

ITEM FOR FINANCE COMMITTEE

HEAD 140 – GOVERNMENT SECRETARIAT :
FOOD AND HEALTH BUREAU (HEALTH BRANCH)
Subhead 700 General non-recurrent
Item 019 Health and Health Services Research Fund

Members are invited to approve a \$150 million increase in the approved commitment for the Health and Health Services Research Fund to continue supporting research in areas of human health and health services.

PROBLEM

The uncommitted balance of the Health and Health Services Research Fund (HHSRF) is insufficient for funding health-related research projects in 2010-11 and beyond.

PROPOSAL

2. The Secretary for Food and Health proposes to increase the approved commitment for HHSRF by \$150 million, from \$76 million to \$226 million, for funding research projects under HHSRF.

JUSTIFICATION

Health and Health Services Research Projects Funded by HHSRF

3. Health services research is an important and useful tool to assist in the formulation of evidence-based policies relevant to maintaining an efficient and cost-effective health care system and enhancing public health. In this regard, the

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Food and Health Bureau (FHB) has been funding health services research to support its policy formulation under HHSRF¹ since 2003.

4. Seven open calls for applications under HHSRF have been issued since November 2003. Out of 568 applications received, a total of 117 projects involving \$49 million have been approved in the first six open calls. The 117 projects supported by HHSRF cover a broad scope of topics that would positively contribute to improving public health and health services. Priority policy areas including (i) care for older adults; (ii) care for people with chronic diseases; (iii) health services for cancer patients; (iv) health policy on physical activity; (v) mental health; (vi) public health issues; and (vii) Chinese medicine were all addressed. A list of research projects funded by HHSRF since 2003 is at Encl. 1 Enclosure 1 .

5. Of the 117 projects funded by HHSRF, 53 have been completed. These projects have provided useful references guiding health policy formulation and health services delivery. A few notable examples of completed projects contributing to health policies and practices are highlighted in Encl. 2 Enclosure 2.

Evaluation of HHSRF's Performance

6. The impact of completed research projects supported by FHB are evaluated on a regular basis using a "payback framework" – an internationally recognised measure of health research activities developed by the Health Economics Research Group at Brunel University, United Kingdom. The payback framework identifies key areas to assess the value for money invested in research funding. As there is inevitably a time process between completion, publication and impact of HHSRF on policy formulation, only projects completed for more than 18 months are included. In October 2009, principal investigators of 33 completed projects participated in a new round of review and findings were combined with the outcomes of 178 completed projects funded by HHSRF and HSRF that were reviewed in 2006.

7. The outputs and outcomes of completed projects compared favourably with eight similar funds from other countries in all payback categories (Enclosure 3). Health and health services research generated from HHSRF has Encl. 3

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¹ Prior to the establishment of HHSRF in 2002, research projects on health services issues were funded under the Health Services Research Fund (HSRF) set up in 1993-94. The HSRF was subsequently wound up and the HHSRF, which has a new mode of operation, has a more focused research agenda.

helped to support health policy formulation and health care services delivery, generated critical mass of health-related knowledge, increased health and health services research capacity and created strategic reserve of talent, and offers good value for money. The impacts of the research supported by HHSRF and the former HSRF are summarised as follows –

- The majority (88.2%) of projects supported by HHSRF (and the former HSRF) reported publication of research findings. There was, on average, 5.4 publications per project generated. Evidence-based knowledge can be translated to influence and direct health care policy.
- One-third (33.6%) of the projects supported by HHSRF (and the former HSRF) reported impact on informing policy through production of new or revised treatment guidelines, treatment protocols, reference standards, and Cochrane reviews².
- HHSRF has been instrumental in building research capacity and infrastructure in Hong Kong. Work related to funded projects has enabled research staff to improve scientific and healthcare-related research skills and to advance in their career. Career advancement of research team members was reported for 34.1% of projects. Acquisition of higher qualifications was reported for 38.9% of projects. These highly skilled talents form an important strategic research asset for Hong Kong.

Health and Health Services Research Projects Commissioned by FHB

8. Since 2007, in response to specific public health issues and incidents, FHB has also commissioned health and health services research to inform the deliberation of health policies and measures. These projects were commissioned separately from HHSRF to address the urgent research needs related to these incidents or issues. By way of example, following the melamine incident in 2008, the Commissioned Studies related to Melamine Incident were conducted at the recommendation of the Expert Group on Melamine Incident, to assess the potential medium- and long-term health effects associated with melamine exposure. The review and monitoring of these commissioned projects have largely followed the established procedures of HHSRF.

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² Cochrane reviews is an internationally regarded source of evidence about the effectiveness of healthcare interventions.

