

**For discussion
on 18 April 2016**

LEGISLATIVE COUNCIL PANEL ON HEALTH SERVICES

**Proposal for Injection into
the Health and Medical Research Fund**

PURPOSE

This paper seeks Members' support for the proposed injection of \$1,500 million into the Health and Medical Research Fund (HMRF) to sustain its operation for around five years from 2017-18 to 2021-22 and reports to Members our plan to review and consolidate the scopes of the HMRF and the Health Care and Promotion Fund (HCPF).

JUSTIFICATIONS

Health and Medical Research Fund

2. The aim of the HMRF is to build research capacity and to encourage, facilitate and support health and medical research to inform health policies, improve population health, strengthen the health system, enhance healthcare practices, advance standard and quality of care, and promote clinical excellence through generation and application of evidence-based scientific knowledge derived from local research in health and medicine. The Government submits the progress report of the HMRF to the Legislative Council (LegCo) Panel on Health Services annually.

Operation of HMRF

3. The HMRF was established in 2011 by consolidating the former *Health and Health Services Research Fund* (HHSRF) and the former *Research Fund for the Control of Infectious Diseases* (RFCID), expanding the funding scope to cover more areas of health and medical research and injecting an additional \$1,000 million.

4. The HMRF is governed by the Research Council (RC), which is chaired by the Secretary for Food and Health (SFH) and is comprised of representatives from public institutes and bodies and members from the academic arena and private sector appointed by SFH. The appointment term is for two years. The RC is supported by the Grant Review Board (GRB), the GRB Executive (GRBE) and the Referee Panel which provide independent two-tier peer review. Their work and the day-to-day administration of research funds are supported by the Research Fund Secretariat (RFS) of the Research Office (RO) established under the Food and Health Bureau (FHB). The membership and terms of reference of the RC are at [Annex A](#).

5. The RC provides strategic steer for funding health and medical research activities and oversees the administration of the HMRF including the allocation of funds to the following categories for approved grants -

- (a) **Investigator-initiated research projects:** funding for individual grant proposals submitted in response to “HMRF Open Call” invitation for grant applications, with reference to the thematic priorities of the HMRF;
- (b) **Commissioned research programmes:** specific programmes commissioned to, *inter alia*, build research capacity, fill knowledge gaps, support policy formulation, address specific issues, assess needs and threats, etc., identified on the advice of relevant experts in the field; and
- (c) **Research fellowships:** to enhance research capability and build research capacity to facilitate the translation of knowledge into clinical practice.

Funding Mechanism and Peer Review

6. For investigator-initiated research projects, all eligible grant applications undergo stringent two-tier peer review to ensure that funded projects are of appropriate scientific design and high scientific merit. The first tier of peer review is performed by a Referee Panel. The second tier is conducted by the GRB. Together they assess the scientific merit of the research projects, such as originality, significance of the research questions, quality of scientific content, credibility of design and methods and applicability to the local context. Other objective assessment criteria including research ethics, justification of budget, and track record of grant applicant are also considered. The GRB makes funding recommendations for consideration and endorsement by the RC.

7. The administering institution and the principal applicant of successful grant applications are required to sign a contractual agreement, covering the terms and conditions under which the grant is offered. Principal applicants are required to report the progress of the projects and the financial position at regular intervals for assessment by the RFS. Payment of grants is tied to satisfactory progress and submission of acceptable deliverables as set out in the contractual agreement.

8. The principal applicants of completed projects are required to submit a final and dissemination report and independent audited account or certified financial statement not more than six months after project completion.

Progress of HMRF

Investigator-initiated research projects

9. The total commitment of the HMRF approved by FC in 2011 is \$1,415 million (including \$332 million committed to the former HHSRF and the former RFCID approved projects). Since the establishment of the HMRF in 2011, three rounds of open call for investigator-initiated research projects were completed. The funding cap for each project was increased from \$1.0 million to \$1.2 million with effect from the 2014 open call. As at 31 March 2016, a total of 2 613 grant applications have been received in response to three open calls for investigator-initiated projects. All of them had to go through a stringent two-tier peer review process by overseas and local experts. After assessing the scientific merits of the applications, 634 projects were funded with a total commitment of \$543 million.

