

For Discussion
on 1 June 2007

LEGCO PANEL ON HEALTH SERVICES

Health and Health Services Research Fund

PURPOSE

This paper seeks Members' support for the Administration's proposal to increase the approved commitment for the *Health and Health Services Research Fund* by \$40 million from \$26 million to \$66 million.

BACKGROUND

2. Health services research is important and useful in formulating policy relevant to maintaining an efficient and cost-effective health care system and maximising public health. In this regard, the Health, Welfare and Food Bureau (HWFB) has a long history of funding health services research. In 1994, the then Health and Welfare Bureau established the *Health Services Research Fund* (HSRF) to fund research on health services with a capital commitment of \$50 million. A review of the HSRF in 2001 resulted in the identification of new priority research themes based on local relevance and importance. In 2002, a decision was taken to wind up the HSRF and to establish the *Health and Health Services Research Fund* (the "Fund") with a new commitment of \$10 million. This Fund, which has a new mode of operation, has a more focused research agenda. Thematic priorities, namely public health, health services and Chinese medicine, have been developed to guide the direction of research and decision on fund allocation. The Finance Committee of this Council approved increasing the commitment by \$16 million to \$26 million for the Fund in February 2005.

3. To be eligible for a grant, a proposed research project must have high scientific merit and potential for local application and benefit. Each application is subject to a two-tier peer review process. In line with international experience, the criteria for vetting applications is centred on the following broad principles -

- (a) degree of correlation with the priority of the Fund;
- (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.

4. A Research Council was established under the Fund to make final decision on the allocation of the Fund. It is chaired by the Secretary for Health, Welfare and Food. Members include representatives from the Department of Health, Hospital Authority, academic institutions and private sector.

5. The Fund calls for applications once per year. Four open calls for applications have been issued since November 2003. Out of 256 applications received, a total of 42 projects worth \$18.75 million have been approved in the first three open calls. The Research Council of the Fund has completed its review of applications from the latest call (closed in November 2006) and has identified 22 applications worthy of support that would require funding of about \$7.7 million. With this commitment, the Fund will be exhausted. There is, therefore, a need to increase the commitment to continue the operation of the Fund.

6. Altogether 64 projects will have been supported by the Fund by the end of 2007. Upon their completion, these projects are expected to generate a critical mass of evidence allowing proper evaluation of the outcomes and impact of the Fund. By the close of 2010, all projects supported in the first four rounds will have been completed, and the final reports will be submitted to the Research Council for review. It would thus only be possible and meaningful to evaluate the performance of these projects in 2011. In the mean time, we do not believe that the Government should

cease funding research projects, especially those in areas that fall within our thematic priorities. We therefore propose to increase the approved commitment by \$40 million, so as to allow the Fund to issue a further five annual rounds of applications from 2007 to 2011, both years inclusive.

JUSTIFICATION

Impact of the HSRF

7. The Fund has had a relatively short history and only a few of the funded projects have been completed (see paragraphs 14-15 below). Since the Fund was built upon the foundation of the former HSRF with a refinement of the aims and mode of operation, outcomes of the HSRF-supported projects can serve as indicators of the impact potentially achievable by the Fund. In 2006, the Research Office of the HWFB evaluated the impact of research projects supported by HSRF using a “payback framework” – an internationally recognised measure of health research activities developed by the Health Economics Research Group at Brunel University, UK. The payback framework identifies key areas to assess the value for money invested in research funding. Principal investigators of 178 completed projects (i.e. about 85% of the total number of projects supported by the HSRF) participated in the study and reported the following impacts of HSRF-supported research:

Health services research has helped to support health policy formulation and health care services delivery

8. More than one third (35.4%) of the projects supported by the HSRF reported impact on informing policy through production of new or revised treatment guidelines, treatment protocols, reference standards, and Cochrane reviews¹. In addition, many projects led to the participation of the principal investigators in health-related policy/advisory committees.

¹ *Cochrane reviews* is an internationally regarded source of evidence about the effectiveness of healthcare interventions.

9. Notable examples of projects influencing policy and practice include (a) revamping of cervical screening services for women's health, (b) improvement of clinical treatment of ulcer patients by introducing triple therapy, (c) re-orientation of healthcare delivery by publicising triage system to reduce the inappropriate use of Accident and Emergency services, (d) demonstration of the harm of tobacco use and benefits of smoking prevention/cessation/reduction programmes in the local setting, and (e) improvement of the quality of elderly care by preventing hip fractures.

