

SI. Health services research funding for smoking and related projects, outputs and tobacco control in Hong Kong

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After several years' delay and numerous debates, the Hong Kong SAR Government's proposed amendments to the Smoking (Public Health) (Amendment) Ordinance were passed by the Legislative Council in October 2006. The implementation of a total ban of smoking in restaurants, some indoor workplaces and other public places since 1 January 2007 was an important milestone in tobacco control in Hong Kong. Strong local evidence, derived from many local studies, was used extensively to support more stringent tobacco control proposals. The study results were widely disseminated to promote public awareness of the harm caused by smoking and passive smoking, to solicit support from legislators, the mass media and the public, and to counter opposition.

The Health and Health Services Research Fund (HHSRF) has been the main source of research grants for smoking, passive smoking and related projects in Hong Kong. From 1993 to 2006, the HHSRF has funded 13 smoking and related projects with an amount of \$2.7 million. The Health Care and Promotion Fund (HCPF) in its early years only, supported 3 such research projects with \$2.3 million.

1. Smoking and deaths: A widely cited finding was that about 5700 deaths were attributable to smoking annually in Hong Kong. The results were highlighted in headlines of local newspapers and electronic media and also in the international media, including BBC and CNN in 2001.
2. Secondhand smoke (SHS) and deaths: It was found that SHS was associated with mortality due to cancer, heart disease, stroke and respiratory disease. The finding that secondhand smoke kills about 1324 people in Hong Kong each year was used in a major public health campaign by the Hong Kong Council on Smoking and Health to support smoke-free Hong Kong legislation in 2006.
3. SHS and respiratory health: SHS was found to be associated with excess risk of respiratory ill health, hospitalisation and economic costs in a 1997 birth cohort study. Another study showed a dose-response relationship between respiratory ill health and SHS exposure in primary school students.
4. Economic costs: Based on the findings above and elsewhere, it was found that the economic loss, excluding the monetary value of a human life, amounted to HK\$5.3 billion a year; which was double the amount of tobacco tax revenue.
5. A public opinion survey showed consistently strong and majority support for many stringent tobacco control measures, including a total ban of smoking in restaurants; such a ban would result in an overall increase in patronage.
6. Several randomised controlled trials showed that smoking cessation counselling was effective in improving quit rate. The results have laid solid foundation for training of smoking cessation counsellors and setting up of smoking cessation clinics and telephone quit lines.

Many of the studies have resulted in publications in high impact journals and have contributed useful findings to tobacco control internationally, including citations by the World Health Organization.

Health services research funding in Hong Kong has made enormous contributions to tobacco control and public health. More and long-term funding and effective translation of scientific evidence into public health advocacy is needed.

S2. Can public health research mitigate the air pollution epidemic in Hong Kong and the Pearl River Delta?

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The deterioration of air quality in Hong Kong shows a direct relationship with the expansion of infrastructure development and economic growth over a period of about 20 years. The purpose and aims of the public health sciences in this context are to develop relevant research questions, assemble appropriate high quality data, test hypotheses and interpret the findings in terms of their applicability to preventive environmental health strategies.

The next step is a greater challenge: the translation of quantified risks into legislation, regulations and codes of practice which will demonstrably lead to health protection and the reduction of avoidable morbidity and mortality.

Studies on pollution health effects in Hong Kong by the two university medical centres since 1989 have led to a substantive database and profile of the illness, lost productivity increased health care utilisation, life years lost and the economic burden on the whole community. The exposure prevalence approximates to 100% and is a major cause of inequity in lifetime health experience.

One public health viewpoint is that progress towards the adoption of mandatory measures for pollution abatement, to stem the current epidemic of cardio-pulmonary and other health problems caused by air pollution, has been obstructed and delayed because of failure to develop a comprehensive multi-sectoral strategy to reduce the hazard of air pollutants. While it is clear that the problem is regional the Hong Kong SAR is in a strong position to lead and demonstrate the value of improved air quality.

This dissonance between evidence-based science and advocacy and public policy is a clear signal that the public health function is not working well in Hong Kong. Proposals to further defer action on setting air quality standards pending a two-year review of the evidence, following the World Health Organization's 2006 consensus statement on Air Quality Guidelines, adds to the uncertainty of the value placed on local research and its place in policy making.