9. During 2007 to 2009, the Government has earmarked a total of \$28 million for the purpose and has commissioned 19 projects in this regard. These include the assessment of the effect of the expanded tobacco control legislation and the health effects associated with melamine exposure. A list of commissioned projects on health and health services supported by FHB is in Encl. 4 Enclosure 4.

The Need for HHSRF to Continue and be Strengthened

10. Projects funded by HHSRF and the former HSRF have generated useful information to guide policy formulation, health system planning and clinical services delivery, and have been beneficial to health services practitioners in general. With a greater awareness of public health issues by the Hong Kong research community, there has been a gradual increase in grant applications and the number of approved projects and funded amount has also proportionally increased over the years.

11. Given the on-going health care reform and the launch of specific initiatives, such as the enhancement of primary care and strengthening of mental health care, increasing inputs from the local research community would be necessary in the coming years. It is particularly important for HHSRF to continue to generate research that would provide important inputs to inform the formulation of health policies in these important areas of the healthcare reform, to focus our efforts in the areas that require particular attention, and to devise effective and efficient solutions that are based on sound evidence. It is equally important for HHSRF to fund also research that would evaluate on an objective and scientific basis the impact of policy initiatives and measures, including the extent to which these initiatives and measures have helped to achieve our goal of improving the population's health.

12. In order to generate more focused and co-ordinated research response to particular areas of health policies or issues, the Research Council³ recommends that HHSRF should also support commissioned studies to address specific health problems, fill scientific gaps and respond to public threats or needs.

13. Such a focused response would be particularly important following the occurrence of a public health incident. Commissioned studies, such as those mentioned in paragraphs 8 and 9, can enhance the capacity and capability of the

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³ The Research Council is chaired by the Secretary for Food and Health and its members include representatives from the Department of Health, Hospital Authority, academic institutions and the private healthcare sector.

research response, generate knowledge for initiatives implementation and incident management, and assist FHB in policy formulation. Hitherto such projects have been commissioned and funded by FHB on an *ad hoc* basis in response to specific incidents. Incorporating the support for such commissioned studies into HHSRF would allow us to leverage on the established procedures of HHSRF for review and monitoring of commissioned projects, and also to ensure availability of funding to respond to public health incidents and issues as and when they arise.

Funding Position of HHSRF

14. Out of the \$76 million approved commitment for HHSRF, \$49 million has already been committed for funding research projects as mentioned above. Taking into account also the expected funding commitment of about \$20 million for the 2009-10 open call exercise, the uncommitted balance would stand at \$7 million. Additional funding is thus required for HHSRF to continue to fund research projects on an application basis in 2010-11 and beyond. Moreover, in view of the contingent requirement for responding to special public health issues and incidents, additional funding for supporting commissioned research projects on specific themes is required.

15. The total annual funding in support of worthwhile and approved health and health services projects funded by both HHSRF and FHB stands at about \$20 million to 25 million in recent years. The Research Council recommended in April 2009 to increase the grant ceiling of each project from \$0.8 million to \$1 million, in line with the average grant size of projects funded by the General Research Fund of the Research Grants Council, and taking into account the increased research costs since 1994. With this upward adjustment, the expected funding amount for subsequent calls for applications is expected to further increase.

16. We estimate for the next five years from 2010-11 to 2014-15, HHSRF will require, on average, a funding outlay of about \$30 million each year to continue to support research in health and health services to guide policy formulation, health system planning and clinical services delivery. This funding requirement, i.e. \$150 million for five years, has taken into consideration both the need for increasing research support for the healthcare reform initiatives in open calls as well as commissioned studies. Planning the funding requirement on the basis of a five-year timeline will provide the academic and health care professional community with a stable research agenda to initiate and develop relevant research proposals and allow FHB time to review and evaluate the outcomes and policy impact.

FINANCIAL IMPLICATIONS

17. We propose to increase the approved commitment of HHSRF by \$150 million, from \$76 million to \$226 million, so as to allow the Fund to issue further rounds of applications in 2010-11 and beyond. It is difficult to be precise with the cash flow requirements in the coming years as these are dependent upon the number of projects approved each year and the expenditure pattern for individual projects.

PUBLIC CONSULTATION

18. On 14 December 2009, we sought the Legislative Council Panel on Health Services' support for increasing HHSRF's commitment by \$150 million. Members noted the importance of health-related research and unanimously supported the proposal.

BACKGROUND

19. In 1994, HSRF started to fund research on health services with a capital commitment of \$50 million. Following a review of HSRF in 2001, new priority research themes based on local relevance and importance have been identified.

