vice versa is not a common issue. Bridging the gap can pose as a challenge to healthcare providers to ensure a smooth transition from one healthcare setting to the next.

A5.4

The Impact of Care Coordinator Services in Emergency Department of a Teaching Hospital in Singapore

ML LIM¹, RL LOW¹, SK LEE²

¹Department of AIC, National University Hospital, Singapore

²Department of EMD, National University Hospital, Singapore

Introduction: The emergency department (ED) provides acute care and plays a critical role in saving lives. However, due to the unscheduled nature of patients, it receives both life threatening and minor health complaints. Presently, high re-attendance and social admissions strain the critical and limited resources of the department.

Aim: The Emergency Department Care Coordinator Programme in National University Hospital aims to reduce unnecessary re-attendance, social admissions and support the frail elderly at home. This primary survey describes the characteristics, outcomes and limitations of this programme.

Methods: The Emergency Department Care Coordinator programme began in October 2009. As of August 2010, 101 patients had been recruited into the programme based on the selection criteria. A pre- and post-test design was used in the outcomes evaluation. Unnecessary re-attendance and social admissions rates before and after intervention were recorded. The Care Coordinator interviewed patients and family members, explores social/medical issues, discuss care options, and did follow-up in the community for at least up to a month.

Results: Among the 101 cases recruited, the average age was 71.8 (range, 44 to 90) of which 51.5% were female and 17.8% had re-attendance to ED within a month. However, it was much lower than 26.9% of the overall ED re-attendance rate for elderly patients. In addition, 10 out of 11 cases were prevented from social admission.

Conclusion: Emergency Department care coordination is effective in reducing re-attendance and social admissions.

A5.5

Adherence To Post-Hospitalisation Rehabilitation: A 1-Year Cohort Study

YT KOH¹, WL CHEN¹, WM LEONG¹, L NG², SYP LEE³, CH KOH¹

¹Yong Loo Lin School of Medicine, National University of Singapore, Singapore

²University Of Newcastle, Australia

³Ang Mo Kio-Thye Hua Kwan Hospital, Singapore

Introduction: Rehabilitation has been shown to improve the quality of life and decrease costs associated with disability and life expectancy. We studied a 1-year adherence of newly discharged patients from a community hospital to supervised rehabilitation, and to study the various barriers affecting compliance using mixed methods.

Methods: In Phase 1, 40 inpatients who were recommended for rehabilitation by a multidisciplinary healthcare team upon discharge were qualitatively interviewed to gather their views on rehabilitation. Recurrent themes from interview transcripts were analysed and used for creating a quantitative questionnaire. In Phase 2, another 70 inpatients also recommended for rehabilitation were interviewed with a questionnaire prior to discharge. Telephone interviews were subsequently conducted at 3, 6, 9 and 12 months, respectively.

Results: Phase 1 interviews revealed specific perceived financial, social, physical and health barriers. At the start of the Phase 2 study, 87.1% viewed rehabilitation as beneficial, but overall longitudinal compliance rate fell from 100% (as inpatient) to 20.3% at 3 months, 9.8% at 6 months, 6.3% at 9 months and 4.3% at 12 months, respectively. Physical, caregiver and social barriers featured strongly initially but decreased in importance with time. In contrast, financial barriers increased in importance with time.

Conclusion: Adherence to post-hospitalisation rehabilitation in Singapore is low. Specific barriers affecting compliance at different time-points should be addressed to improve this.

A5.6

Making Right-Siting Work: A Family Physician-Rheumatologist Initiative

ANITALIM, CFLIM, BLOW, GGTENG, SVASOO, TCLAU, LG GOH
Department of Medicine, National University Health System, Singapore

Introduction: This study aimed to identify barriers and set in place interventions to facilitate right-siting of stable rheumatology patients.

Methods: NUHS Divisions of Family Medicine and Rheumatology collaborated and utilised quality improvement tools to provide seamless care between primary and tertiary care.

Results:

1. **Specialist acceptance:** To surmount patient complexity, criteria were established to select patients suitable for shared care with a working model of alternating clinic visits between the rheumatologist and family physician. A patient summary is faxed to the family physician and follow-up NUHS appointment is made.
2. **Family physician acceptance:** Selective recruitment of family physicians willing to participate. On-the-job training via rheumatology clinics, provision of guidelines and telephone access for queries and periodic workshops are conducted to build competencies. A patient summary is faxed to the rheumatologist following patient review.
3. **Medications:** Blood monitoring of patients on disease modifying drugs is undertaken by the family physician and results communicated to patients by telephone. Prescribing rights have been given to family physicians whereby prescriptions are faxed to NUHS pharmacy, which dispenses medications that are delivered to patients.
4. **Care coordination:** Liaison between the rheumatologist, family physician and patient via a right-siting coordinator funded by HQI2F.
5. **Confidence building:** Lack of confidence of stakeholders was overcome through the right-siting coordinator, meeting the family physician during the teaching clinics or via transitioning care through NUHS family medicine clinics, supervised by the rheumatologist.

Conclusion: Although it is early days for this initiative, right-siting is a vision that is being realised.

A5.7

Integrated Hypertension Management in a Singaporean Low-Income Community

BRANDEN SEOW, LE WEE, GCH GOH

Epidemiology and Public Health, Yong Loo Lin School of Medicine, NUS, Singapore

Introduction: We aimed to assess the effect of a programme

integrating hypertension screening, treatment and control of hypertension in a low-income Singaporean community.

Methods: Participants were recruited in January 2009 and January 2010 from a public rental flat precinct. Unknown hypertensives were offered free screening, while known hypertensives had their BP measured. For participants in 2009, known hypertensives not on treatment/with suboptimal control, and hypertensives newly diagnosed (on screening) were encouraged to go on treatment/improve BP control via phone calls/house visits and provision of financial/social assistance from grassroots organisations. We then re-measured treatment and control a year later. McNemar's test was used to check whether there were significant differences for treatment; chi-square test for control. Significance was set at $P < 0.05$.

Results: Participation was 89% (357/400). Two hundred and nine residents were recruited in 2009 and 148 in 2010. At baseline, prevalence, awareness, treatment and control of hypertension was 63.9%, 61.8%, 69.5%, and 43.9%, respectively; while only 35.8% had gone for regular hypertension screening. Post-intervention, 100% had had hypertension screening. Of the 209 participants recruited in 2009, 143 had hypertension, 61 were newly diagnosed and 82 were known hypertensives. Post-intervention, of the newly diagnosed hypertensives, 9.8% (6/61) were on treatment and 33.3% (2/6) of those had good control. Of the 82 known hypertensives, treatment rose from 63.4% (52/82) to 92.7% (76/82); while control of hypertension rose from 42.3% (22/52) to 78.9% (60/76).

Conclusion: Although the take-up was free of charge, convenient hypertension screening was high in this low-income community, a 1-year follow-up improved treatment and control in known hypertensives, but not newly diagnosed hypertensives.

A5.8

Social Work, Medicalisation and Continuity of Care

J DAVIES

Department of Mental Health and Learning Disabilities, London South Bank University, UK

Introduction: This study aimed to present findings of a study on integrated teamwork from the perspectives of social workers and health professionals working within community mental health teams in 2 UK National Health Service (NHS) Trusts and to appraise factors which could influence continuity of care.

Methods: This mixed methods evaluation utilised both a survey and semi-structured interviews across 19 CMHT's within 2 National Health Service Mental Health Trusts. Structured questionnaires utilising 5-point Likert scales relating to different components of integrated working were distributed to a proportionate sample of social workers and health professionals ($n=213$) eliciting a response rate of 74% ($n = 158$). Follow-up semi-structured interviews ($n = 16$) were conducted with a purposive sample of social workers centred on 6 areas of interest generated from the statistically significant responses given by social workers (compared to other professional groups) on the questionnaire. A thematic qualitative analysis of the interview was undertaken.

Results: Potential associations between social workers and other professionals and scaled responses to questions on team working were examined. Across all professional groups, social workers viewed integrated working as improving continuity of care ($P = 0.014$). However, the interview findings suggested that social workers had relatively negative experiences of working within a "medicalised" environment which was considered to be a major barrier to achieving continuity of care.