Health services research has generated critical mass of health-related knowledge

10. The majority (86.5%) of HSRF-supported projects reported publication of research findings. The mean number of publications per project was 5.4, with 70.8% reporting peer-reviewed publications. A good proportion (18.6%) of the peer reviewed publications were published in one of the top three journals of their respective subject categories or in journals with impact factors greater than 7². This reflects the high quality of research projects supported by the HSRF. The productivity of the HSRF in terms of number and quality of publications is testament to its usefulness to the health services research community and its potential to influence and direct health care policy. We expect similar levels of public dissemination of research findings from continued support of the Fund.

Increased health services research capacity and created strategic reserve of talent

11. Support for health services research has been instrumental in building research capacity and infrastructure in Hong Kong. Under the HSRF, several hundred young talents (approximately two new research-related personnel are recruited for each funded project) were recruited and trained in scientific and healthcare-related research techniques. These young researchers together with the established researchers in the universities and health sector form a pool of highly skilled staff engaged in

²*Impact factor* is a measure of the citations to science and social science journals, and is considered as one of the indicators of the importance of a journal. According to the latest journal citation reports, only 182 of the 6088 scientific journals indexed by the Institute for Scientific Information achieved an impact factor of 7.0 or above.

health and health services research. The high requirements imposed on the funded projects have helped to improve the skills of the researchers involved. This is evidenced by the fact that the work related to funded projects has enabled research staff to gain promotion at their institutions. Career advancement of research team members was reported for 34.3% (61 of 178) of projects; of these, 13.2% of the respondents considered the influence of the projects supported by the HSRF on their promotion as “considerable”. Acquisition of higher qualifications was reported for 38.2% (68 of 178) of projects; of these, 57.3% of the respondents considered the influence of HSRF-supported projects as “considerable”. These highly skilled talents form an important strategic research asset for Hong Kong. We expect similar benefits in staff recruitment, training and promotion to accrue from the Fund.

12. As an indication of research capacity building, 44.9% (80 of 178) of projects led to subsequent research; of these, 37.4% of the respondents considered the influence of the projects supported by the HSRF on subsequent research as “considerable”. In total, there were 115 subsequent research projects worth \$123.0 million stemming from 80 projects funded by HSRF.

Health services research offers good value for money

13. The outputs and outcomes of HSRF-funded research were benchmarked against eight funds of other countries³. The HSRF performed comparably with these funds in all payback categories:

	Overseas Funds	HSRF
Knowledge production		
Projects with publications (%)	78.9% – 98.2%	86.5%
Publications per project (mean number)	3.7 – 5.7	5.4
Peer reviewed publications per project (mean number) [range]	0.9 – 4.8 [0 – 48]	2.1 [0 – 14]
Non-peer reviewed publications per project (mean number)	1.7 – 2.4	3.3

³ Alberta's Heritage Foundation for Medical Research (Canada), National Research and Development Programme on Primary/Secondary Care Interface (UK), National Research and Development Programme in the area of Mother and Child Health (UK), NHS R & D implementation methods programme (UK), NHS reactive research programmes (UK), NHMRC public health research project grants (Australia), Health Research Council - Public Health Research (New Zealand), Health Research Council - Biomedical and Clinical Research (New Zealand)

	Overseas Funds	HSRF
Research targeting and capacity building		
Projects that provided qualifications (%)	22.5% – 60.5%	38.2%
Qualifications per project (mean number)	1.0 – 2.2	1.4
Projects that generated subsequent research (%)	34.6% - 76.0%	44.9%
Additional grants per project that generated subsequent research (mean value – HK\$)	1.3M – 3.2M	1.5M
Information policy and product development/behavioural changes		
Projects that led to policy change (%)		
- Observed	16.0% – 78.0%	35.4%
- Expected	53.8% – 76.2%	27.8%
Projects that led to practice change (%)		
- Observed	26.7% – 68.4%	49.4%
- Expected	44.4% – 77.3%	40.0%
Health/Health service/Economic benefits		
Projects that led to benefits (%)		
- Observed	23.1% – 63.5%	42.1%
- Expected	50.0% – 55.0%	33.0%

Dissemination of outcome by the Research Office

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

Anticipated impact of the Fund

15. Since the establishment of the Fund in 2002, a total of 42 projects focused on the three themes have been supported. Of these, seven have been completed with final reports reviewed by the Grant Review Board. Another six have been completed with final reports submitted for review. Twenty-seven are ongoing and two remain to be started. Of the 27 ongoing projects, 15 have submitted annual progress reports and eight will submit annual progress reports in due course. Four projects of less than 12 months' duration are not required to submit annual progress reports.