20. In 2002, HSRF was replaced by HHSRF with a new commitment of \$10 million. HHSRF operates a research agenda with greater focus on certain thematic priorities developed to guide the direction of research and decision on fund allocation. These priorities include public health, health services and Chinese medicine. With the approval of the Finance Committee of this Council, the commitment for HHSRF has been increased over the years up to \$76 million at present (by \$16 million in February 2005 and by a further \$50 million in June 2007) to continue funding research projects. The HHSRF granting mechanism and dissemination of research outcomes are described in Enclosure 5.

Encl. 5

Projects supported by HHSRF

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
Public health theme				
Development and validation of prompted stair climbing as an intervention to increase healthy lifestyle activity in Hong Kong	HKU	2004	Completed	460,333
Evaluation of energy expenditure and cardiovascular health effects from Tai Chi and walking exercise	CUHK	2004	Completed	811,790
A study of marital satisfaction among Hong Kong couples	HKU	2004	Completed	193,968
Outcome of an early intervention programme for psychosis (EASY): a case controlled study	HKU	2005	Completed	646,240
A cost-effectiveness analysis of mammography screening in Hong Kong Chinese using state-transition markov modelling	HKU	2005	Completed	389,270
Explaining coronary heart disease trends in Hong Kong: creation of a model for policy and planning	HKU	2005	Completed	251,932
A 3-year follow-up study of the Hong Kong Population Health Survey cohort on overweight and obesity and its related behavioural factors	HKU	2007	Completed	754,268
The impact of smoke-free policies on population health outcomes	HKU	2007	Completed	527,104
The prevalence of chronic pain, fatigue, and insomnia in the general population of Hong Kong	HKU	2007	Completed	585,148
The economic burden of diabetes related to excess body weight in Hong Kong present and future	HKU	2007	Completed	177,896

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
Neck pain in Hong Kong: a telephone survey on consequences and health service utilisation	PolyU	2007	Completed	246,750
Prevalence of physical activity and depression and their interrelationships with self-care compliance among patients with diabetes mellitus in Hong Kong	CUHK	2007	Completed	330,000
Hong Kong on the move: an intervention for increasing physical activity in children	HKU	2007	Completed	473,220
Risks from passive smoking by workers in the catering industry	HKU	2007	Completed	711,082
A retrospective cohort study on the risk factors and outcomes of childhood obesity in Hong Kong	HKU	2007	Completed	40,737
Are the 2006 World Health Organization standards for infant growth applicable to Hong Kong Chinese? Universalistic standards or epidemiologic transition stage-specific norms	HKU	2008	Completed	74,544
A randomized controlled trial of the effectiveness of traditional Chinese style physical exercise (Tai Chi) in the maintenance of cognitive and functional abilities in subjects with mild cognitive impairment	CUHK	2007	On-going	620,400
Mental health enhancement: cognitive training for Hong Kong Chinese persons with schizophrenia in vocational rehabilitation	PolyU	2007	On-going	209,000
Long-term neurocognitive outcomes of children prenatally exposed to low-dose methylmercury	CUHK	2007	On-going	607,700
Physical activity for children in special school environments	HKU	2007	On-going	425,035
A proactive family smoking cessation intervention for parents of children 0-18 months: a randomised controlled trial	HKU	2007	On-going	523,478

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
A survey on health status of childhood cancer survivors	CUHK	2008	On-going	514,021
Establish spirometric reference standards for preschool children in Hong Kong	CUHK	2008	On-going	785,400
A population-based prospective study to investigate the associations of obesity and adipokines with the incidence of cardiovascular disease and cancer	HKU	2008	On-going	771,600
Is moderate alcohol use causally protective against cardiorespiratory disease?	HKU	2008	On-going	356,780 [#]
Determinants of public perceptions of air pollution risk and related pro-environmental behaviours in Hong Kong	HKU	2008	On-going	389,640
REM sleep behavioral disorder and psychiatry: a hidden but potential serious condition - a case-control study	CUHK	2009	On-going	616,951
Prevalence of nonalcoholic fatty liver disease and advanced liver fibrosis in Hong Kong: a cross-sectional population study using magnetic resonance spectroscopy and transient elastography	CUHK	2009	On-going	716,728
Wheeze during the first 18 months of life: A prospective cohort study to explore the associations with indoor nitrogen dioxide, formaldehyde and family history of asthma	CUHK	2009	On-going	711,000
Does infant or childhood obesity lead to adolescent depression?	HKU	2009	On-going	261,379
Infant and childhood growth and blood pressure in adolescence	HKU	2009	On-going	244,132
Health services theme				
Constraint induced movement therapy in Chinese patients with stroke in the subacute period	RH & TSK Hospital	2004	Completed	88,588