Conclusion: Seven years following a shift to integrated working in UK CMHTs, trends suggest ineffective experiences for social workers in terms of team working and achieving continuity of care.

P1

Improving Referral Accuracy in the ACTION Team

SHAWN KOH, BT GUI, SE SEAH, YH LIANG

ACTION Team (Ops Community), Tan Tock Seng Hospital, Singapore

Introduction: Inappropriate referrals waste resources and reduce quality time with patients. An average of 20 minutes is spent on screening and rejecting an inappropriate referral. The time saved could be more effectively used to serve more patients who may need this service.

Methods: Rejected referrals are categorised and assigned rejection codes. The codes are reviewed on a monthly basis to streamline the referral criteria and processes. Collaborating with the medical social workers and the ward staff, the ACTION team was able to improve referral accuracy and reduce the number of rejected cases.

Results: After implementation, the rejected rate was significantly reduced from $36.1\% \pm 8.89$ to $18.6\% \pm 9.72$.

Conclusion: In conclusion, the study has effectively demonstrated the need in addressing referral accuracy. As a result, the improved referral accuracy allows the ACTION team to utilise resources more efficiently and improve health outcomes of patients.

P2

Pre-Admission Patient Visits – A Collaborative Project by Ang Mo Kio - Thye Hua Kwan and Tan Tock Seng Hospital

ELIZABETH POON¹, SHERRY GOH¹, JOSEPHINE A², KENNY TAN³

¹Quality Management Office, Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

²Casemix Office, Tan Tock Seng Hospital, Singapore

³Corporate Affairs, Special Project & Innovation Office, Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

Introduction: It has been observed that patients and their families often hold unrealistic expectations of a community hospital. This can range from expecting patient's full recovery and ambulatory status after the stay to the mistaken notion that the hospital is a nursing home.

Methods: A collaborative project was initiated in March 2010 with a major referral institution, Tan Tock Seng Hospital (TTSH), to conduct pre-admission patient visits (PAPV) by Ang Mo Kio - Thye Hua Kwan Hospital (AMK-THKH) care team members. These TTSH patients had already been approved for and awaiting admission to AMK-THKH. The aim was to provide patients with information and education on the role of a community hospital as well as

their rehabilitation plans prior to admission to AMK-THKH.

Results: In a 6-month period from March to August 2010, the AMK-THKH care team visited 121 out of a total of 580 patients. Of these patients, 66.9% (81/121) were eventually admitted to AMK-THKH, compared to 61.7% (283/459) who were not part of the PAPV project.

For continuity of care, the AMK-THKH care team visits PAPV patients to ensure a smooth transition upon admission to the hospital.

Conclusion: AMK-THKH plans to increase the frequency of visits to engage more patients in order to further enhance the continuum and quality of care provided upon transition from an acute to a step-down care setting.

P3

Promoting Community Care with the General Practitioner Partnership Scheme and Right-Siting of Care

SELVI V¹, HENDRIKS MM¹, MAHENDRAN R², YL GOH²

¹Case Management Unit, Institute of Mental Health, Singapore

²Department of General Psychiatry, Institute of Mental Health, Singapore

Introduction: Psychiatric illnesses pose significant financial and service delivery issues to health care systems. Therefore, the Institute of Mental Health has steadily moved to integrate patients back to society with community management programmes namely the General Practitioner (GP) Partnership Scheme and the right-siting of care to satellite clinics. The objective is to right-site care, provide convenient and affordable services and de-stigmatise care.

Aim: This paper examines the profile of patients who were referred to these programmes and their success rates.

Methods: Between November 2009 and September 2010, the case manager made 55 referrals (43 referrals to the GP Partnership Scheme and 12 to satellite clinics).

The selection criteria were

- mentally stable for 6 to 12 months without any hospitalisations,
- preferably employed or supported financially by family members,
- convenient travel to new site of treatment and care,
- saves time and reduce cost.

The data were captured and the results examined with Microsoft Excel programme.

Results: Twenty-nine male and 26 female patients were referred. Racial distribution followed closely the distribution of the country (44 Chinese, 4 Indians and 7 Malay patients). Their ages ranged from 20 years to 60 years (20 to 30 years = 1, 31 to 40 years = 32, 41 to 50 years = 19, 51 to 60 years = 1, above 60 years = 2).

The majority of patients (75%) had a diagnosis of schizophrenia.

All patients were successfully followed-up in the programmes.

Conclusion: The success of these programmes are crucial in the long-term care of the mentally-ill as their numbers increase as it will ensure affordable, convenient and non-stigmatising care to them.

P4

Direct Admission to a Community Hospital from the Emergency Department

ICAWH CHUNG¹, KBL TAN², K HOO³

¹Department of Medical Services and Dietetics, Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

²Department of Corporate Affairs, Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

³Department of Quality Management Officer, Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

Introduction: Some patients admitted to an acute hospital through the Emergency Department may be more appropriately managed in a community hospital when overriding needs are chronic care and rehabilitation rather than acute care. This paper aims to describe a cohort of patients who was admitted to the Ang Mo Kio - Thye Hua Kwan Hospital from the Tan Tock Seng Hospital Emergency Department through a direct admission process over a 2-year period.

Methods: A total of 45 patients were admitted. The outcome measures include mean length of stay (18.4 days), average bill size, discharge disposition (86.7% to own home), functional improvement achieved, and the number of unplanned transfers back to an acute care facility (13.3%). Patient demographics (mean age 75.2 years; female >90%), admitting diagnoses (51.1% Orthopaedic – for non-fracture or non-surgical interventions; 31.1% General Medical) and suitability of referral based on predetermined criteria were also captured and studied.

Results: Only 1 patient rejected placement in the community hospital. No patient morphed into an intractable social admission case and there was no outstanding patient dissatisfaction over the process of direct admission.

Conclusion: In conclusion, such an arrangement seems feasible, safe and acceptable, and can be introduced to other acute hospital partners.

P5

Patient's Satisfaction with Food Services in a Community Hospital and its Contributing Factors

STEPHANIE HO¹, SANDIP SINGH SAGGI S/O KARAMJIT SINGH², KENNY TAN³

¹Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

²University of Adelaide, Australia

³Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

Introduction: The aims of this study aims (1) to determine patient's satisfaction with hospital food services and the contributing factors to satisfaction in a community hospital; and (2) to identify areas to target for improvements.

Methods: The study was conducted over a 1-month period (July to August 2010) using a modified version of the Acute Hospital Foodservice Patient Satisfaction Questionnaire (ACHFPSQ) by Fallon et al with categories based on food quality, service and environment using a 5-point Likert scale. Patients who were tube-fed, demented, non-communicative or discharged were excluded from this study.

Results: Total number of respondents was 67 (Age range, 24 to 89 years old), with 60% older than 70 years old. Fifty-eight percent of the respondents were female. Ethnic profile: 76% Chinese, 12% Malay, 7.5% Indian and 4.5% Others. Fifty-eight percent of them stayed in 8-bed dorms. Seventy percent of them consumed Chinese cuisine. Mean satisfaction score obtained was 3.060. Patients' length of stay showed greater satisfaction at 15 to 28 days compared to before or after. The result, however, was not statistically significant. On the analysis of the different factors influencing satisfaction, the following factors have been found to be strongly correlated to overall satisfaction ($P < 0.005$): choice of meals, variety, presentation, culture, taste, flavour, the way vegetables are cooked and food intake.

Conclusion: The survey suggests that the duration of stay plays a role in older patient's satisfaction with food services. Moreover, certain aspects of the food services were also identified to be the contributing factors to satisfaction. With this, some measures are being looked at and implemented.

P6

Pneumonia in a Local Nursing Home

HL YANG, D YONG, I NGEOW, D TAN

Department of Rehabilitative Services, Changi General Hospital, Singapore

Introduction: Pneumonia is a common and serious condition in NH, associated with increased and recurrent accident and emergency A&E visits and hospitalisations, and high mortality. There has been no local study done on the costs of managing this common event.

Aims: This study aimed to investigate the incidence, cost and outcomes of pneumonia in a Nursing Home (NH).

Methods: Retrospective review of logbooks and case notes of 72 residents from a local NH was done from March 2009 to 2010 (13 months).