16. With the small number of completed projects supported by the Fund and the lag time between completion, publication and impact, the impact of the Fund on policy formulation has yet to be fully realised. However, the scope of the funded projects suggests that they would positively contribute to improving public health and health services. A brief summary of the selected projects is given below as an illustration of their potential benefits –

- (a) *care for older adults* – The local population is ageing rapidly. By 2033, it is estimated that 27% of the Hong Kong citizens will age 65 or above. Health for older adults therefore constitutes one of the major research themes locally. Six different studies with a focus on early detection of dementia in the elderly, the effectiveness of case management for community-dwelling demented elderly, a new form of treatment for stroke, the safety of anaesthesia in the elderly, the effectiveness of exercise promotion, and an analysis of the risk factors for urinary tract symptoms, have the potential to identify treatment and management modalities that will improve health outcome and reduce caregiver burden.
- (b) *care for people with chronic diseases* – The proportion of deaths attributed to chronic non-communicable diseases (NCD) have nearly doubled over the past four decades. In 2005, about two third of total deaths in Hong Kong were caused by one of the five major preventable NCD. Several studies have been approved to investigate the prevalence and treatment of chronic pain, the economic burden of diabetes, the applicability of rating scales for

heart failure in clinical settings, and the reasons for the reduction in cardiovascular disease. The results of these studies will guide the service planning and delivery to patients with long-term health problems.

- (c) *health services for cancer patients* – Cancer has been the leading cause of death in Hong Kong. Several studies have been approved that assess various treatment modalities to improve the quality of life and psychosocial well-being of cancer patients. The studies will increase our understanding of treatment outcomes for patients with cancer and potentially lead to more effective management of these conditions, improved outcomes, and enhanced quality of life.
- (d) *health policy on exercise* – Three studies will examine the effectiveness of various types of exercise. These include the usefulness of a community management model to promote exercise for patients with chronic conditions, the effectiveness of stair climbing, Tai Chi and walking exercise in improving health. These studies will guide the adoption of effective interventions to promote exercise and translate ultimately into a reduction of use of health care facilities and resources.
- (e) *mental health* – The burden of disease attributable to mental health problems has been increasing steadily. Seven studies have been supported to look into different facets of mental health problems. These include the mechanism by which self-stigmatisation affects treatment compliance in individuals with mental illness, the prevalence of postpartum depression, interventions to improve nurses' competence in managing people with suicidal ideation, supported employment for individuals with severe mental illness, outcomes of early intervention programs for patients with psychosis, and the effectiveness of two interventions for women subjected to abuse. These studies will potentially guide the clinical and rehabilitation practice for persons with mental illnesses.

- (f) *public health issues* – Nine studies will assess the effectiveness of different models of primary health care delivery, the utilisation pattern of oral health services, health care utilisation by the elderly, the prevalence of overweight and obesity, cost-effectiveness of mammography screening, the impact of smoke-free work plan policies on morbidity and mortality, the effect of smoke reduction interventions, cost-effectiveness of influenza vaccination for non-institutional elderly, and the development of a quality-adjusted life years measure. The outcomes of these studies will inform policy makers of the health care needs and methods of evaluation in Hong Kong.
- (g) *Chinese medicine* – the Fund also supported two studies investigating the effectiveness of traditional Chinese medicine in the treatment of atopic dermatitis and that of electroacupuncture in relieving chronic neck pain respectively. They will provide insightful information about the use of Chinese medicine.

FINANCIAL IMPLICATIONS

17. By the end of 2007, 64 projects will have been supported by the Fund. All of these projects will have been completed, and the final reports available for review at the close of 2010. Together they are expected to generate a wide range of important outcomes and outputs. As a critical mass of evidence is required before thorough qualitative and quantitative assessment of the impact of the Fund can be conducted, an evaluation is planned for 2011. Apart from demonstrating the impact of these projects, it will also provide information on the best approach to support health services research in future.

18. With reference to the timeframe for evaluation mentioned above and the approved funding provided to previous open calls which was about \$8 million per year, we propose to increase the approved commitment by \$40 million. This will allow the Fund to issue a further five annual open calls of applications from 2007 to 2011, both years inclusive.

ADVICE SOUGHT

19. Members are invited to support the proposal to increase the commitment of the Fund from \$26 million to \$66 million. Subject to Members' support, we shall submit the proposal to the Finance Committee for consideration.

Health, Welfare and Food Bureau
May 2007