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
Effects of psycho-educational interventions in managing chemotherapy-associated nausea and vomiting (CANV) in pediatric oncology patients: a pilot project	CUHK	2004	Completed	100,000
Improving perioperative outcome in the elderly surgical patients: an evaluation of nitrous oxide in the gas mixture for anesthesia	CUHK	2004	Completed	586,956
A case management model of interdisciplinary care to improve quality of life of older people with early dementia and to reduce their caregiver burden	CUHK	2004	Completed	554,800
A randomized controlled trial of the efficacy of a model of psychosocial intervention in improving quality of life and psychological well-being of Chinese patients with colorectal cancer	HKU	2004	Completed	354,010
Factors influencing delayed presentation of symptomatic breast cancer	HKU	2004	Completed	229,928
Health-related quality of life measures for Hong Kong Chinese children with cancer	HKU	2004	Completed	463,464
An evaluation of the effectiveness of an empowerment intervention in a group of abused Chinese women	HKU	2004	Completed	545,094
Quality adjusted life years (QALYS): population-specific measurement of the quality component	HKU	2004	Completed	783,600
The provision and evaluation of a suicide prevention and management programme by frontline nurses in Hong Kong	CUHK	2004	Completed	519,345
An evaluation of the effectiveness of different models of health care delivery in the primary care setting of general outpatient clinics in Hong Kong	CUHK	2004	Completed	699,644

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
Genitourinary problems and mood disorders in elderly Chinese men: a first epidemiological cohort study in Hong Kong	CUHK	2004	Completed	695,136
Translation and validation of two Chinese health-related quality of life instruments in patients with coronary heart disease	CUHK	2004	Completed	393,846
A pilot study to examine the feasibility and acceptability of a community model for exercise prescription for patients with chronic diseases	CUHK	2004	Completed	77,310
A three year follow-up study of supported employment and traditional vocational rehabilitation for individuals with severe mental illness	PolyU	2005	Completed	795,024
Mental imagery in promoting task generalisation for people after a stroke	PolyU	2005	Completed	69,000 [#]
A randomized controlled trial for the cost-effectiveness of using Dermabond (2-Octyl cyanoacrylate) versus suture in the lacerated wound closure	CUHK	2005	Completed	241,246
Cancer patients with fever and neutropenia: a prospective evaluation of risk assessment tools and infectious etiology in Hong Kong	CUHK	2005	Completed	199,949 [#]
Inequalities in oral health and oral health care delivery in Hong Kong: an analysis of extant data	HKU	2005	Completed	186,629 [#]
Postpartum depression among Hong Kong Chinese Men	CUHK	2005	Completed	794,529
A randomized controlled clinical trial: the effect of mindfulness-based stress reduction programme on pain, as well as quality of life in chronic pain sufferers	CUHK	2005	Completed	399,000

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
Development of the OMQoL: an oropharyngeal mucositis-specific measure of quality of life in patients with cancer therapy	CUHK	2005	Completed	277,340
Short- and medium-term outcomes of accelerated infant growth in a Hong Kong Chinese birth cohort	HKU	2005	Completed	579,418
The effectiveness of compression bandaging on wound healing and psychosocial outcomes in older people with venous ulcers: a randomized controlled trial	CUHK	2007	Completed	618,648
Ageing and utilisation of hospital services in Hong Kong: retrospective cohort study	CUHK	2007	Completed	494,555
Assessing self-care behavior of heart failure patients: cross-cultural adaptation of two heart failure self-care instruments	CUHK	2007	Completed	79,380
Development and validation of measures to study the effects of the built environment on walking in Hong Kong senior residents using a convenience sample	HKU	2007	Completed	356,849
A RCT to test the effectiveness of a telephone intervention to improve the mental health of community dwelling women abused by their intimate partners	HKU	2007	Completed	655,560
Psychosocial and physical outcomes after surgery for breast cancer: a five to six year follow-up and exploration of consultation factors	HKU	2007	Completed	149,155
Diets of Hong Kong P5-P6 students, and validity and reliability of a "Two-Minute Assessment" (TMA) rapid dietary questionnaire measuring healthy eating behaviors among this group	CUHK	2008	Completed	64,250
A randomised controlled trial of a brain preservation diet in preventing cognitive decline in old age hostel residents	CUHK	2008	Completed	568,000