Results: Forty-three residents (60%) had pneumonia. Thirty-five (81%) of these residents were treated in NH, of which the conditions of 4 worsened and were sent to A&E; 8 were sent directly from NH to A&E (19%). Twelve cases (28%) were seen and treated at A&E. Twenty-three (53%) residents had recurrent pneumonia (i.e. >1 episode). Altogether, there were 88 episodes of pneumonia.

Among the 35 residents who had pneumonia, at least 54% had dysphagia (8 were on NG feeding, 5 on blended diet and 6 needed thickened fluids). The cost for treatment in NH was \$3783 (Average \$110).

The total hospitalisation cost was \$84,687 (average \$7057). The mean length of stay was 10.6 days. Seven (58%) of the admitted residents died in hospital. Overall, the mortality was 20%.

Conclusion: Pneumonia is common (50%), recurrent (49%) and deadly (20%) amongst residents in a NH. It has a high association with dysphagia (54%). Possible cost effective strategies to manage this common condition would include prevention through dysphagia management and optimisation of early treatments within the NH.

P7

Introducing Residential Long-Term Cares Services in the Medical Curriculum

NP FONG¹, GCH KOH¹, JJM LEE¹, TY WONG², M ABRAHAM³

¹Epidemiology and Public Health, National University of Singapore, Singapore

²Division of Family Medicine, Department of Medicine, National University of Singapore, Singapore

³Primary Care Development Division, Agency for Integrated Care, Singapore

Introduction: Singapore's population is ageing rapidly. Together with other socio-economic changes, there has been a steady rise in the number of nursing home admissions amongst persons aged 60 years and above. Over the 10-year period from 1999 to 2009, the number of elderly residents residing in nursing homes increased from 5834 to 9521, an increase of 63.2%.

In 2009, persons aged 65 years and above occupied a high 42% of all acute hospital bed days. Doctors have a pivotal role in the right-siting and safe transfer of patients needing long-term residential care after their discharge from acute hospitals.

Aim: This paper describes the purpose, logistics and results of the introduction of a new module on services, right-siting and safe transfer of older persons for medical students at the National University of Singapore.

Methods: This module, which includes a half-day visit to nursing homes, was introduced from 2010 during the third year community medicine posting. The nursing home visit was followed by a seminar on integration of care and a debate on a long-term care topic.

Results: From the first 2 batches of students' feedback, 68.7% "strongly agreed" or "agreed" that "the nursing home visit was relevant"; and 60.4% "strongly agreed" or "agreed" that they learnt something useful that they can apply when they become doctors.

Conclusion: The lessons learnt from this experience may be useful to other institutions in Asia.

P8

Reducing Fall Incidence at a Community Hospital

KANCHANA HOO¹, SHERRY GOH¹, KENNY TAN²

¹Quality Management Office, Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

²Corporate Affairs, Special Project and Innovation Office, Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

Introduction: It is a known fact that the elderly are more susceptible to falls with complications resulting. Ang Mo Kio - Thye Hua Kwan Hospital (AMK-THKH) has been capturing inpatient incidences of fall since 2002 and this has plateaued for the last 2 years.

The Quality Management Unit wanted to explore if the incidences of fall can be further reduced by auditing the hospital's fall incidence rates in the last 3 years from 2007 to 2009.

Methods: A retrospective quantitative review of incident reports from 1 January 2007 to 31 December 2009 was performed. Patient demographics, causes of falls and fall risk factors were identified and analysed. A cause and effect diagram was constructed.

Results: A total of 301 incident reports were filed, of which 61.1% (n = 184) were falls. The annual fall incidence rate per 1000 patient days in 2007, 2008 and 2009 period were 1.20, 0.90 and 0.87, respectively.

Three main causes of falls were identified, namely patient resistance to call for assistance (40.8%, n = 75), gait imbalance (29.9%, n = 55) and inability to recall the occurrence (12%, n = 22). A total of 10 patients who resisted calling for assistance were found to be suffering from dementia (12%, n = 9) and schizophrenia (1.3%, n = 1). The rest of the patients (86.7%, n = 65) were found to have intact cognition.

Conclusion: By preparing a fall precaution kit with educational tools and fall advice, as well as encouraging patients to call for assistance when required, the hospital hopes to reduce preventable falls by more than 30%.

P9

Community Integration Session to Enhance Day Rehabilitation Centre Services

NOR AZILAH PAMI, G CHAN

Rehabilitation Division, St Luke's Hospital, Singapore

Introduction: While conventional centre-based therapy targets mainly physical components, the carrying over of skills to the real context into the home and community is often neglected, thus resulting in the reduced engagement in Instrumental Activities of Daily Livings (IADLs).

Aim: This study aims to improve the functions of clients of St Luke's Hospital Day Rehabilitation Centre (DRC) and their engagement in IADLs through Community Integration Session (CIS), conducted at home or/and in the community.

Methods: Thirteen clients were introduced to CIS in 2010. They were cognitively intact, had limited participation in IADLs and had Modified Barthel Index score of at least 50.

Therapists referred these clients to a designated occupational therapist to carry out CIS to ensure that the skills were carried over at client's home and in the community.

The intervention included identification of their meaningful activities, activity analysis and practising of these tasks. Home modification and compliancy counselling were also carried out when necessary. Problem areas were discussed as a team for the holistic approach.

The engagement of premorbid, pre-CIS and post-CIS in IADL were assessed using Frenchay Activities Index (FAI), a 15-items scale to measure the effectiveness of the programme. Re-assessment was done through interview.

Results: Two clients dropped out due to depressed mood and unstable medical condition. Data from 11 subjects were collected. Ten clients improved in their FAI score while one client had no improvement. Average pre-CIS: 11.6, Average Post-CIS: 18.2, average improvement in score: 6.6. Average percentage of improvement in score: 56.9%.

Conclusion: Introducing community integration sessions in rehabilitation services can improve the engagement of clients in IADLs.

P10

Bridging the Clinic and the Real-World

SD FONG, NMB MOHSAIN, NAB PAMI, GY CHAN

Rehabilitation Division/Day Rehabilitation Centre, St Luke's Hospital, Singapore

Introduction: Termination of a rehabilitation programme for clients with physical disabilities is often determined by their functional and physical outcome scores (e.g. Modified Barthel Index, Berg Balance Score). However, we have noticed that despite the optimistic physical and functional outcomes achieved within the clinical setting, it is often not replicated when they return to their real-world settings. Hence, the Back On Your Feet (BOYF) programme was developed to assist clients to integrate their clinical gains into their real-world settings. This study aims to evaluate the effectiveness of the programme.

Methods: This is a case series study on clients with physical disabilities (e.g. stroke, fractures) enrolled into the BOYF programme. This programme utilises the benefits of group dynamics to train and enhance balance, activity endurance, and integration into their real-world settings (e.g. marketing, cooking, taking public transport). Clients' inclusion criteria were: (1) scored at least 70/100 on the Modified Barthel Index (MBI); (2) had a minimum score of 4 for 'Performance of Ambulation' on the Physiotherapy Clinical Outcome Variables Scale (PTCOVS); (3) could ambulate at least 200 metres without rest; and (4) had intact

cognition without behavioural issues. Outcome measures used were: (1) PTCOVS; (2) Berg Balance Scale (BBS); (3) MBI; and (4) Modified Frenchay Activities Index (mFAI).

Results: The results showed improvements in the mean pre- and post-intervention percentage of change for all the outcome measures: PTCOVS (11.3%); BBS (17.1%); MBI (7.3%) and more importantly, considerable improvement was attained on the mFAI (44%).

Conclusion: The BOYF programme has shown effectiveness in facilitating clients with physical disabilities to integrate back into their real-world settings.

P11

Embracing Integrated Care by Implementing Dementia Care Mapping in a Nursing Home

A VARADHAN

Department of Nursing, Lions Home for the Elders, Singapore

Older people comprising an increasing part of the total population, thereby creating a huge demand for care provision. A wide range of mental problems may afflict people in their later years. One of the most common problems of old age is dementia. Dementia is becoming a significant global issue and is one of the major causes of disability in later life. Currently, dementia is getting more attention because of two major reasons. The first reason is that there is no cure for dementia. The second reason is the quality of life and dementia services after the diagnosis. Dementia care should involve a holistic approach by providing needs based and assistance services to people with dementia and their caregivers. Dementia Care Mapping was originally developed as a clinical tool but has attracted interest as a potential measure for the quality of life and well-being in the continuum of care, from the moment of diagnosis through to the intermediate and long-term care setting. Dementia Care Mapping can also be used as a focus for staff training, development of interventions, care planning and the evaluation the effectiveness of care practice.