Only a very small proportion of the research on air pollution and health in Hong Kong was funded from public sources.

There now needs to be an urgent review of

- * the scarce funding available for environmental health research in relation to its manifestly high priority, and
- * the process by which evidence is assessed in the policy decision-making process, in relation to social need and equity on the one hand, and the influence of vested interests on the other.



S3. Local quality of life research and its impact on healthcare services in Hong Kong

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In the last two decades, there has been increasing interest in quality of life (QOL) research in Hong Kong. This paper reviews local QOL research and discusses their impact on healthcare services in Hong Kong. A search of literature with "quality of life" as subject field was conducted in CINAHL, EMBASE, and Ovid Medline. Key words with "QOL" and the short form of major generic QOL instruments with Chinese versions, i.e. SF36, WHOQOL, SIP, FACIT, EORTC, EQ-5d, COOP / WONCA, Chqol, were also included as search criteria. The search was limited in the subject field to "Hong Kong", and year of publication from 1981 to 2007. A total of 259 papers were identified. Among these papers, three types of QOL studies were identified, i.e. health-related QOL studies, psychological/subjective well being studies, and objective QOL studies. This presentation will focus on the review and analysis of the health-related QOL studies in terms of the nature of the study, study population, and clinical specialties. The impact of these studies on local healthcare will also be discussed.

S4. Impact of health research: the elderly

Prof Jean Woo

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The impact of health research may be measured by the extent to which the findings are translated into practice, or by academic indices per researcher or per unit of funding. It is pertinent to examine who should decide on the questions and the measurement of impact on whom. Ideally there should be a balance between individual versus organisational perspective. Research questions may be grouped into service evaluation from an organisational perspective, prevention of adverse outcomes, and evaluations from individual perspectives. Special features of research into elderly populations need to be taken into account in framing research questions and planning the design of the study. These include heterogeneity of populations, high drop out rate, occurrence of geriatric syndromes involving multiple systems, multiple co-morbidities, silent disease, many confounding factors, and the choice of outcomes that are clinically meaningful. Design and evaluation of complex interventions to improve healthcare are of clinical importance in guiding practice and policy. There are many unanswered questions for our older population, covering population profile and time trends of various health indicators, policy evaluation, patient and carer perceptions and preferences. Local research supported by the Food and Health Bureau and other funding bodies will be used to illustrate the above points. There are many pitfalls in ensuring that the impact of health research is not lost in translation.

S5. *Mental health research in Hong Kong*

Prof Dominic TS Lee

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Over the years, the Health Services Research Fund (HSRF) and the Health and Health Services Research Fund (HHSRF) have supported a variety of mental health research projects. In this presentation, these research projects will be reviewed, with particular attention on the impact of these projects on the delivery of public mental health in Hong Kong. Successful projects will be highlighted to illustrate how health services research can improve current practice and shape the development of new service in local community.

This presentation will also include discussion of the difficulties encountered in funding mental health services research in Hong Kong. Despite the enthusiasm and commitment of the Research Council and Grant Review Board, few applications withstand the rigorous peer review process and are subsequently approved for funding.

In general, there appears to be a shortage of mental health researchers locally. This needs to be addressed if patients are to receive optimum treatment. Funding agencies could play an important role in ensuring a continued supply of well trained mental health researchers. The models adopted by the National Institute of Mental Health in the United States will be used to illustrate how this could be done.

S6. *Addressing the health consequences of intimate partner violence: lessons from health research*

Dr Agnes Tiwari

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Violence against women by an intimate partner (intimate partner violence, IPV) is an important public health problem with costs to the individuals and society. There is mounting evidence that IPV has physical, psychological and sexual health consequences for survivors. The consequences may be short-term and direct, such as the common face, head and neck injuries. Some of the injuries can be fatal. The long-term consequences may range from depression, post-traumatic stress disorder, chronic pain, central nervous system symptoms (e.g. headaches, fainting or seizures), gastrointestinal disorders (e.g. chronic irritable bowel syndrome), cardiac problems (e.g. hypertension or angina), immune system dysfunction (e.g. colds or flu) to gynaecological problems (e.g. sexually transmitted infections, vaginal bleeding, pelvic pain or urinary tract infection). The negative health effects may persist long after the abuse has ended.

