

## ***S4. HHSRF Session***

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### ***Health services research questions in elder care***

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A prime aim of conducting health services research is to use the findings to engage with public and policy makers, and also to inform debates about priorities for health service delivery and planning. Important questions to ask include: what needs to be provided; eliciting providers' and patients' perspectives in the form of focus groups, surveys, identification of risk factors, etc; how to provide the service; feasibility, compliance, quasi-experimental & efficacy studies, randomised controlled trials; and health economic aspects (direct and indirect costs, QOL, cost per outcome achieved, life saved, active life gained). Important health services research questions in elder care include issues relating to prevention and management of geriatric syndromes (eg frailty, falls, cognitive and functional decline); to service provision models (complex interventions); and patients' perspective of the service provided.

This presentation used a selection of health services research projects supported by the Food and Health Bureau to address some of the above issues. These include assessing the impact of ageing population on use of hospital services and disease and disability burden consequent to stroke and service implications; evaluation of pulmonary rehabilitation programme in residential care homes for the elderly led by a trained worker; the evaluation of post-discharge community support for patients with chronic obstructive pulmonary disease and congestive heart failure, development and evaluation of cost-effectiveness of a locally designed hip protector for the local Chinese body shape and Hong Kong climate, in preventing hip fractures, the design and evaluation of community group programmes for chronic diseases. The findings from these project directly guide practice in terms of providing services in a different way or discontinuing services that have not been shown to be effective.

Changing patient profiles and service settings generate research questions that directly contribute to continuous quality improvement, evidence-based practice, provide cost-effectiveness and cost benefit data to guide service providers to formulate policies.

## ***S5. HHSRF Session***

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### ***Application of health technology assessment in drug evaluation***

**Professor Kenneth Lee**

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Health technology assessment (HTA) is a form of policy research that examines short- and long-term consequences of the application of a health care technology.

Health care technology within the concept of HTA include drugs, biologics, devices, procedures, support systems, health programmes, etc.

The goal of HTA is to provide policy makers with information on policy alternatives. For any given technology, properties and impacts assessed may include technical properties, evidence of safety, efficacy, real-world effectiveness, cost, and cost-effectiveness as well as estimated social, legal, ethical, and political impacts. Thus, HTA is conceived as being much broader than health and economic research of a health care technology.

HTA is commonly performed to support decision-making processes to advise the appropriate use and purchase of technology, inform payers regarding health plan coverage and payment, etc.

Today, many governments around the world have created internal agencies authorised to include a broad HTA service. There are also private HTA agencies established with similar functions. The governments look to these agencies to guide them in a diversity of policy decisions. Their reports are viewed as useful guidance for technology adoption and reimbursement decision making.

This presentation aims to introduce to the audience the fundamental concepts of HTA in the context of drug evaluation, its applications in a health care system, the process of performing an HTA, and the usual methods to interpret the results.

### ***Cost-effectiveness in diabetic retinopathy care***

**Professor Sarah McGhee**

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#### **INTRODUCTION**

More health services research is needed to inform policy and practice in Hong Kong. One example is diabetic retinopathy (DR), a leading cause of blindness in those under 65. Screening for DR is usually highly cost-effective but Hong Kong's mixed medical economy incorporates private and public services and services like screening often involve a co-payment. This could affect cost-effectiveness of screening and so this study aimed to determine the cost-effectiveness of DR screening and the impact of a co-payment of HK\$60.

#### **METHODS**

A sample of 4110 patients with diabetes in two public primary care clinics were randomised into a 'Pay group' who would have to pay a fee of HK\$60 for DR screening and a 'Free group' which was not required to pay. After excluding those already under the care of an ophthalmologist (31%), 1429 and 1410 were allocated to the Free and Pay groups, respectively. They were interviewed by telephone and invited for screening. The digital photographs were graded for DR at the Eye Institute.

#### **RESULTS**

90% agreed to participate in the study. Of the Free group, 95% accepted screening and 88% showed up compared with 91% and 82% in the Pay group. The proportion with no retinopathy was 63% in the Free group and 71% in the Pay group.

#### **CONCLUSION**

A substantial number of people with diabetes in primary care in Hong Kong have DR and many are at risk of visual loss. The full results are still being analysed but these initial data indicate that even a low co-payment may deter some from screening and they may be higher risk cases. Further work needs to determine whether existing financial safety nets could avoid inequity. Local health services research is vital to ensure that available health services are used effectively and efficiently.