P12

Embracing Integrated Care by Collaborating in Project Care with Tan Tock Seng Hospital

V RAMALINGAM

Department of Nursing, Lions Home for the Elders (Toa Payoh), Singapore

Due to the rapidly ageing population, Singapore is expected to see an increase in the number of end-of-life care cases in nursing homes. Nursing homes have the special privilege

and responsibility to help older people finish their final journey with respect, dignity, and to die in a place of their choice. Death is an unavoidable journey for all. However, the concern is how it is being managed and executed with minimal sufferings for the residents. Promoting and improving quality end-of-life care in nursing homes involve multiple issues such as pain management, symptom control, psycho-social and spiritual care, ethical considerations, advance care planning, staff training, family participation and partnership with acute hospitals to provide integrated care for residents. With these values and beliefs, Lions Home for the Elders and 6 other nursing homes have embarked on "Project Care" with Tan Tock Seng Hospital since January 2010. The project has provided a consistent approach to the identification and management of residents requiring end-of-life care. It also helped to reduce the number of residents with chronic conditions being transferred back to hospital unnecessarily, thus, decreasing the number of residents who otherwise would have died in an unfamiliar environment such as the acute hospital or the Accident and Emergency Department.

P13

Review the Efficiency and Effectiveness of the Lower Limb Amputation Rehabilitation Programme in a Community Hospital in Singapore Using the Modified Barthel Index (MBI)

XU T (MOT)

Therapy Services, Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

Introduction: Some studies on lower limb amputation rehabilitation were conducted at the acute hospitals in Singapore. However, there are no similar studies on lower limb amputation rehabilitation in a community setting locally. The objective of this study was to review the efficiency and effectiveness of the lower limb amputation rehabilitation programme in a community hospital in Singapore using the MBI. The role of the community hospital in Singapore is to provide convalescent and rehabilitative inpatient care to patients in the sub-acute phase of their recovery prior to returning to the home or community.

Methods: This is a retrospective study on the lower limb amputation rehabilitation programme from January 2009 to March 2010. Only 36 subjects (14 females and 22 males) who were discharged to homes, nursing homes and other rehabilitation settings were selected for this study. Rehabilitation efficiency (REy) and Rehabilitation effectiveness (REs) were used to calculate the efficiency and effectiveness of the lower limb amputation rehabilitation programme using Shah's MBI score. REy is defined as

the amount of improvement divided by the duration of rehabilitation. REs is defined as the percentage reflecting the proportion of potential improvement actually achieved during rehabilitation.

Results: The average length of stay for this group was 50 days. The average REy was 0.51, indicating that the patients made functional improvement on average 0.51 MBI score per day of stay. The average REs was 43.2% indicating that the patients achieved on average 43.2% of their total rehabilitation potential upon discharge home.

Conclusion: The results showed adequate effectiveness and efficiency of the lower limb amputation rehabilitation programme in a community hospital in Singapore.

P14

Managing the Quality of Sleep among Elderly Patients in Ward 2 (AH) using the Pittsburgh Sleep Quality Index

SUJATARAJARAM, EILEEN CHEAH, FARIDAH FADILAH, ZHENG DEXIN

Department of Geriatric Medicine, Khoo Teck Puat Hospital, Singapore

Introduction: Normal ageing changes, medical problems, psychiatric problems and psychosocial issues can alter the pattern and quality of sleep as one grows older and affect the quality of life in the elderly. Assessing sleep patterns enables the nurse to intervene immediately by implementing interventions with the patient, or by referring the patient for further assessment.

Methods: The Pittsburgh Sleep Quality Index (PSQI) is an instrument created by Buysse et al in 1989, measuring quality and patterns of sleep in the elderly. It differentiates 'poor' from 'good' sleep by measuring 7 areas: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, and sleep disturbances, use of sleep medication, and daytime dysfunction over the last month. Patients verbally related their sleep experiences under each of these 7 areas of sleep. Scoring is based on a 0 to 3 scale, with 3 reflecting the negative extreme on the Likert scale. A global sum of '5' or greater indicates a "poor" sleeper

Result: Seven patients who had sleeping problems were assessed. Data using the PSQI were collected for one month. Four of them summed 5 to 6 as their global PSQI score. Two were given sleep medication to improve their sleeping patterns and the other 2 referred to a psychologist. Three of them were found to have subjective sleep problems; 2 were overweight and were asked to start an exercise programme.

One patient who was found to lead a sedentary lifestyle was encouraged to be more active.

Conclusion: The PSQI can be used for both initial assessment and ongoing comparative measurements with older adults across all health settings. The scale can be adapted to enable the patient to respond verbally to items on the scale by having the nurse read the statements to the patient.

P15

An Innovative Collaborative Project on Integrated Care between NUS Medical School and Agency for Integrated Care

MARIA ABRAHAM¹, NP FONG², GCH KOH², JJM LEE², JTS CHEAH³, TY WONG⁴

¹Primary Care Development Division, Regional Integration Office, Agency for Integrated Care, Singapore

²Epidemiology and Public Health, National University of Singapore, Singapore

³Agency for Integrated Care, Singapore

⁴Division of Family Medicine, Department of Medicine, National University of Singapore, Singapore

In response to the rapidly ageing population, NUS Yong Loo Lin School of Medicine recently introduced a new 2-week ageing curriculum on Foundations in Geriatric Medicine for Phase II students in AY 2009/2010. The same cohort of students will continue their learning on ageing issues during Phase III during their week long community medicine posting under the module 'Services for Older Persons, Right-Siting and Safe Transfer' (SRSST). The objectives of the SRSST module are to enable students to (1) appreciate the challenges facing patients with chronic illness and disabilities and their family members and caregivers, and (2) to understand the role of the junior doctor in ensuring continuation of care, right-siting and safe transfer.

As part of this module, NUS and AIC collaborated on the development and conduct of the seminar on 'Integration of Services for Older Persons' as well as group debates for medical students. Two batches (approximately 100 students) have undergone the module thus far.

This paper describes the feedback from students based on the teaching collaboration between AIC and NUS (i.e. the seminar on Integrated Services and the group debates). Based on the feedback from the first 2 batches of students, 47.9% of the students "Strongly Agreed" or "Agreed" that the seminar was relevant and 43% felt that they had learnt something useful. As for the group debates, 67.7% of the students "Strongly Agreed" or "Agreed" that they were relevant, and 58.4% "Agreed" that they had learnt something useful.

These results show that there is value in such collaborative teaching efforts.

P16

Using Q Methodology to Evaluate Integrated Care

HELEN DICKINSON¹, S JEFFARES², A NICHOLDS¹

¹Health Services Management Centre, University of Birmingham, United Kingdom

²Government and Society, University of Birmingham, United Kingdom

Despite collaboration being an important concept across health and social care communities in many areas of the world, we know remarkably little about the impacts of collaboration in terms of service user outcomes. Some commentators have suggested that one of the reasons for this is that collaboration is notoriously difficult to evaluate effectively. There are a range of different reasons why collaboration is hard to research, but one of the main reasons is that it is not always clear just which outcomes the collaboration is aiming to achieve. Although collaboration is often advocated on the basis that it will improve service user outcomes, often there is little more specificity about what this will actually look like in practice.

This paper reports on a research approach which utilises Q methodology as a way of eliciting the implicit logics about what it is that collaborative working should achieve. The research reports on the POETQ tool, which encompasses a Q-methodology approach. We report the experience of research, its advantages and disadvantages and the types of outcomes that have been identified in practice.

P17

Comparable Clinical Outcomes Achieved in Stable Diabetic Patients between Primary and Tertiary Care Settings

SCOTT SU, WANG PING, HILDA NG, SHANTA EMMANUEL

Chronic Disease Management Office, SingHealth, Singapore

Introduction: The 'Delivering on Target' (DOT) programme includes a network of accredited GPs to which hospitals refer clinically stable patients. The clinical outcomes of diabetic patients referred to this network is analysed in this study.