The IPV - health relationship is complex and further studies are needed to better explain the process by which IPV is related to specific health problems, health behaviours and the worsening of health among such a vulnerable population.

Health research adopting a multi-dimensional approach to address the health consequences of IPV has provided better understanding of the needs of abused women. For example, using conceptualisations of health based on the principles of Chinese Medicine, researchers in a local study have succeeded to help abused women to understand their health problems and initiate dietary practices based on Chinese dietetics with good effect. Furthermore, the same researchers have found that an intervention incorporating dietary, parenting and empowerment training may reduce the harm of IPV on women's health provided the confounding factors are addressed also.

In charting future directions in IPV research, researchers need to work together with clinicians, shelter workers, advocates, mental health workers and abused women to develop a research agenda that is multi-disciplinary and addresses IPV across the life span.



S7. *Discovery and surveillance of novel or emerging human and animal viruses by surveillance of patients and wild animals: impact on control and management of infectious diseases*

Prof Kwok-yung Yuen

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Almost half of all patients with community-acquired pneumonia have no identifiable aetiological agents. Our research identified a novel Group IIb coronavirus as the cause of SARS from the lung tissue of a patient who died from the atypical pneumonia in 2003. About 70% of new emerging infectious agents originate in animals. Civet cats are the most commonly consumed wild game animal meat in winter and we found civet SARS-coronavirus in caged civet cats in wild animal markets. However, surveillance of wild and farmed civet cats for this novel coronavirus proved fruitless, suggesting that civet cats are simply amplification hosts and not the true virus reservoir. Since the recently identified Lyssavirus, Nipah and Hendra viruses, which have emerged to cause outbreaks of human disease in the last 10 years, were found in bats, we focused on these animals as possible SARS-coronavirus reservoirs. A novel bat SARS-coronavirus highly similar to the human and civet virus was subsequently discovered. If wild animal surveillance had been performed systematically before 2003, the SARS-like coronavirus group might have been discovered and Hong Kong might have better prepared for the SARS epidemic. One year after the discovery of the SARS-coronavirus, we also found another novel Group IIa coronavirus in a patient with community acquired pneumonia returning from Shenzhen.

Continuous vigilance is required in surveillance for emerging infectious diseases. For known microbes such as the influenza A H5N1 strain causing the present pandemics in poultry and other birds, continuous surveillance may identify the strains with pandemic potential in humans. The results of this microbiological surveillance have clearly contributed to the epidemiological control, diagnosis and management of influenza A H5N1 and SARS-coronavirus.

S8. *What have we learned about preventing nosocomial transmission of respiratory infections?*

Prof Joseph JY Sung

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During the epidemic of SARS, hospitals became breeding grounds for respiratory infection. About one-quarter of SARS patients were healthcare workers and they posed a danger of spreading the disease into the community. Why were hospitals a potential epicentre of infectious diseases? What have we learned from this major outbreak? How can we protect healthcare workers from contracting respiratory infections in their clinical duties in future?

From a case-control study that included 21 hospitals (87 wards) in Guangzhou and five hospitals (40 wards) in Hong Kong, host factors such as pulmonary congestion, requirement of oxygen therapy, use of nebuliser, use of positive pressure ventilation, environmental factors such as <1 m distance between hospital beds, lack of proper washing and changing facilities in wards, and staff working whilst ill with fever were identified as risk factors for transmitting SARS.

We also set up a model using manikins, a smoke generator and 2-D laser equipment to study the safety of oxygen therapy and positive pressure ventilation. Our study found that leakage of air from facemasks used in oxygen therapy could pose a risk in spreading respiratory infection. The spread of droplets (or smoke particles) is related to the design of the mask and the flow rate of oxygen provided. The pressure of non-invasive positive pressure ventilation is directly related to the projectile distance of the droplet. Thus, choosing the correct mask and using the lowest possible positive pressure is desirable in order to minimise nosocomial spread of infections.

S9. *Towards an understanding of expiratory droplets and SARS ward ventilation*

Prof Yuguo Li

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Large droplet transmission and/or airborne transmission are believed to be the major modes of transmission for many respiratory diseases such as tuberculosis, influenza and SARS. The important role of droplets in disease transmission requires reliable data on the number and size of respiratory droplets as well as their movement and evaporation in air after being expelled. As a result of SARS, the Hong Kong SAR Government promptly constructed more than 500 new state-of-the-art isolation rooms with more than 1300 beds in 14 hospitals by the end of 2003.