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
Stages of change, self-stigma, and treatment compliance among Chinese adults with severe mental illness	PolyU	2007	On-going	465,090
Delirium and cognitive decline after surgery: a randomized controlled trial of anesthetic management to improve postoperative mental health outcome	CUHK	2007	On-going	696,520
Is pressurized irrigation an effective alternative to swabbing for wound cleansing?	PWH	2007	On-going	503,994
Factors and outcomes of oral mucositis in paediatric patients undergoing chemotherapy for the treatment of cancer	CUHK	2007	On-going	271,980
The effect of motivational interviewing on the clinical outcomes, psychological outcomes and health-related quality of life of cardiac rehabilitation clients with poor motivation	CUHK	2007	On-going	439,750
A study for effects of poor visibility on hospitalization in Hong Kong	HKU	2007	On-going	306,360
Changing infant feeding models: impact of cessation of complimentary infant formula in public hospitals on the duration and exclusivity of breastfeeding	HKU	2007	On-going	321,484
Health-related Quality of Life and Health Preference of Patients with Chronic Hepatitis B Infections	HKU	2007	On-going	400,209
Can calcium and vitamin-D supplementation improve bone quality and curve progression in adolescent idiopathic scoliosis girls with low bone mineral density? A randomised-controlled trial study	CUHK	2007	On-going	799,744
Computed tomography angiography and venography in place of catheter angiography for acute spontaneous non-hypertensive intracerebral haemorrhage	CUHK	2008	On-going	76,066

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
Validation of the NINDS-VCI Neuropsychology Protocols in Chinese stroke patients	CUHK	2008	On-going	312,200
Stroke incidence and mortality trends in Hong Kong: implications for public health education efforts and health resource utilization	CUHK	2008	On-going	74,700
The neuroeconomics of health care financing options: a study of willingness to pay and save	CUHK	2008	On-going	79,944
Pathological internet use and associated factors among university students in Hong Kong	CUHK	2008	On-going	75,820
Unintentional home injury in Hong Kong: a cross-sectional epidemiological study on the risk factors and public health implication of non-fatal unintentional home injury in Hong Kong	CUHK	2008	On-going	642,655
A community OT falls reduction programme for elderly attending A&E because of fall	QMH	2008	On-going	260,280
An epidemiologic survey of vitamin D deficiency in Chinese patients with moderate to severe chronic kidney disease	HKU	2008	On-going	200,000
Two-year follow-up of the Hong Kong Student Obesity Surveillance Project (HKSOS) on trends and predictors of adolescent obesity and related behaviours	HKU	2008	On-going	504,141 [#]
The cost-effectiveness of screening for diabetic retinopathy in Hong Kong	HKU	2008	On-going	800,000
Physical health needs and lifestyle choices on quality of life among people with mental illness in the community	CUHK	2009	On-going	369,205

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
A randomized placebo controlled trial of low dose angiotensin converting enzyme inhibitor to prevent pneumonia in older people who require nasogastric tube feeding because of neurological dysphagia	CUHK	2009	On-going	662,600
Assessment of functional outcome in patients sustaining moderate and major trauma	CUHK	2009	On-going	607,656
A prospective investigation of the prognostic value of 'TIMI' and 'front door TIMI' in Chinese patients presenting to the emergency department with undifferentiated chest pain	CUHK	2009	On-going	488,480
Association between HLA-B*1502 allele and antiepileptic drugs-induced severe cutaneous reactions in Han Chinese: a Hong Kong-wide population based study	CUHK	2009	On-going	644,434
High-dose Simvastatin for aneurysmal subarachnoid haemorrhage: Is it better?	CUHK	2009	On-going	577,160
Amyloid burden in poststroke dementia	CUHK	2009	On-going	477,912
Can we predict postoperative cardiac complication with endothelial function test?	CUHK	2009	On-going	563,801
A randomized, controlled clinical trial: the effects of mindfulness-based cognitive therapy on generalized anxiety disorder and health service utilization in primary care	CUHK	2009	On-going	668,752
Assessment of mental capacity for everyday decision-making for the Chinese older population	CUHK	2009	On-going	269,432
Comparison of oral prednisolone and oral indomethacin in the treatment of acute gout-like arthritis: a multi-centre, double-blind, randomized trial	CUHK	2009	On-going	486,080