Methods: Two groups of patients were studied: clinically stable patients discharged from a hospital outpatient clinic to the GP network, and stable patients that could have been discharged, but were not.

The percentage of patients who were able to maintain a clinically stable condition (defined as HbA1c values that

increased by less than 1%) between the baseline reading at discharge (or potential discharge) visit at the hospital, and the second visit (either at the GP or hospital) was calculated.

This analysis was also performed for the third and second visits.

Results: Within the discharged group, 81% of patients maintained a clinically stable condition as of the first GP visit. This was statistically indistinguishable from the 79% observed in the patients remaining at the hospital ($P > 0.05$).

Similarly, there was no statistical difference between the 2 groups ($P > 0.05$) when comparing the third visit to the second. The proportion of stable patients was 97% and 93% for the GP and hospital group of patients, respectively.

Conclusion: Similar outcomes between the third and second visits suggest that DOT care received at GPs is comparable to that at the hospital for stable cases. Results comparing the second visit to the first indicate that the act of discharging in itself does not have a significant effect on clinical outcomes.

P18

Study of Intake of Herbs/Health Supplements By Patients On Anticoagulation Therapy and Their Knowledge

BANDY GOH, SK TAN, SC TAY, CC GOH, SY KHOO

Department of Pharmacy, SingHealth Polyclinics, Singapore

Introduction: It is well documented that many drugs and food interact with warfarin. This research study aimed to study the intake of herbal/health supplements by SingHealth Polyclinics (SHP) patients on warfarin, and their knowledge of potential drug-supplement interactions.

Methods: One hundred SHP patients who were on warfarin were recruited from 4 polyclinics. Each patient was interviewed in person and completed a 6-question survey. The results of the survey were statistically analysed.

Results: In this 3-month study, a significant 42% out of the 100 patients (on warfarin) recruited concurrently took herbal/health supplements. Glucosamine, ginseng and Omega-3 fatty acids were the top 3 most often consumed herbal/health supplements. Eighty-nine percent of the 100 patients were unable to verbalise the herbal/health supplements that could interact with warfarin. Out of the 42 warfarin patients who were taking herbal/health

supplements, 57% of them did not inform their healthcare professionals that they were taking the supplements. Many patients perceived that these herbal/health supplements were common and unlikely to cause any harm. Yet, 83% of the surveyed patients felt that it was important to find out more about potential interaction of the herbal/health supplements with warfarin. Doctors, pharmacists and family members were their most reliable sources of information.

Conclusion: Patients' concurrent intake of herbal/health supplements without informing their healthcare professionals poses potential risk to the patients' health. Pharmacists can play a significant role in advancing medication safety by educating these patients on the possibility of drug-supplement interactions and risk of interference of anticoagulation therapy from food. This study also highlighted herbal/health supplements on which further research could be done to determine their potential for interference/interaction with warfarin.

P19

Evidence-Based Interventions for Acute Management of Stroke

JF LOKE¹, R HUANG², J FENG¹, EZ YAP², MC CHIN², KH PWEE², M YAP³

¹Health Services Research, Ministry of Health, Singapore

²Health Technology Assessment, Ministry of Health, Singapore

³Health Research & Evaluation, Ministry of Health, Singapore

Introduction: This study aimed to provide the evidence base for safe and effective interventions for the acute management of stroke, and for the use in developing an integrated care pathway for stroke.

Methods: The methodology adopted was to first define the scope of the review and identify the clinically important outcomes from interventions for stroke (with input from an expert workgroup), then to search comprehensively for existing international expert consensus on effective interventions for stroke, as expressed in published clinical practice guidelines (CPGs). Identified guidelines were critically appraised and interventions recommended were extracted (along with the supporting scientific literature) into an evidence table. The clinical workgroup then determined the relevant acute interventions of interest, and a further search to update the evidence and a search for economic evaluation evidence was done. The evidence was subsequently tabulated into an evidence matrix showing level of supporting evidence and effect size against the expert-determined outcome measures.

Results and Conclusion: An acute stroke service, early

specialist assessment for TIA, and IV rt-PA administered within 4.5 hours of symptom onset were shown to be beneficial to patients. Stroke rehabilitation is more effective than conventional treatment in an organised inpatient multidisciplinary setting and with at least 16 more hours of therapy time over 6 months; early mobilisation within 48 hours after a stroke may also be a cost-saving intervention. Further, clinical expert input is essential to determine these interventions' clinical significance and effectiveness for Singapore.

P20

Multi-Disease Health Screening In A Low-Income Community

BRANDEN SEOW, LE WEE, GCH GOH

Epidemiology and Public Health, Yong Loo Lin School of Medicine, NUS, Singapore

Introduction: We aimed to study the take-up of an integrated multi-disease health screening programme in a low-income community in Singapore.

Methods: We studied 3 blocks of public rental flats (the lower income community) adjacent to 3 blocks of owner-occupied public housing (the higher income community) in Taman Jurong, Singapore. From 2009 to 2010, residents in this precinct had free health screening for 4 chronic diseases: hypertension, diabetes, dyslipidaemia and colorectal cancer. These health screening modalities were provided simultaneously within the same session and were conducted at the residents' doorstep. Reasons for not having regular screening were also collected. McNemar's test was used to check whether there were significant differences in screening rates pre- and post-intervention.

Results: Participation rates for residents of rental flats and owner-occupied flats were 89% (357/400) and 70.2% (351/500), respectively. At baseline, in the low-income community, only 35.8% (77/215), 34.8% (97/279), 25.9% (68/263) and 6.0% (15/251) were going for regular BP, fasting glucose, fasting lipid and FOBT screening; compared with 52.2%, 66%, 53.1% and 17%, respectively, in the higher income community. Post-intervention, screening rates for BP, fasting glucose, fasting lipid and FOBT in the low-income community, rose to 98.6%, 40.1%, 30.8% and 16.3%; while in the higher income community, though screening rates for BP rose to 100%, take-up rates for fasting blood tests did not change, and the increase in FOBT take-up was insignificant (18.7%, $P = 0.074$).

Conclusion: An integrated multi-disease screening

programme increased screening rates for 4 major chronic diseases in members of a low-income Singaporean community, but was less successful amongst their better-off neighbours.

P21

Advance Care Planning among Patients with Advanced Heart Disease

JAMIE LIM¹, R NG², D YEO¹, HK LEE¹, B WONG³, LB LEE⁴, TW NG⁴, CC LIM⁴

¹Cardiology, Tan Tock Seng Hospital, Singapore

²Palliative Medicine, Tan Tock Seng Hospital, Singapore

³Clinical Standards and Improvement, Tan Tock Seng Hospital, Singapore

⁴Care and Counseling, Tan Tock Seng Hospital, Singapore

Introduction: Advance care planning is an important dimension of end-of-life care. Patients and families often do not fully understand the choices that they face in future medical care and clinicians do not always explore their preferences. In tandem with efforts at promoting advance care planning in Singapore, a 6-month pilot project was performed in the Heart Failure Service in Tan Tock Seng Hospital.

Methods: An 8-member team consisting of doctors, medical social workers, an advanced practice nurse, a pharmacist and an operations executive was formed to carry out the pilot project. Six members of the team underwent formal training in facilitating advance care planning discussions, based on “Respecting Choices”, an established Advance Care Planning programme originating from the Gunderson Lutheran Medical Foundation in Wisconsin, the United States of America. Materials were adapted to the local context where, necessary.

Results: Between February 2010 and July 2010, advance care planning discussions were carried out with 6 patients together with their next-of-kin. All subjects felt that these discussions were important and most were satisfied with the outcomes. One subject had unresolved questions for the cardiologist and thus, preferences were not recorded. Another subject expressed ambivalence about his choices due to spiritual considerations and was encouraged to follow-up with his spiritual advisor.

Conclusion: There is an unmet need for advance care planning among patients with advanced heart disease. A viable and sustainable advance care planning programme to target this patient group should be explored.

P22

Are Rheumatology Patients Ready For Shared Care?

ANITA LIM, B LOW, GG TENG, TC LAU, LG GOH

Department of Medicine, National University Health System, Singapore

Introduction: This study aimed to elicit the attitudes of rheumatology patients in NUHS regarding shared care between their rheumatologist and family physician.