## ***S10. HHSRF Session***

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### ***Morbidity and mortality attributed to air pollution: evidence and challenges***

**Professor Tze-wai Wong**

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The harmful effects of air pollution on human health have been recognised during episodes of 'air pollution incidents' in Europe and the United States more than 50 years ago. More recently, the association between short-term changes in air pollution and various health outcomes was investigated by time series studies. The associations between air pollution and mortalities and mortalities have been shown consistently. Local time series studies produced results unique to the air pollution profile of Hong Kong. An intervention study that evaluated the use of low sulphur diesel was influential in determining the air quality guideline for sulphur dioxide by the World Health Organization. Another unique study linked air pollution with general practitioner consultations. In the past, cross-sectional studies and more recently, cohort studies have been conducted on school children to determine the long-term effects of air pollution on child health in Hong Kong and Guangzhou. Despite extensive studies worldwide, many questions on air pollution and health remain unanswered. Challenges to future studies include: the development of more precise exposure assessment techniques, a better understanding of joint effects of air pollutants and their interactions with climate, the mechanisms of action of some air pollutants on the cardiovascular and respiratory system, the fate of inhaled ultrafine particulates (nanoparticles) and their effects on different organs and systems, and the development for more specific indicators and biomarkers of body response to air pollution. With the rapid developments in the Pearl River Delta, these research questions need urgent answers to protect public health.

## ***S11. HHSRF Session***

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### ***Cost-effectiveness of mammography screening***

**Dr. Irene Wong**

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While the cost-effectiveness of screening mammography in most western populations has been accepted, this may not readily apply to Chinese women with a much lower breast cancer incidence and different age profile of patients. Moreover, health care system characteristics and the distribution of health care resources vary across countries while there is increasing concern about the cost of health care emphasising the need for evidence-based public health policy. We evaluated the cost-effectiveness of population-based mammography screening among Chinese women. We used simulation modelling to evaluate screening policies for breast cancer prevention and control, and in turn to provide evidence to formulate public health policy on screening for breast cancer locally.

A state-transition decision model was developed to simulate breast cancer progression and to determine the cost-effectiveness of alternative mammography screening strategies, for the detection of breast cancer, among Hong Kong Chinese women aged 40 or older. The results suggest that mass biennial screening may not be a cost-effective allocation of resources in Hong Kong. In more recent work, we extended the model and compared the deployment of additional resources for screening or for individualised patient care (e.g., new adjuvant treatment, better psychosocial support and reducing waiting time). The findings suggest that resources could be used more efficiently for the treatment and care of breast cancer patients, given the current disease profile underlying the female population in Hong Kong. Such findings could help inform policy debates on resource allocation regarding screening, diagnosis, treatment and end-of-life care for breast cancer in Hong Kong.

## ***S12. HHSRF Session***

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### ***Evaluation of general outpatient clinics using the primary care assessment tool***

**Professor Samuel Wong**

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#### **BACKGROUND**

The main goal of Hong Kong's publicly-funded general outpatient clinics (GOPCs) is to provide primary medical services for the financially vulnerable. The objective of the current study was to compare the primary care experiences of GOPC users and the users of care provided by private general practitioners (GPs) in Hong Kong via a territory-wide telephone survey.

#### **METHODS**

One thousand adults in Hong Kong aged 18 and above were interviewed by a telephone survey. The modified Chinese translated Primary Care Assessment Tool was used to collect data on respondents' primary care experience.

#### **RESULTS**

Our results indicated that services provided by GOPC were more often used by female, older, poorer, chronically-ill and less educated population. GOPC participants were also more likely to have visited a specialist or used specialist services (69.7% vs. 52.0%;  $p < 0.001$ ), although this difference in utilisation of specialist services disappeared after adjusting for age (55.7% vs. 52.0%,  $p = 0.198$ ). Analyses were also performed to assess the relationship between healthcare settings (GOPCs vs. private GPs) and primary care quality. Private GP patients achieved higher overall PCAT scores largely due to better accessibility (Mean: 6.88 vs. 8.41,  $p < 0.001$ ) and person-focused care (Mean: 8.37 vs. 11.69,  $p < 0.001$ ).

#### **CONCLUSIONS**

Our results showed that patients primarily receiving care from private GPs in Hong Kong reported better primary care experiences than those primarily receiving care from GOPCs. This was largely due to the greater accessibility and better interpersonal relationships offered by the private GPs. As most patients use both GOPCs and private GPs, their overall primary care experiences may not be as different as the findings of this study imply.