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
Evidence-based adjustment of topical glaucoma drop use among Hong Kong patients	CUHK	2009	On-going	286,755
Quality of life and symptom measurements in Chinese women with pelvic floor disorders: validation study of Pelvic Floor Distress Inventory and Pelvic Floor Impact Questionnaire	CUHK	2009	On-going	213,955
The effect of decision aids on treatment decision making for breast cancer surgery: a randomized controlled trial	HKU	2009	On-going	411,224
Cost-effective osteoporosis intervention thresholds for Hong Kong southern Chinese postmenopausal women	HKU	2009	On-going	134,296
Validation of caries risk assessment programs in Hong Kong Children	HKU	2009	On-going	331,896
A cost-effectiveness analysis of Helicobacter pylori screening for gastric cancer in Hong Kong Chinese: a decision analytic approach	HKU	2009	On-going	437,600
A randomized controlled trial of a professional breastfeeding support intervention to increase the exclusivity and duration of breastfeeding	HKU	2009	On-going	559,125
The association of cardiovascular risk factors with intervertebral disc degeneration	HKU	2009	On-going	559,636
Neurocognitive and psychosocial outcomes of obstructive sleep apnea in Hong Kong Chinese	HKU	2009	On-going	80,358
The effectiveness of therapeutic play on pre- and post-operative anxiety and emotional responses of Hong Kong Chinese children having elective surgery: a randomized controlled trial	HKU	2009	On-going	416,906

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
Clinical efficacy of a community occupational therapy program on functional competence of persons with dementia and skill enhancement of caregivers: a randomized controlled trial	PolyU	2009	On-going	696,700
Can botulinum toxin decrease carer burden in long-term care residents with upper limb spasticity? A randomized controlled study	Shatin Cheshire Home	2009	On-going	550,444
Chinese medicine theme				
A randomized, double-blind, placebo-controlled study of the therapeutic effect and safety of a Traditional Chinese Medicine (TCM) for atopic dermatitis in children	CUHK	2004	Completed	454,152
A randomized controlled trial of the long-term efficacy of electroacupuncture for chronic neck pain	HKBU	2007	Completed	470,175
A randomized controlled trial of Chinese herbal medicine in the treatment of functional constipation	HKBU	2007	Completed	464,580
An integrated approach to treatment using auriculotherapy (AT) and Western medication for uncontrolled hypertension	CUHK	2007	Completed	70,000
Attitudes and behaviour towards the use of Traditional Chinese Medicine amongst allopathic physicians in Hong Kong	CUHK	2007	Completed	65,000
A pilot project to evaluate the effects of auriculotherapy in relieving symptoms of constipation and improving quality of life in elderly residential care homes residents	OUHK	2008	Completed	67,705 [#]
Rapid and specific determination of DNA adducts for clinical diagnosis of poisoning and disease associated with aristolochic acids	HKBU	2007	On-going	561,000
Evaluation of a Tai chi Qigong programme on respiratory functions and activity tolerance in patients with Chronic Obstructive Pulmonary Disease (COPD)	CUHK	2008	On-going	87,200

Project Title	Administering Institution	Year of Commencement	Status	Approved Amount (HK\$)
Electroacupuncture for postoperative ileus after laparoscopic colorectal surgery: a randomised sham-controlled study	CUHK	2008	On-going	377,368
Evaluation of the pharmacological activities of health supplements derived from Chinese medicine in the amelioration of symptoms of allergic asthma	CUHK	2008	On-going	799,480
Safety studies on commonly used Chinese herbal medicines during pregnancy	CUHK	2008	On-going	800,000
A single-blind, randomised, sham controlled study of electroacupuncture in accelerating the onset of antidepressant action of selective serotonin reuptake inhibitors via serotonergic mechanisms	HKU	2008	On-going	762,496
Exploring the potential of Sophora flavescens (Ku-Shen) as a booster for antiretroviral therapy through Cytochrome P450 3A4 inhibition	CUHK	2009	On-going	559,524
			Total	50,311,803[#]

[#] Six projects amounting to \$1.39 million were supported by the unused fund balance of HSRF. As HSRF and HHSRF were established separately residual HSRF funds could not be transferred to HHSRF upon winding up. To maximise the research and public health benefit, residual HSRF resources were used to support some early HHSRF projects with the approval of the Research Council.

**Examples of completed HHSRF projects
contributing to health policies and practices**

Enhancement of Primary Care

1. Primary care is an important component of the health care system. It produces better health outcomes at lower costs by providing patients with a comprehensive spectrum of care, both preventive and curative, continuously over a period of time and coordinates the care that patients receive. Over the years, HHSRF has supported a number of primary care research projects exploring the effectiveness of the interdisciplinary team and patient empowerment which are key concepts on which the primary care conceptual model is built upon.

2. A study evaluating the effectiveness of different models of health care delivery in the primary care setting demonstrated the advanced practice nurse clinic as a suitable model of care for monitoring patients with stable hypertension and diabetes mellitus in the community. This service model has since been extended to several sites within the Hospital Authority. Research findings would positively impact the Task Force on Primary Care Delivery Models and the development of an integrated primary care model for the management of common chronic diseases. These research findings have assisted the Government in formulating primary health care reform initiatives.