Methods: A questionnaire comprising demography, attitudes towards shared care between a rheumatologist and family physician was administered to 315 patients attending rheumatology outpatient clinic in NUHS over a 1-month period. We used this opportunity to introduce and garner support for the NUHS right siting initiative. The workflow process incorporating teaching clinics for family physicians, medication supplies via NUHS pharmacy and continuing care in rheumatology outpatients was explained to the patients.

Results: Of the 315 patients, 69.2% were females; 66 (21%) were less than 40 years old. The 3 main conditions seen were rheumatoid arthritis: 112 (35.6%), systemic lupus erythematosus: 45 (14.3%) and gout: 33 (10.5%). Duration of follow-up was less than a year in 82 (26%) patients and under 3 years in 214 (67.9%) patients. Although only 12 (3.8%) patients had heard of shared care, 187 (59.4%) wanted to participate; the 3 main reasons were proximity to the GP/polyclinic 172 (82.7%), shorter waiting time 18 (8.7%), and reduced cost: 11 (5.3%). The main deterrent for participation was preference for specialist care: 93 (62.4%).

Conclusion: Almost two thirds of the NUHS rheumatology outpatients surveyed wished to participate in shared care; proximity was the main benefit. Preference for a hospital specialist was the main reason against shared care which was also cited in a similar survey performed 14 years ago in TTSH. However, only one quarter of the patients (16/63) expressed interest in having shared care then.

P23

Revolving Door: A Restrospective Study of the Characteristics and Reasons for Readmission

FAEZAH SHAIKH KADIR¹, ZAHARA MAHMOOD², ROSE LOW³, ALEX FOO¹, HL PANG¹

¹Care Integration Division, Agency for Integrated Care, Singapore

²ACTION Team, Medical Social Services Department, Changi General Hospital, Singapore

³ACTION Team, National University Hospital, Singapore

Introduction: This study aimed to (1) look into the profile

of cases readmitted within 15 days of discharge from acute hospitals and (2) explore the reasons for readmissions.

Methods: This was a retrospective, descriptive design study using the convenience sampling method. All cases were managed by the Aged Care Transition (ACTION). A questionnaire was used to collate and analyse data for case profiling and reason for readmission.

Results: There was a total of 649 patients recruited with an overall readmission rate of 16.8%. The social demographic reveals that patients who were readmitted consists of Chinese 54%, male 60.6%, 37.6% were between 71 and 80 years of age and 57% lived in a 3- and 4- room flat. Majority lived with their family (80.7%) and were being cared for by maids (26.6%), of which 65% claimed to be able to manage well prior to admission, 51% were able to cope, and 28% needed financial assistance.

Clinical profile revealed that 40% of the patients had a severe to moderate functional status on discharge, 66% had between 3 and 6 comorbidities, 26.6% had wounds and a history of falls in 1 year, 24.8% had dementia and 80.7% were taking more than 5 medications.

Reviewing the post discharge issues, 9 patients had new feeding tubes, 7 had new catheters, 6 had new wounds, 38 had new medications prescribed whilst 30 of them were diagnosed with new medical conditions. Of these patients, 72.5% had a history of prior hospitalisation, of which 36.7% had 1 to 2 episodes, 56% had length of stay within 7 days whilst 29% had more than 7 readmission episodes.

The interventions implemented by the care coordinators include patient education (71.6%) and caregiver training (36.7%) and support referral to ILTC services.

There was an equal distribution of 29.4% of patients who were readmitted within 4 to 7 days and 12 to 15 days between readmission and previous discharge. The reason for readmission were distributed as hospital factors with illness adequately treated but relapse ($n = 46$), inadequate community services ($n = 1$), caregiver not coping ($n = 8$) and caregiver feeling it is more convenient/cost effective to send patient to acute care ($n = 27$). Ninety percent of the cases did not contact the care coordinators prior to readmission while 83.5% did not consult their primary physician.

Recommendation: A similar study in a larger scale, possibly by an independent neutral body and to compare with those cases who are not readmitted and identify any differences in terms of profile, needs and interventions is

recommended to be conducted.

Conclusion: The results of this study have identified the characteristics of the elderly population who are at risk of readmission. Whilst the care coordinators are able to identify these patients, other factors including the clinical condition and health utilisation behaviour of patients and their family members are challenges that may need to be addressed.

P24

Telephonic Case Management for Ambulatory Service in An Acute Hospital

RAYMOND GOY¹, MARZIANAH SURAN², SANDHYA MUJUMDAR², LOUIS WIDJAJA²

¹Department of Anaesthesia, National University Hospital, Singapore

²Department of Medical Affairs, National University Hospital, Singapore

Introduction: National University Hospital (NUH) is a 960-bed teaching hospital in Singapore with a comprehensive range of services. In 2006, a study which examined 350 adult patients from the ambulatory surgical unit revealed an incidence of 12% of the patients who sought unscheduled medical help over 7 days follow-up surgery. Of these patients, 5.7% had unscheduled admissions. This taxed the already over-stretched system. As a result, NUH decided to harness telephonic case management (CM) to reduce over-stretching of NUH systems. We would like to see if the programme has achieved its objective to reduce readmission to the hospital and return to the Emergency Department (ED).

Methods: The effectiveness of the programme was evaluated by comparing the readmission rates to the hospital and the return rates to ED within 48 hours of day surgery patients in 2008, 2009 and 2010.

Results: A total of 718 day surgery patients (204 patients from 2008, 350 patients from 2009 and 164 patients from 2010) was included in the study. The return to ED within 48 hours had fallen from 5.4% in 2008 to 2.4% in 2010. However, the readmission rate to the hospital did not show any improvement from 2008 to 2010 (0.5% vs 1.8%).

Conclusion: The day surgery telephonic case management programme has reduced the return rate to ED. The impact on readmission to the hospital is yet to be seen. We may need to observe for a longer time period to see the impact of the programme. Extending this service to all ambulatory surgery patients would be beneficial both for the patients and for the hospital system.

P25

Utilising Case Management to Promote Integrative Care for Psychiatric Patients

HENDRIKS MM¹, MAHENDRAN R²

¹Case Management Unit, Institute of Mental Health, Singapore

²Acute General Psychiatry, Institute of Mental Health, Singapore

Introduction: Adopting a holistic approach, in the care of patients with psychiatric conditions, ensures that they are equipped with necessary skills, to integrate back to society and remain mentally well, thus avoiding the costly risk factors associated with chronic disease management. The use of Case Management with its coordination and integrative processes can well serve this approach. This paper describes the clinical outcomes of patients' case managed in a tertiary psychiatric hospital from the inpatient to the outpatient setting over a 1-year period.

Methods: Data mining of patients who were case managed from January 2009 to December 2009 was initiated. The results were analysed using the Excel Programme.

Results: Three thousand four hundred and forty-eight patients were case managed. Integrative and coordinated care provided by case managers included 241 patient psychoeducation sessions, 3824 patient counselling sessions, 1066 family counseling sessions, 4370 telephonic case management contacts, 51 home visits and 5934 service linkages to essential services required by the patient and carer. Only 173 (5%) of patients were readmitted within 28 days of discharge and 167 (4.8%) within a 3-month period, 3 (0.08%) patients committed suicide and 4 (0.12%) attempted suicide. Although negative, these outcomes are lower than the reported hospital average.

Conclusion: The provision of collaborative and integrative psychiatric health treatment through the case management process has produced positive results.

P26

The Effectiveness of Telephonic Case Management in the Delivery of Continuous Supportive Care for Patients and Carers

VAMADEVAN T¹, C LEE², HENDRIKS MM¹, MAHENDRAN R³

¹Case Management Unit, Institute of Mental Health, Singapore

²Department of Community Psychiatry, Institute of Mental Health, Singapore

³Department of Community General Psychiatry 2, Institute of Mental Health, Singapore

Introduction: Telephonic case management is an effective tool utilised by case managers (CM) to establish therapeutic rapport, provide supportive therapy, psycho educate and

perform service linkages for patients who live in the community. This paper illustrates the clinical outcomes and effectiveness of telephonic case management for patient cases managed in an outpatient setting of a tertiary psychiatric hospital.

Methods: Data mining of patients who received telephonic case management from November 2009 to September 2010 was done. The results were analysed using Microsoft Excel programme.