We measured the numbers and sizes of droplets exhaled by healthy Chinese adults with various expiratory activities and those from the use of a nebuliser and took nasopharyngeal aspirates in both laboratory and hospital environment. We determined how far droplets could travel in a room environment as well as the penetration of breathing flows. We measured the ventilation effectiveness in nearly 50 selected isolation rooms in nine major hospitals.

The average size of droplets due to coughing and other respiratory activities can be larger than 50-100 microns; however, such droplets tend to evaporate quickly. Nebulisers generate very fine droplets (less than 1 micron) and large amounts of these fine droplets can escape through the holes in facemasks. "Large droplets" (i.e. those larger than 50-100 microns) cannot be removed effectively by current ventilation systems and are deposited on nearby surfaces (floor, bed, patient's body, etc). For optimum protection, the distance between beds in an isolation ward should be larger than the distance travelled by the large droplets (~1.5 m). The bed distance is determined by the mechanisms of droplet transmission, not airborne transmission. All of the wards investigated satisfied the fundamental infection control requirement of no air leakage to the corridor. However, at the time of measurement, 28% of the tested newly renovated isolation rooms in existing hospital wards did not achieve the recommended 12 air changes per hour (ACH) ventilation rate, and 60% had reverse airflow direction for the toilets/bathrooms, suggesting room for improvement. A new type of isolation room with better performance in removing both large droplets and fine droplet nuclei is also recommended from this study.

S10. *Providing information to assist decisions on the inclusion of new vaccines in the Childhood Immunisation Programme in Hong Kong*

Dr Sarah M McGhee

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There are several vaccines now approved for administration to young children but not yet incorporated into the Hong Kong Childhood Immunisation Programme (CIP). Some of these vaccines are reported as being cost-effective and several are routinely given to infants in other countries. The Scientific Committee on Vaccine Preventable Diseases (Centre for Health Protection, Department of Health) was therefore interested to know the likely cost-effectiveness of some of these vaccines in Hong Kong in order to consider adopting them into the CIP.

When translating economic findings from one country to another, it can often be assumed that clinical effects will be similar. However costs, patterns of care and behaviour and baseline prevalence of diseases usually differ. Therefore, it was necessary to model the cost-effectiveness of each vaccine in which the Committee was interested to reflect the local situation.

This paper will report on some of the principal challenges and issues in providing useful information to the policy-makers on the cost-effectiveness of these vaccines.



S11. Impact of local health services research on clinical practice worldwide

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Hong Kong is notorious for having one of the highest rates of peptic ulcer bleeding in the world. A high prevalence of *Helicobacter pylori* infection and an increasing use of non-steroidal anti-inflammatory drugs (NSAIDs) including low-dose aspirin in our ageing population probably account for this high incidence.

Traditionally, research on prevention of NSAID-induced ulcer has been monopolised by pharmaceutical industry-sponsored trials. While many of these drug trials were well-designed and provided important clinical data, there were major problems with such studies. First, preventive strategies that aim at modifying the risk factors of NSAID-induced ulcer disease (e.g. *H. pylori* infection) and hence potentially reducing the need for expensive anti-ulcer drugs were rarely explored. Second, virtually all sponsored trials recruited patients with average- to low- risk of ulcer. Patients who were at high-risk of ulcer bleeding were excluded. Study findings, however, were often extrapolated to high-risk patients in clinical practice. Third, the study drug was often compared with either a placebo or sub-therapeutic doses of an active comparator. Head-to-head comparison between competing drugs at full therapeutic doses was rarely done. In light of these uncertainties, the Food and Health Bureau has supported a number of industry-independent clinical trials to address some of the above issues.

The first study aimed to compare elimination of risk factors for peptic ulcer alone with long-term acid suppressive therapy for prevention of ulcer bleeding among high-risk patients with *H. pylori* infection who received aspirin for cardiovascular prophylaxis. The result showed that curing *H. pylori* infection was comparable to long-term acid suppressive therapy in preventing recurrent bleeding among high-risk aspirin users. The second study compared two competing strategies - acid suppressive drugs (PPI) versus stomach-sparing NSAIDs (COX-2 inhibitors) - for prevention of ulcer bleeding among arthritis patients who had previous NSAID-induced ulcer bleeding. Surprisingly, the results showed that although the two strategies were comparable, neither treatment was effective in eliminating the ulcer risk among high-risk patients.