Commissioned research programmes

10. Six new programmes have been commissioned with total commitments of \$225 million since the establishment of the HMRF. These commissioned programmes include two Phase 1 Clinical Trials Centres which leverage on the existing strength of the two medical schools and are expected to enhance the capacity of Hong Kong in conducting Phase 1 clinical trials. The study on “Quality of healthcare for the ageing population” would enlighten a better understanding on the needs for elderly services including the end-of-life care and issues on advanced directives. One commissioned study assesses the risk of breast cancer in Hong Kong while another would evaluate colorectal cancer pilot screening programme. These two studies would help designing

appropriate screening strategies to tackle the increasing burden of breast and colorectal cancers in Hong Kong. To combat emerging and re-emerging communicable diseases, the commissioned research on control of infectious diseases cover a range of important areas from disease pathogenesis to clinical management and public health measures.

11. All approved research projects for the HMRF through the open call submissions and commissioning, with abstracts and the approved amounts, are uploaded to the RFS' website for public access.

Research fellowships

12. The Research Fellowship Scheme was launched in August 2015 to support researchers or professionals in their early to mid-career to enhance their skills in health and medical research. Tertiary institutions were invited to nominate fellowship applicants. The grant ceiling per award is \$1.2 million including \$0.2 million for local/overseas training/attachment relating to health services or public health, in particular public health policy topics. The specialised skills obtained from the training should be applied to the research project proposed in the application. Five applicants will be awarded in April/May 2016 with a total commitment of \$4.85 million.

Contribution of HMRF

13. In order to determine the extent to which the objectives of the HMRF have been attained, i.e. "generation and application of evidence-based scientific knowledge derived from local research in health and medicine", HMRF projects that have been completed for at least two years will be evaluated using an instrument developed by the FHB based on the internationally validated Buxton-Hanney¹ research payback questionnaire. The self-completed questionnaire measures research impact in several domains including knowledge production, utilisation of research findings by the healthcare system, capacity building, impact on policy, behaviour change in research end-users and dissemination of research findings.

14. Overall, the evaluation showed that both investigator-initiated and commissioned studies contributed significantly to informing health policy,

¹ The "payback framework" was developed by Prof Martin Buxton and Dr Stephen Hanney at the Health Economics Research Group, Brunel University, London, UK. It is the most widely used instrument to quantify the outputs and outcomes of publicly-funded health and medical research (Buxton M, Hanney S. How can payback from health services research be assessed? J Health Serv Res Policy 1996;1:35-43).

changing clinical practice, increasing knowledge production, enhancing capacity building, and wider dissemination of research findings. Examples of key projects supported by the HMRF are at **Annex B**.

15. The HMRF also organises Health Research Symposia from time to time for researchers and health care professionals to share their knowledge and achievements in various research topics, and acknowledge the outstanding research projects funded by the HMRF. The last Health Research Symposium was held in 2014 which attracted over 500 participants.

Financial Position of HMRF

16. The balance of uncommitted fund as at 31 March 2016 was \$310 million. With an annual commitment of \$250 million as approved by the RC, the uncommitted fund would not be enough to support further applications in 2017-18, including the 2016 HMRF open call to be announced in December 2016.

The Health Care and Promotion Fund

17. The HCPF was established in 1995 with a grant of \$80 million provided to Hospital Authority (HA) to provide financial support for activities related to health promotion, preventive care and related research; and patients in need of treatment not available in Hong Kong, particularly in respect of rare diseases. The secretariat support was later provided by Research Office under the then Health, Welfare and Food Bureau. In 2006, the Health Care and Promotion Fund Committee (HCPFC) decided to revise the scope of HCPF to focus primarily on health promotion activities and disease prevention. HCPF currently provides funding support to projects that help people adopt healthier lifestyles by enhancing awareness, changing adverse health behaviours or creating a conducive environment that supports good health practices.

Operation of HCPF

18. The HCPF is governed by HCPFC to provide strategic steer for funding health care and promotion projects and to oversee the administration of the HCPF, including the processing of funding applications received under the HCPF Open Calls. The HCPFC is supported by the Promotion Sub-committee (PSC), and its work and day-to-day administration are supported by the RFS of

the RO established under FHB. Members are appointed by SFH for a two-year term. The membership and terms of reference of the HCPFC are at Annex C. The progress report of the HCPF is submitted to the LegCo annually.