Results: Two hundred and ten patients received telephonic case management, of whom 116 were males (52.2%) and 94 females (44.8%). A standardised format was used to assess the patients' mental state when communicating with them. The format included assessments of their medication compliance, mood, sleep and appetite problems, suicidal ideation, and activities of daily living, work, relationship problems and issues requiring the CM's assistance to link them to services. Twenty-five (11.9%) patients were referred to the medical social worker for financial assistance, 7 (3.3%) patients were referred to the voluntary organisations for step down care, 18 (8.6%) patients were referred to General Practitioner Partnership Programme for follow-up care, and 12 (5.7%) patients were linked to other multidisciplinary services. The impact of these interventions, coupled with psycho education and supportive therapy resulted in only 3 (1.4%) patients requiring readmission within a 3-month period of telephonic case management.

Conclusion: Patients require various forms of support upon their discharge. Telephonic case management is one of the strategies that can be used effectively to ensure that care delivery is continuous and supportive.

P27

A Review of Discharge Care Plans for Hospitalised Patients with Diabetes Mellitus

RAYMOND HUANG, JF LOKE, MC CHIN, KH PWEE

Health Services Research & Evaluation Division (HSRE), Ministry of Health, Singapore

Introduction: As part of the development of an integrated care pathway for diabetes mellitus, a rapid technology assessment of discharge care plans for hospitalised patients with diabetes mellitus was conducted.

Methods: A search was conducted for systematic reviews, HTA reports, clinical practice guidelines (CPGs), and primary studies on the following databases: NHS-CRD (DARE, HTA & NHS EED), the Cochrane Library,

EMBASE, MEDLINE and the US National Guidelines Clearinghouse. Relevant articles identified from the reference lists of retrieved articles were also retrieved.

Results: One relevant systematic review, 1 randomised controlled trial (RCT) and 2 relevant CPGs were identified.

The systematic review did not find any studies that specifically investigated discharge planning for patients with diabetes, but found that reviews of hospital discharge planning in general were inconclusive about the effects of discharge planning on readmission rates, hospital length of stay or costs.

The RCT did not find a statistically significant difference in post-discharge HbA1c levels between an early and conventional discharge group, although the early discharge group had better secondary outcomes.

The American Association of Clinical Endocrinologists and the American Diabetes Association have recently published recommendations for discharge care plans for hospitalised patients with diabetes, which could be adapted for the Singaporean context.

Conclusion: The evidence about discharge care plans for hospitalised patients with diabetes is still limited. More evidence from well-designed studies is required to better understand how to develop and implement effective hospital discharge care plans for patients with diabetes in Singapore.

P28

Policy Support for Integrated Care Pays

STEIN K VIKTORIA

Institute of Social Medicine, Center for Public Health, Medical University Vienna, Austria

Priority setting by system administrators and policy makers as well as support for integrated care by the regulation are key issues for the promotion of integrated care, and are highly valued across sectors and countries. One of the purposes of an international expert survey was to find out whether policy initiatives incentivising integrated care actually paid off. The results showed that the item 'Priority setting/Policy goals of decision makers supported integrated care' was valued the most important factor for the decision to initiate an integrated care project/programme, irrespective of country or initiator, followed by 'Support of stakeholders (e.g. government, insurance, care providers) for integrated care' among a total of 34 items covering all aspects of integrated care. On the other hand, the relative

unimportance of items reflecting the economic implications and the financial structures of the healthcare system suggest the degree of financial fragmentation plays no major role. Policy initiatives towards integrated care will hence further foster the development and implementation of the concept and decision makers take this framework into account when planning integrated care. This finding underscores the urgent necessity of coherent strategies and clear priority setting from health policy makers and governing bodies in order to improve overall system performance. Policy makers can rest assured that investing in and incentivising integrated care pays.

P29

Does Home Therapy Work? A Case Report

MINDY CHIANG, JJUMALA, A LEE

Rehabilitative Services, Changi General Hospital, Singapore

Introduction: The Community Therapy Service aims to provide a comprehensive and integrated home-based rehabilitation to CGH patients with difficulties accessing hospital-based therapy services. The multidisciplinary team works closely with other community healthcare providers to ensure continuity of care and to maintain them in the community for as long as possible.

Methods: This is a single case report of an 82-year-old lady with multiple comorbidities and a complicated admission requiring intubation and Intensive Care Unit management. An independent and community ambulant person pre-morbidly, she was referred to community therapy post discharge as there was a decline in her functional status. She became non-ambulant, was on naso-gastric tube (NGT) and required assistance in her Activities of Daily Living (ADL).

Regular weekly home visits were conducted by the community therapy team (physiotherapist, occupational therapist and speech therapist) to improve her functional mobility, swallowing and ADL. The team therapists communicated with her doctor via telephone calls, emails and multidisciplinary meetings.

Results: After 2 months of home therapy, the patient resumed full oral feeding with successful weaning off her NGT. There were also moderate improvements in her ambulatory and ADL status. The service enabled her to receive regular therapy sessions at home without the need for extra resources to take her to the hospital for rehabilitation.

Conclusion: A comprehensive and integrated home therapy service is a viable alternative to providing rehabilitation to

individuals with difficulties accessing hospital or centre-based services. A multidisciplinary approach is integral in delivering holistic care to patients to optimise their functional recovery.

P30

Support for Spousal Elderly Caregivers

CL TOH, SH TAN, ZAHARA MAHMOOD

ACTION, Medical Social Services, Changi General Hospital, Singapore

Introduction: This study aimed to identify approaches that have helped to improve the positive aspects of caregiving for spousal elderly caregivers.

Methods: This retrospective study was based on 870 spousal caregivers of elderly patients above the age of 65 years recruited by ACTION team from June 2008 to September 2010. Data were collected using the hospital care coordinator master list database.

Discussion: Caregiving for elderly patients with a range of physical and mental health conditions has been associated with physical, social, emotional and financial burden, which becomes more significant as the disease progresses.

Past studies have mainly focused on identifying the particular interventions that match specific caregiving activities. However, there has been little research on what can be done to help increase positive aspects of caregiving so as to make the experience a more meaningful one for caregivers.

Conclusion: The findings showed that education of elderly caregivers/spouses in an attempt to change societal attitudes, and the enabling of respite services to be more readily accessible and affordable would help the caregiving process.

P31

Caregiver Well-being in a Local Community Hospital Setting

CARMEN LOK¹, ESTHER NG¹, KENNY TAN²

¹Department of Care and Counseling, Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

²Department of Corporate Affairs, Special Project and Innovation Office, Ang Mo Kio - Thye Hua Kwan Hospital, Singapore

Introduction: Identification of caregivers who are suffering from or are at high-risk of caregiver stress and burn-out will enable institutions like hospitals and other community agencies to institute preventive and therapeutic measures. Provision of adequate support for caregivers will ultimately

enable persons needing care (PNC's) to continue receiving the appropriate care from their loved ones. This will also reduce and hopefully prevent the institutionalisation of PNC's due to caregiver burn-out and fatigue.

Methods: Face-to-face semi-qualitative and quantitative interviews were conducted with 10 random caregivers of patients admitted to Ang Mo Kio - Thye Hua Kwan Hospital from September to November 2010. Caregiver demographics, source of stress and rewarding factors towards caregiving were collected and analysed.

Results: Seven out of 10 were first time caregivers. Provision of care included activities of daily living, assistance for medical appointments and financial support. Four out of 10 caregivers experienced frequent stress. Difficulties encountered during caregiving included loss of personal time and the need to care for other family members. On the other hand, 7 out of 10 caregivers verbalised that they felt appreciated by their PNC's. Other positive rewards from the caregiving process included closer family bonding and reciprocation of care for PNC's.

Conclusion: Caregiver stress is relatively common but can be managed and mitigated by positive rewards experienced from the caregiving process. Further research on the mitigating role of positive rewards is recommended.