The outcomes of the above Government-sponsored studies have led to development of new recommendations and revision of current guidelines on the management of high-risk patients on NSAIDs and aspirin.

SI2. Promoting health and preventing chronic diseases: opportunities and challenges

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According to the World Health Organization, health is defined as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'. Health, knowledge and wealth are intertwined. A healthy population is well informed, knowledgeable and economically competitive. In our pursuit of health, now considered a prerequisite for quality of life in many developing and developed countries, there is a need to adopt an integrated approach in considering any health care reform to address the important elements of needs, supply and financing.

In developing and developed countries, including Hong Kong, chronic diseases (notably cardiovascular diseases, cancers, diabetes, respiratory diseases and mental illnesses), road traffic accidents and communicable (notably HIV/AIDS) are the main disease burdens which account for 60-80% of global deaths. Apart from ageing, unhealthy lifestyles and environments play critical roles in unmasking diseases in genetically predisposed individuals.

Using diabetes as a prototype of chronic diseases, this silent condition reduces life expectancy by 10-15 years especially in young people. Diabetes is the main cause for heart disease, stroke and kidney failure in 30-50% of people afflicted with these killing conditions. In Hong Kong, 1 in 8 people have diabetes with over 40% having onset of disease at less than 40 years old. In our adolescents, 2-3% have metabolic syndrome, a clustering of risk factors, which substantially increases their risk for cardiovascular and renal diseases. These demographic changes have major implications on societal productivity as these young individuals develop debilitating illnesses in their prime of life. In China, a national income of US\$558 billion will be lost in the next 10 years due to premature death from heart disease and stroke, 50-60% due to diabetes. In a recent survey, more than 50% of the corporate earnings of Fortune 500 companies are now used to pay for healthcare expenditures mainly due to rising incidence of chronic diseases affecting young to middle-aged employees.

Despite these daunting figures, Hong Kong has pioneered and published on the marked benefits of using a multi-disciplinary team to deliver evidence-based chronic care protocols. These care models put particular emphasis on risk stratification, patient empowerment, reinforcement of compliance and attainment of treatment targets, which have been shown to reduce death and complication rates by 50-70% in patients with chronic diseases such as diabetes, hypertension, kidney and heart diseases.

Given the growing burden of young-onset chronic diseases, there is an urgent need to develop a cohesive strategy comprising awareness, mandates and incentives and to use both private and public funding to meet the complex and pluralistic needs of our society through shared responsibilities and informed decisions. To this end, an innovative healthcare financing system that provides incentives to payers, users and providers to subscribe to high-quality disease-prevention programmes together with clinical audits and benchmarking are essential components.



S13. Vocational outcomes of an integrated supported employment programme for individuals with persistent and severe mental illness

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We examined the effectiveness of an integrated supported employment (SE) programme, which augments individual placement and support (IPS) with social skills training (SST) in helping individuals with severe mental illness achieve and maintain employment and compared ISE to IPS, and traditional vocational rehabilitation (TVR).

One hundred and sixty-three participants with severe mental illness were recruited from July 2003 to March 2005 from clinical settings in Hong Kong and randomly assigned to three vocational rehabilitation programmes (ISE, IPS, and TVR). Data collection was conducted by a blind and independent assessor at 7, 11, and 15 months after admission.

After 15 months of services, both IPS and ISE participants had higher employment rates and longer job tenure when compared with TVR participants. More ISE participants gained competitive employment (78.8% vs 53.6%), worked longer (23.84 weeks vs 12.34 weeks) and had fewer workplace interpersonal conflicts than the IPS participants after 15 months.

The study concluded that the ISE approach from referral to follow-up enhances the outcomes of supported employment.

S14. “Children of 1997”: from paediatric to lifecourse epidemiology, thence population health and policy

Prof Gabriel M Leung

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Birth cohorts are a unique resource to understand the causal impact of clinical and other broader determinants of child public health. If followed into adulthood, even old age, they can provide invaluable aetiologic insights over the lifecourse, especially regarding the pathogenesis of chronic conditions, and specific to the socioeconomic contexts within which the children have grown up.