19. Under the steer of the HCPFC, funding applications for HCPF are invited annually (HCPF Open Call) from local public bodies and non-governmental organisations (NGOs) in accordance with the HCPF thematic priorities. Currently, HCPF funding is provided to support the following types of project:

- (a) **Health promotion projects**²: comprise a set of coordinated activities leading to promotion of good health and prevention of illness in the community; and
- (b) **Seed funding scheme projects**: aim to facilitate mobilisation of local resources to promote health in the community and encourage partnership between public bodies, private organisations and NGOs.

Funding Mechanism and Peer Review

20. Applications are reviewed by PSC, comprising of independent experts. Assessment criteria include relevance to thematic priorities, scientific evidence of effectiveness of the proposed health promotion activities, innovation, evaluation plan of programme effectiveness, impact and sustainability of the programme, cross-sector collaboration, potential to build community capacity in health promotion, feasibility, justification of requested budget, and track record of the administering institution and applicants.

21. The administering institution and the principal applicant of successful grant applications are required to sign a contractual agreement, covering the terms and conditions under which the grant is offered. Principal applicants are required to report the progress of the projects and the financial position at regular intervals for assessment by the RFS. Payment of grants is tied to satisfactory progress and submission of acceptable deliverables as set out in the contractual agreement.

22. The principal applicants of completed projects are required to submit a final and dissemination report and independent audited account or certified financial statement not more than three months after project completion.

² Formerly known as Non-Research Health Promotion Projects.

23. All approved projects for the HCPF through the open call submissions, with abstracts and the approved amounts, are uploaded to the RFS' website for public access.

Progress of the HCPF

Health promotion projects

24. The funding ceiling per project is \$300,000. Since 1995, 252 projects have been supported. Upon completion of project, an applicant who wishes to propagate an effective programme to reach a wider target group may apply for extension of project. The total sum of funding for an extended project together with the original project will generally not exceed \$500,000.

Seed funding scheme projects

25. The Seed Funding Scheme was established in 2007 to facilitate mobilisation of local resources to promote health in the community and encourage partnership between public bodies, private organisations and NGOs. The funding ceiling is \$500,000 per project. As at 31 March 2016, 37 projects have been funded.

Contribution of HCPF

26. The health promotion projects cover a wide range of areas including smoking prevention programmes for the youth, training on food labelling for mothers and their children, mental health ambassadors programme in secondary schools, healthy diet among the elderly, managing hypertension and diabetes and promoting healthy lifestyle in ethnic minorities. The Seed Funding Scheme has supported projects on alcohol prevention programmes in primary schools, promotion of smoking cessation at smoking hotspots, childhood obesity, healthy living in the district, reducing stigma towards persons in recovery of mental illness, parenting programme, healthy workplace, mobile application on management of diabetes, and designing healthy meals for the elderly.

27. To assess the benefits of projects beyond the grant period, an outcome evaluation using the Reach Effectiveness Adoption Implementation

Maintenance (RE-AIM) framework³ was conducted in 2015. Overall, the funded projects are able to reach the target populations of the community and enhance their knowledge and adopt a healthier lifestyle for prevention of illnesses. Specific examples of informative projects are set out at **Annex D**.

28. The HCPF organises Health Promotion Symposia from time to time to provide a platform for experts and community partners to share their knowledge and experiences in health promotion, network with leaders in various sectors, and in particular, recognise and showcase the outstanding projects funded under the HCPF. The last Health Promotion Symposium was held in 2015 attracting over 300 participants.

Financial Position of HCPF

29. Taking into account committed projects so far, the balance of uncommitted funds of the HCPF as at 31 March 2016 was \$17 million. With an estimated expenditure of \$7 million in 2016-17 for health promotion and seed funding projects, and \$10 million for a new initiative to commission mental health projects, the uncommitted fund will be exhausted in 2016-17.

PROPOSED ADDITIONAL INJECTION INTO HMRF AND PLAN TO CONSOLIDATE HMRF AND HCPF

30. The proposed additional injection into the HMRF will continue to fund the health and medical research in the following broad areas -

- (a) public health, human health and health services (e.g. primary care, non-communicable diseases, Chinese medicine, etc.);
- (b) prevention, treatment and control of infectious diseases, in particular emerging and re-emerging infectious diseases; and
- (c) advanced medical research in the fields of paediatrics, neuroscience, clinical genetics and clinical trials.