WS1

Integrated Care: A Comprehensive Introduction

DENNIS KODNER¹, NICHOLAS GOODWIN², BERT VRIJHOEF³

¹Professor of Medicine & Gerontology and Director, NYIT Center for Gerontology & Geriatrics, New York College of Osteopathic Medicine of New York Institute of Technology (NYIT), USA

²Senior Fellow, Department of Health Policy, The King's Fund, United Kingdom

³Professor & Doctor, Department of Chronic Care & Integrated Care, Tilburg University & Maastricht University Medical Center, The Netherlands

‘Integrated care’ is more than an international buzzword—it is a global challenge. Driven by broad shifts in demographics and disease status, difficult-to-control costs, and increasing consumerism, integrated care is now considered a principal driver of healthcare reform worldwide. This growing focus on care integration follows international concerns about how fragmented and disjointed policies, financing, services and providers adversely affect access, efficiency, quality and costs. This is especially true for the growing number of patients of all ages with chronic, medically complex and disabling conditions where the potential of integrating systems and services is greatest.

Integrated care is also the future for health system design and will have a significant impact on how healthcare organisations, management and clinical practice operates. Comprehensive, systems-based integrated care solutions have shown that they can achieve optimum connectivity, alignment and collaboration within and between various parts of the healthcare enterprise, this enabling the delivery of quality, cost-effective services.

This pre-conference workshop, led by 3 leading international experts in the field of integrated care, will provide delegates with a comprehensive introduction to the meaning, logic and application of integrated care. The workshop combines lectures, case studies and group work and has been designed to prepare delegates for the Inaugural Asian Conference on Integrated Care.

WS2

Measuring Effectiveness of Care Integration

JOHN OVRETVEIT

Director of Research, Professor of Health Innovation Implementation and Evaluation, Medical Management Centre, The Karolinska Institute, Stockholm, Sweden

In the workshop we will first consider what we mean by ‘care integration’, why we need to define and measure care integration and how we can measure the extent to which integration has been achieved.

The workshop will review the different stakeholders’ perspectives of what is ‘effective integration’ and the different measures which provide information for these different perspectives and purposes. We consider measures at the level of clinical care coordination, and at the level of service coordination and health system integration.

The workshop will also provide examples of measures and frameworks for measurement and how these have been used in research and to improve care.

WS3

Effective Care Planning

SANDRA BIRNIE

Service Development Manager, Department of Strategy, Business and Performance, NHS Western Cheshire Primary Care Trust (Provider Services), Cheshire, United Kingdom

An interactive workshop exploring the concept of care planning and case management for patients with long-term conditions.

The aims are to reinforce existing knowledge and also to enable participants to acquire new knowledge and skills in order to improve service delivery by:

- Understanding the principles involved in planning care effectively;
- Creating an effective care planning process;
- Exploring the challenges and obstacles that may affect the outcome of the care planned and how these may be overcome;
- Gaining an appreciation of the process of proactive case management including the concept of case finding and risk stratification and how this fits in with planning care;
- Recognising the value in evaluating the effectiveness of the care planning process from a number of different perspectives, including the patient; family/carer; professional; corporate and financial.

This will be achieved through a mixture of presentations; discussion and group work. Participants will also be introduced to a number of different tools and models that will support them during the care planning process.

Index of First Author

Name	Code	Page	Name	Code	Page
Abraham Maria	P15	S38	Joubert Jacques	A4.1	S11
Ansak Marie-Louise	C1.1	S20	Jumala Junisha	P29	S44
Archbold Barbara	B5.3	S19	Kaji Pratiti Gautam	A5.1	S29
Birnie Sandra	PL6	S2	Kodner Dennis	PL1	S1
Birnie Sandra	A2.2	S9	Kodner Dennis	S1.4	S4
Birnie Sandra	B3.3	S16	Kodner Dennis	B2.1	S14
Birnie Sandra	C6.1	S27	Kodner Dennis	WS1	S46
Birnie Sandra	WS3	S46	Koh Gerald	A3.1	S10
Boult Chad	PL7	S2	Koh Shawn	P1	S33
Boult Chad	B3.1	S15	Koh Yan Tong	A5.5	S31
Boult Chad	C6.2	S27	Lee Adeline	C2.4	S22
Chan Yoke Hwee	C2.3	S22	Lee Grace	C5.3	S26
Chay Oh Moh	A4.2	S12	Lee Roy	A3.3	S11
Chung Irwin Clement	P4	S34	Lim Jamie	P21	S41
Alphonsus Wai Hoong			Lim Michelle	A5.4	S30
Chung Jenny	A3.2	S10	Lim Tow Keang	S3.2	S6
Chung Jenny	B2.3	S14	Lim YN Anita	A5.6	S31
Dickinson Helen	B1.4	S13	Lim YN Anita	P22	S41
Dickinson Helen	P16	S39	Loh Ping Tyug	S3.1	S5
Dunbar James	S3.4	S7	Lok Carmen	P31	S45
Dunbar James	B4.3	S18	Loke Jian Feng	P19	S40
Dunbar James	C3.2	S23	Low Mui Lang	S2.1	S5
Fong Ngan Poon	P7	S35	Luangkamthorn	B3.2	S16
Fong Sin Dee	P10	S36	Ma Lina	B1.2	S12
Fong Yoke Hiong	C2.2	S21	Manikam Ambelorfam	C5.4	S26
Gauld Robin	C1.4	S21	Margaret Hendriks	P3	S33
Goh Qiuling Bandy	P18	S39	Margaret Hendriks	P25	S43
Goh Soon Noi	A2.3	S9	Margaret Hendriks	P26	S43
Goodwin Nicholas	PL2	S1	Marzianah Surani	P24	S42
Goodwin Nicholas	S1.3	S4	Matchar David	A1.2	S8
Goodwin Nicholas	C4.1	S24	McGowan Patrick	C3.3	S23
Goodwin Nicholas	WS1	S46	McMaster Fiona	C3.1	S23
Greenwald Jeffrey L	PL3	S1	Naidu Ganesan	C4.4	S25
Haahtela Tari	S3.3	S6	Nuño Solinis Roberto	S1.1	S3
Ho Tsz Shun Stephanie	P5	S34	Ovretveit John	PL5	S2
Hoo Kanchana	P8	S35	Ovretveit John	A1.3	S8
Howell Eric	A4.3	S12	Ovretveit John	B1.1	S12
Huang Raymond	P27	S43	Ovretveit John	WS2	S46
Humphrey Gayl	B5.2	S19	Pami Nor Azilah	P9	S36
Hung Tina	S2.1	S5	Pang Ruth	B4.1	S17
Ismail Noor Hafizah	C2.1	S21	Pang Weng Sun	S2.1	S5
Jonathon Davies	A5.8	S32	Pee Lay Lay	C1.2	S20

Name	Code	Page
Piravej Nipit	S1.2	S3
Piravej Nipit	B2.4	S15
Poon Elizabeth Ok	P2	S33
Ramalingam Vasanthi	P12	S37
Reddy Prasuna	B4.3	S18
Reddy Prasuna	S3.4	S7
Seah Angeline Soek Tian	S5.2	S26
Seow Branden	A5.7	S31
Seow Branden	P20	S40
Shaikh Kadir Faezah	A5.3	S29
Shaikh Kadir Faezah	P23	S41
Siew Chee Weng	C5.1	S25
Singh Ravinder	B5.1	S19
Sujata Rajaram	P14	S38
Tan Anthony	C4.3	S25
Tan Audrey	B4.4	S18
Tan Boon Yeow	PL4	S2
Tan Kok Leong	A2.1	S9
Tan Thai Lian	B3.4	S17
Tham Weng Yew	C6.3	S27
Thamilselvi V	P3	S33
Toh Chin Leng	P30	S45
Tong Choi Ying	B1.3	S13
Tsao Mary Ann	S2.1	S5
Vamadevan Thambyrajah	P26	S43
Varadhan Arivazhagi	P11	S37
Viktoria K Stein	A1.1	S7
Viktoria K Stein	P28	S44
Vrijhoef Bert	S1.5	S4
Vrijhoef Bert	A1.4	S8
Vrijhoef Bert	B2.2	S14
Vrijhoef Bert	C4.2	S24
Vrijhoef Bert	WS1	S46
Wadia Shirin	B4.2	S17
Wang Ping	P17	S39
Xu Tianma Tim	P13	S37
Yang Hui Ling	A5.2	S29
Yang Huilin	P6	S35
Yuen Janice Suk Yee	C1.3	S20
Yong David	C6.4	S28