I will review our experience to date studying 8,327 children born in April and May of 1997. In particular, we focused on the inter-relations between method of delivery, pre- and post-natal smoke exposure via non-smoking mothers, breastfeeding and health care use.

I will also outline future plans to continue following these currently 10-year-olds to examine the impact of epigenetics in the generation of adult diseases, mediated through anthropometric and endocrine changes in infancy, childhood and adolescence. This is particularly important in Hong Kong which has experienced a recent and rapid epidemiological transition from essentially pre-industrial conditions over the last two or three generations. Hong Kong's empirical experience can provide a counterfactual check on hypotheses in evolutionary medicine generated from western Caucasian cohorts with very different developmental trajectories. Additionally, our findings may well presage forthcoming changes as much of rural China develops economically.

S15. Evidence-based childhood injury prevention applying the PRECEDE-PROCEED framework

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Conceived in the social diagnosis, injury is a major health concern in the local community, given it is the leading cause of death among children and adolescents aged 1-14. Despite various efforts in the past decade including media campaigns, educational activities and information leaflets, there were no attempts at evidence-based injury prevention in Hong Kong.

The objective of this research is to illustrate the development of two injury prevention programmes using the evidence gathered in previous surveillance studies based on the PRECEDE-PROCEED framework. The PRECEDE-PROCEED framework is a six-phase process guiding health promotion professionals to arrive at relevant and evidence-based promotion strategies and subsequent programmes.

In an observation study of Accident & Emergency Department (AED) records at Prince of Wales Hospital in 1996 it was found that domestic injuries accounted for about half (46.3%) of all cases recorded followed by sports injuries (13.8%). In particular, young children under the age of 4 were vulnerable to injury within a home setting, while older children were likely to encounter injury in settings outside the home, such as at school or on the street, indicating that age-and injury-specific interventions are needed to reduce such injuries. An event descriptor transcription model was developed for systemic narrative description of domestic child injuries to facilitate design of intervention strategies.

To further delineate the behavioural and environmental risk factors for unintentional residential childhood injury (URCI), a second detailed epidemiological study of 5000 families with children sustaining URCI seen at three local hospitals between 1999 and 2000 was conducted. A 5% random sample of interviewed families also received a home visit. Information on the home environment, housework, child supervision patterns, and hazardous behaviours by children were collected. Caregivers' locus of control in implementing injury control and high perceived risk and severity of home injury were identified as the main enabling factors, while financial and physical constraints in implementing injury prevention were barriers in the educational and organisational diagnosis. From these and other data, two prevention programmes were designed.

The first programme was the Volunteer-based Home Visitation Programme (VHVP) for mothers of 0-3 children. In the VHVP, 122 families with a history of medically attended childhood injuries were randomised to education and supervision through four home visitations by trained and nurse-supervised volunteers from their local communities or to provision of education pamphlets only. A handbook and training programme were developed basing on local age-specific injury information, environmental and behavioural risk factors.

The second programme was the Injury Prevention Programme for School (IPPS). The IPPS integrates injury data, injury prevention knowledge and skills developed in previous local studies plus a visit at a local AED for children aged 10-12 years into the school curriculum. School teachers were provided with a resource pack and a set of lesson plans and teaching aids. A visit to an AED was arranged for Primary 5 and 6 students where they were taught basic life support skills and what to do during emergency situations.

Both programmes proved to be cost-effective and can be readily integrated with the Safe Community movements that are being introduced in Hong Kong.



SI6. Local research in child psychiatry

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This presentation will concentrate on three areas of local child psychiatric research, namely, youth suicide, measurements and epidemiology, and attention-deficit/hyperactivity disorder (ADHD).

Youth suicide

A retrospective review of coroner's records of consecutive population-based youth (under 25 years) suicide (N=303) in the years 1986 -1992 was conducted. We found that Hong Kong had a low male (6.76/100,000/year) and high female (6.31/100,000/year) youth suicide rates, and 70.3% of suicides had a record of psychiatric disturbances. The most common psychiatric problems were depression, psychosis, antisocial behaviour and illicit drug use. This was the first detailed local study of youth suicide that focused on clinical profiles as well as epidemiological data. The high prevalence of psychopathology is in line with studies from Western countries. This was also the first time that the Coroner's Court opened their files for research, and paved the way for subsequent psychological autopsy studies.