31. Based on the aforementioned results of the evaluation using the Buxton-Hanney framework, the HMRF will focus on funding translational research, covering from biomedical science, bio-technology and technology in

³ RE-AIM framework is used to evaluate the impact of health promotion projects. (Reference: Glasgow RE, Vogt TM, Boles SM. Evaluating the public health impact of health promotion interventions: the RE-AIM framework. *Am J Public Health*, 1999;89:1322-7.)

the medical field, to clinical trial and health service research. The research should focus on their potential impact on health policy, clinical practice or people's behaviour resulting in improvement of the health of the population. In view of the development of neuroscience service and Hong Kong Children's Hospital, support will also be given to advance neuroscience and paediatric research.

32. The HMRF will continue to support research fellowships to nurture local manpower and develop talents in health and medical specialties. Through the provision of more training opportunities for the fellows to learn the state-of-art medical science, the HMRF would help build the research capacity of Hong Kong to meet future needs and challenges including emerging infectious diseases, management of cancers and various chronic diseases, and the ageing population. The next generation of medical and health scientists would further contribute by conducting research which has impact on health policy formulation and clinical practices.

33. To create synergy and provide more flexibility in the support of health and medical research and health care and promotion efforts, as well as streamline procedures, we are planning to review and consolidate the scopes of the HMRF and HCPF into one single fund in consultation with the RC and the HCPFC.

FINANCIAL IMPLICATION

34. We propose a one-off injection of \$1,500 million into the HMRF in 2016-17. The annual expenditure is expected to be about \$300 million. A direct operation cost⁴ is estimated to be about \$4 - 5 million per annum. The exact cashflow requirements over the coming years is difficult to estimate as these depend on the number of applications submitted and projects approved each year and the expenditure pattern for individual projects. Subject to RC and the HCPFC's agreement to consolidate the two funds, when the funding balance of the HCPF is depleted, research activities/projects that fall into the scope of the present HCPF would also be covered by the HMRF.

⁴ Direct operation costs cover meeting costs of the Research Council and its constituent panels, boards and committees for members' technical and advisory input to the HMRF; publication of research dissemination reports; publicity, training workshops and seminars; and expenses for other activities necessary to support HMRF operations under the direction of the Research Council.

IMPLEMENTATION PLAN

35. Subject to the necessary approval by the LegCo Finance Committee, research themes and commissioned programmes will be initiated in the second quarter of 2017. The open call exercise of HMRF is planned to be issued in the fourth quarter of 2017 in line with the usual annual cycle of grant applications. We will consult the RC and the HCPFC on the intended consolidation of the two funds.

BACKGROUND

36. On 9 December 2011, the Legislative Council Finance Committee approved a new commitment of \$1,415 million for setting up the HMRF, by consolidating the former HHSRF and the former RFCID, with a broadened scope for funding health and medical research in Hong Kong. Research projects funded under the former HHSRF and the RFCID have been subsumed under the HMRF. The commitment is comprised of an injection of \$1,000 million and unexpended balances of HHSRF and RFCID amounting to \$190.8 million and \$224.2 million respectively during the establishment.

Food and Health Bureau
April 2016

**Research Council
Food and Health Bureau**

Membership (as at 1 January 2016)

Chairperson

Secretary for Food and Health/
Permanent Secretary for Food and
Health (Health)

Food and Health Bureau

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Prof Maurice YAP Keng-hung	KB Woo Family Professor in Optometry Chair Professor of Optometry Dean of the Faculty of Health and Social Sciences The Hong Kong Polytechnic University
Prof YEOH Eng-kiong	Director, The Jockey Club School of Public Health and Primary Care The Chinese University of Hong Kong
Dr YU Wai-cho	Consultant Department of Medicine and Geriatrics Princess Margaret Hospital
Director of Health or representative	Department of Health
Chief Executive of Hospital Authority or representative	Hospital Authority
<i>Secretary</i>	
Head of Research office	Food and Health Bureau

Terms of Reference

The terms of reference of the Research Council are to –

- (a) Determine research agenda and funding control mechanism of the Health and Medical Research Fund;
- (b) Approve procedures for inviting, and criteria for vetting research applications;
- (c) Approve standard terms and conditions for grant-holders;
- (d) Approve funding allocation after peer review process;
- (e) Approve processes for the ongoing monitoring and evaluation of approved research projects;
- (f) Establish Grant Review Board to carry out the technical work of the Research Council and
- (g) Disseminate key findings of funded projects.