3. Another study evaluating an intervention designed to empower women to enhance their safety behaviour and improve their problem-solving and decision-making was funded. Evaluation in the local settings was especially useful as interventions should be culturally sensitive in order to address the different needs depending on cultural background. Empowerment interventions enabled women to regain control and make decisions in the aftermath of traumatic experiences and the research findings have informed the drafting of the Technical Guidelines on Health Sector Response to Violence against Women organised by the Department of Reproductive Health and Research, World Health Organization.

Health Care for an Ageing Population

4. The local population is ageing rapidly. By 2033, it is estimated that 27% of the Hong Kong citizens will be 65 or above. Health for older adults therefore constitutes one of the major research themes locally. Three completed

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projects have addressed issues related to elderly care. These include a case management model of interdisciplinary care to improve the quality of life of older people with early dementia and to reduce their caregiver burden. The study found that case management and home visits reduced depressive symptoms in community dwelling older people with mild dementia, encouraged family caregivers to seek outside help, e.g. paid attendants and day care, and improved the psychological health of family caregivers. As the dementia day care system develops, this case management model may have a bigger impact and such models may help prevent or delay institutionalisation in the longer term.

Mental Health Service Delivery

5. Mental disorders cause a significant healthcare burden in Hong Kong and studies on mental health service delivery models are useful in assisting formulation of an integrated mental health policy by the Working Group on Mental Health Services. The results of a project evaluating an intervention programme for psychosis showed that both hospitalisation rate and duration were significantly decreased, functional outcomes enhanced, and risk behaviours reduced with early intervention characterised by case management and a specialised multidisciplinary team. The evidence generated has contributed to the deliberations of the Working Group on Mental Health Services and the planning of services by the Hospital Authority.

Smoking and Health

6. Breaking the chemical and psychological dependence on nicotine is an essential step in reducing smoking. HHSRF supported the first ever randomised controlled trial in Hong Kong designed to examine the effectiveness of smoking reduction counselling combined with free nicotine replacement therapy on smoking cessation in Chinese smokers who were not willing to quit smoking but who intended to reduce cigarette consumption. The smoking reduction intervention was effective in helping unmotivated smokers quit or reduce their daily cigarette consumption by 50% or more. Offering assistance to reduce smoking can attract smokers who are not willing or ready to quit. The results are important for planning smoking cessation services in Hong Kong.

Health Promotion and Exercise

7. HHSRF has supported a number of grants supporting research into lifestyle risk factors, including exercise. Physical activity has been one of the priority research areas as regular physical exercise has been proven to help weight

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control, reduce cardiovascular and diabetic risks, and improve mental health status. Among the completed projects, it was found that buddy systems involving positive reinforcement of physical activity by groups of two or more subjects, as well as the use of pedometers to inform participants of their daily activity level are both useful approaches significantly increasing the mean physical activity and fitness levels of elderly. Such motivational aids may be readily adopted to increase physical activity at manageable levels in older communities. Low intensity activity such as Tai Chi was also proven to produce significant health improvements which are helpful in informing health promotion policy.

**Comparison of the outputs and outcomes of research generated from HHSRF
(and the former HSRF) with funds of other countries**

	Overseas funds ¹	NHS-IMP ² (2003)	NHS-MCH ³ (2001)	HHSRF (and the former HSRF)
Knowledge production				
Projects with publications (%)	78.9% – 98.2%	NA	85.5%	88.2%
Publications per project (mean number)	3.7 – 5.7	3.33	4.4	5.4
Peer reviewed publications per project (mean number) [range]	0.9 – 4.8 [0 – 48]	1.64	2.45	2.1 [0 – 14]
Non-peer reviewed publications per project (mean number)	1.7 – 2.4	1.69	1.95	3.3
Research targeting and capacity building				
Projects that provided qualifications (%)	22.5% – 60.5%	25%	31%	38.9%
Qualifications per project (mean number)	1.0 – 2.2	1.0	1.25	1.4
Projects that generated subsequent research (%)	34.6% – 76.0%	41.7%	35%	44.1%
Additional grants per project that generated subsequent research (mean value HK\$)	1.3M – 3.2M	1.7M	1.01M	1.5M
Information policy and product development/behavioural changes				
Projects that led to policy change (%)	16.0% – 78.0%	30%	27%	33.6%
Projects that led to practice change (%)	26.7% – 68.4%	27%	31%	47.4%
Health/Health service/Economic benefits				
Projects that led to benefits (%)	23.1% – 63.5%	NA	23%	43.6%