We conducted a cross-sectional questionnaire study on the mental health of the peers of suicide completers and attempters. The sample came from (1) population-based student suicide in the years 1994-1995; (2) youth suicide attempters randomly draw from ten local schools; and (3) non-exposed youths. We found that a quarter of peers of suicide completers or attempters compared with a tenth of non-exposed controls were probable psychiatric cases. Suicidal ideas and acts are raised in close peers of suicide completers and attempters. This study shows that peers of youth suicide (both completer and attempter) had high prevalences of psychiatric disturbances and suicidal behaviours.

Measurements and epidemiology

Three popular parallel US screening questionnaires, i.e. the Child Behaviour Checklist (CBCL), Teacher Report Form (TRF), and Youth Self-report (YSR) were re-validated and re-standardised in Hong Kong. They were found to be test-retest reliable and valid in screening children/youths for mental health problems. These screening measures are now used locally to identify children with potential mental health problems. A diagnostic measure, Diagnostic Interview Schedule for Children-Version 4 (DISC-4) with parallel parent and youth versions, was also found to be test-retest reliable in a local setting. DISC-IV generates a host of DSM-IV child and adolescent diagnoses.

Attention-deficit/hyperactivity disorder

ADHD disorder poses a particular challenge to local child psychiatrists. Some researchers and practitioners have queried whether it is a mental disorder or simply a discipline problem exacerbated by the permissiveness of Western parents. In a series of local studies, ADHD was found to be a mental disorder, separable from conduct disorder, with developmental, cognitive, and biological correlates.

We screened 1900 students from 28 local primary schools and assessed 300 students with DISC. Amongst those diagnosed as ADHD, 45 received interventions. They showed improvement in their core symptoms of inattention, overactivity and impulsivity. Students rated themselves as more confident, attentive, optimistic and being loved. Parents and teachers had improved knowledge and acceptance of the condition. We have produced information package and teaching aids and they were now available and being used by non-clinic workers locally as well as internationally.

In addition to medication, the effectiveness of behaviour therapy in the form of parenting training was tested. Significant improvements in behaviour, parent-child interaction, and parenting perception were observed and these were maintained at 4 months follow-up.

S17. A systematic evaluation of payback of publicly funded health and health services research in Hong Kong

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Background: The Health and Health Services Research Fund (HHSRF) is dedicated to support research related to all aspects of health and health services in Hong Kong. We evaluated the fund's outcomes and explored factors associated with the translation of research findings to changes in health policy and provider behaviour.

Methods: A locally suitable questionnaire was developed based on the "payback" evaluation framework and was sent to principal investigators of the completed research projects supported by the fund since 1993. Research "payback" in six outcome areas was surveyed, namely knowledge production, use of research in the research system, use of research project findings in health system policy/decision making, application of the research findings through changed behaviour, factors influencing the utilisation of research, and health /health service/ economic benefits.

Results: Principal investigators of 178 of 205 (87%) completed research projects returned the questionnaire. Investigators reported research publications in 86.5% (mean = 5.4 publications per project), career advancement 34.3%, acquisition of higher qualifications 38.2%, use of results in policy making 35.4%, changed behaviour in light of findings 49.4%, evidence of health service benefit 42.1% and generated subsequent research in 44.9% of the projects. Payback outcomes were positively associated with the amount of funding awarded. Multivariate analysis found participation of investigators in policy committees and liaison with potential users were significantly associated with reported health service benefit (odds ratio [OR] participation=2.86, 95% confidence interval [CI] 1.28-6.40; OR liaison=2.03, 95% CI 1.05-3.91), policy and decision-making (OR participation=10.53, 95% CI 4.13-26.81; OR liaison=2.52, 95% CI 1.20-5.28), and change in behaviour (OR participation=3.67, 95% CI 1.53-8.81).

Conclusions: The HHSRF has produced substantial outcomes and compared favourably with similar health research funds in other developed economies. Further studies are needed to better understand the factors and pathways associated with the translation of research findings into practice.

N.B. Patrick Kwan and Janice Johnston contributed equally to this work.

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