Examples of Projects Supported by the HMRF

An in-depth cost-effectiveness analysis study was conducted which showed that implementation of universal pneumococcal vaccination of infants was cost-effective. The results of this study assisted the Centre for Health Protection's Scientific Committee on Vaccine Preventable Diseases to recommend that heptavalent pneumococcal vaccine be included on the list of recommended vaccines under the Childhood Immunisation Programme.

2. To prevent avian influenza (H5N1), poultry vaccine in chicken is an important strategy. Researchers compared the Government's recommended H5 vaccine with two other commercially available H5 vaccines and found one of the vaccines provided greater protection against the circulating strains of avian influenza H5N1 than the recommended vaccine. The research findings resulted in the Government changing its policy on which poultry influenza H5 vaccine to use in Hong Kong.

3. Colorectal cancer is one of the most common causes of cancer death among Chinese in Hong Kong. Screening has the potential of preventing colorectal cancer death by early detection and treatment of colorectal cancer and pre-cancerous polyps. One study evaluated the cost-effectiveness of various colorectal screening strategies compared to no screening and found that biennial immunochemical faecal occult blood test was the most cost-effective screening compared to no screening. The research findings provide the scientific basis to support the Chief Executive's 2014 Policy Address on colorectal cancer screening pilot programmes.

**Health Care and Promotion Fund Committee
Food and Health Bureau**

Membership (as at 1 January 2016)

Chairperson

Secretary for Food and Health Food and Health Bureau

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Ms Mabel CHAU Man-ki

Dr Eugenie LEUNG Yeuk-sin Director of Counselling and Person
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Immediate Past President
Chairman, External Affairs Committee
The Hong Kong College of Family
Physicians

Ms Deborah WAN Lai-yau

Mr WONG Cheuk-kin	District Council Member Yuen Long District Council
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Deputy Secretary for Food and Health (Health) ²	Food and Health Bureau
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Director of Health or representative	Department of Health
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Chief Executive of Hospital Authority or representative	Hospital Authority
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Secretary

Head of Research Office	Food and Health Bureau
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Terms of Reference

The terms of reference of the Health Care and Promotion Fund Committee are to –

- (a) Develop the procedures for inviting applications for health projects, preventive care, research or other related activities and the criteria for vetting them;
- (b) Approve applications and allocate funds for health promotion projects, preventive care, research or other related activities;
- (c) Monitor the progress and evaluate the outcome of approved health promotion projects, preventive care, research or other related activities; and
- (d) Supervise the management and investment of the Fund.

Examples of Projects Supported by the HCPF

The first smoking cessation telephone counselling services for youth and young adults, namely the Youth Quitline was supported in 2004. The project was tailor-made to smokers aged 12 to 25. Most participants agreed the Youth Quitline has successfully motivated them to think critically about quitting (89%) and initiated them to quit (84%). The project was further sustained in collaboration with the Hong Kong Council on Smoking and Health, and become a smoking cessation training centre for the nursing students in the University of Hong Kong.

2. To address the growing problem of childhood obesity, several projects provided comprehensive nutrition education programmes to kindergartens children, secondary and primary schools students, parents, teachers and school management for promoting healthy eating and providing weight management. Students reported significant increase in fruits and vegetables consumption. The approach had provided valuable experience for the Department of Health to launch the successful EatSmart@school.hk Campaign in Hong Kong.

3. Traffic accident hot zones were identified for hazardous road location in Kwai Tsing District. HCPF funded a project which developed an integrated system for traffic-related injury analysis by binding Geographical Information System, the Accident & Emergency Information System, and the Traffic Accident Data System. Recommendations were provided to Kwai Tsing District Council Healthy City to reduce traffic injuries and to formulate pedestrian safety measures for the elderly.