¹ Alberta Heritage Foundation for Medical Research (Canada), National NHS Research and Development Programme - Primary/Secondary Care Interface (UK), National NHS Research and Development Programme - Mother and Child Health (UK), National NHS Research and Development - Implementation Methods Programme (UK), NHS - Reactive Research Programmes (UK), National Health and Medical Research Council (Australia), Health Research Council - Public Health Research (New Zealand), Health Research Council - Biomedical and Clinical Research (New Zealand)

² National NHS Research and Development - Implementation Methods Programme (UK)

³ National NHS Research and Development Program - Mother and Child Health (UK)

Commissioned health and health services research supported by FHB

Project Title	Administering Institution	Year of Commencement	Status
Effects of anti-smoking legislation			
An evaluation of the new anti-smoking legislation on youth smoking and quitting behaviour in Hong Kong	HKU	2007	Completed
Evaluating the impact of the new anti-smoking legislation on secondhand smoke exposure of children in the homes	HKU	2007	Completed
Primary care and preventive medicine			
Incentives and barriers to adopting the family doctor model in Hong Kong: an in-depth qualitative study of the views, knowledge, and attitudes of patients	CUHK	2007	Completed
Utilization pattern of primary health care services in Hong Kong: does having a family doctor make any difference?	HKU	2007	Completed
A study investigating factors that affect long term care use in Hong Kong	CUHK	2007	Completed
Morbidity and management patterns of community-based primary health care services in Hong Kong	HKU	2007	Completed
Cervical cancer prevention through cytologic and HPV DNA screening in Hong Kong Chinese women	HKU	2007	Completed
Elderly care			
Advance directive and the preference of old age home residents for community model of end-of-life care in the Hong Kong	HKU	2007	Completed
Emergency department intervention for high risk elders in Hong Kong: validation of an identification strategy and randomised controlled trial to reduce hospitalisation and institutionalization	CUHK	2007	Completed

Project Title	Administering Institution	Year of Commencement	Status
Self management and the role of pharmacists in developing an effective primary care system: developing a consensus based policy framework	CUHK	2007	Completed
Medium and long-term health effects associated with melamine exposure			
Measuring melamine and its effects on urine crystallisation kinetics and cell responses	CUHK	2009	On-going
Case-control study of Sichuan and Hong Kong children with melamine associated renal stones - renal ultrasounds and urinary IL-8 and MCP-1	HKU	2009	On-going
Development of laboratory diagnostic tools for supporting clinical and animal researches on melamine and its analogue intoxication	CUHK	2009	On-going
Prevalence of melamine incident and follow-up studies in Hong Kong school children	CUHK	2009	On-going
Impact of chronic tolerable daily intake of melamine and related compounds on renal and vascular function in pregnant and neonatal rats	CUHK	2009	On-going
Melamine toxicity in fetus and infant	CUHK	2009	On-going
Mechanism of melamine-induced human urinary bladder carcinoma	HKU	2009	On-going
Medium and long-term follow up of children with history of melamine exposure in Hong Kong: a multicentre study	CUHK	2009	On-going
The melamine milk – kidney and developmental toxicity: impact on the foetus and the disease development later in life	HKU	2009	On-going
Mental health studies[^]			

[^] Mental health studies to be commissioned are currently being peer-reviewed and the project list is thus not included.

HHSRF Granting Mechanism

1. To be eligible for a grant, a proposed research project must have high scientific merit and potential for local application and benefit. In line with international experience, the criteria for vetting applications are centred on the following principles –

- a. degree of correlation with the priority of HHSRF;
- b. scientific quality of the proposed research project;
- c. track record and research capacity of the applicant/applying institution; and
- d. scientific opportunity in terms of potential to improve human health and health services.

2. HHSRF calls for applications once a year. All grant applications are subject to a two-tier peer review process in line with usual practice for considering research grant applications. A Research Council was established to make the final decision on the allocation of HHSRF funds based on recommendations by the Grant Review Board which is responsible for vetting all grant applications. The Research Council is chaired by the Secretary for Food and Health and its members include representatives from the Department of Health, Hospital Authority, academic institutions and the private healthcare sector.

Dissemination of Research Outcomes

3. Research summaries produced from completed projects (“dissemination reports”) are uploaded to the website of the Research Fund Secretariat of the FHB for public access. The dissemination reports have also been published as Supplements to the Hong Kong Medical Journal since 2006 which are distributed to about 500 different health-related organisations in Hong Kong (including universities, hospitals and medical clinics, professional societies/colleges and government departments). The research data represents an important knowledge resource for the health services research community in addition to being a public reference database.
