

ITEM FOR FINANCE COMMITTEE

**HEAD 140 – GOVERNMENT SECRETARIAT :
FOOD AND HEALTH BUREAU (HEALTH BRANCH)
Subhead 700 – General non-recurrent
Item 823 “Health and Medical Research Fund”**

Members are invited to approve an increase in the commitment from \$1,415 million by \$1,500 million to \$2,915 million for the Health and Medical Research Fund to sustain its operation for another five years and to incorporate the functions of the Health Care and Promotion Fund.

PROBLEM

The uncommitted balance of the Health and Medical Research Fund (HMRF) will not be sufficient to support new funding proposals in 2017-18. There is also scope to achieve efficiency, promote sharing of support resources and enhance flexibility in funding deployment by incorporating the Health Care and Promotion Fund (HCPF) into HMRF.

PROPOSAL

2. The Secretary for Food and Health (SFH) proposes to increase the approved commitment for HMRF from \$1,415 million by \$1,500 million to \$2,915 million to sustain its operation for another five years from 2017-18 to 2021-22 and expand the scope of the HMRF to incorporate that of the HCPF.

/JUSTIFICATION

JUSTIFICATION

Evolvement in Medical Research and Health Promotion Trend

3. Health and medical research is of high value to the society. It can provide important information on disease trends and patterns, risk factors, treatment effectiveness, medical intervention outcomes, provision of care and health care costs. As science and technology advance in medical and related fields, health authorities and academics around the world are attaching more importance to health promotion. This includes but is not limited to devising comprehensive and systematic approach based on scientific evidence in the planning and evaluation of medical and behavioral interventions for patients, strengthening provision of primary care to community, and organising programmes that facilitate community empowerment for self-care and lifestyle change. The Government needs to constantly adjust the strategy of investing in research and related facilities to ensure that resources would be allocated into areas with knowledge gap, for the purpose of strengthening disease control and prevention, addressing the health and medical needs of the population as well as issues in the healthcare system.

4. The Government has been keeping a watchful brief on investment in health and medical research. The Food and Health Bureau (FHB) has been providing dedicated funding support for health and medical research in public health and health services (e.g. primary care, tobacco control, mental health and chronic disease management), and control of infectious diseases (e.g. SARS, avian influenza and swine influenza). Upon approval of the Finance Committee (FC) of the Legislative Council (LegCo) in 2011, the Government established the HMRF by consolidating the former Health and Health Services Research Fund (HHSRF) and the former Research Fund for the Control of Infectious Diseases, expanding the funding scope to cover more areas of health and medical research and injecting an additional \$1,000 million.

HMRF

5. The objectives of HMRF are to build research capacity and to encourage, facilitate and support health and medical research on health policies, improve population health, strengthen the healthcare system, enhance healthcare practices, advance standard and quality of healthcare, 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 reports and financial statements of the HMRF to the LegCo Panel of Health Services annually.

6. The current ambit of HMRF is as follows –
- (a) funds research projects and research infrastructure in health and health services as well as infectious diseases;
 - (b) provides dedicated funding support for research projects, research infrastructure and research capacity building initiatives in specific areas of advanced medical research identified on the advice of relevant experts in the Research Council (RC); and
 - (c) provides research fellowship grants to enhance research capability and build research capacity to facilitate translation of knowledge into clinical practice.

Operation and progress of HMRF

Encl. 1

7. HMRF is governed by the RC, which is chaired by the SFH and comprises representatives from public institutes and bodies and members from the academic arena appointed by SFH. The appointment term is for two years. Its membership and terms of reference are at Enclosure 1. The RC provides strategic steer for funding health and medical research activities and oversees the administration of the HMRF. The work and the day-to-day administration of HMRF are supported by the Research Fund Secretariat (RFS) of the Research Office under FHB.

8. The RC is supported by the Grant Review Board and the Referee Panel¹ which provide two-tier peer review to ensure that funded projects are of appropriate scientific design and high scientific merit. The Grant Review Board will take into account the comments of the Referee Panel and make funding recommendations for consideration and endorsement by the RC. Discretion may be given by the RC to waive the first-tier peer review for some special commissioned research programmes directed by the FHB such as urgent programmes to be commissioned in a timely manner (e.g. epidemiological studies/clinical trials after the official announcement of outbreak/pandemic) and highly specific local applications (e.g. policy matters, generation of local statistics). For research fellowships, tertiary institutions were invited to nominate fellowship applicants².

/9.

¹ The Grant Review Board comprises local experts from the medical, health, social and analytical science field. The Referee Panel comprises international experts from these fields.

² Fellowship Applicants must be young researchers or professionals in medical and health-related disciplines (including doctors, nurses and allied health professionals) meeting the following criteria: (a) full-time employees of tertiary institutions (i.e. Administering Institutions (AIs)) funded by the University Grants Committee at the time of application and based at the same AI throughout the fellowship period; and (b) no more than ten years of post-doctoral or post-qualification (e.g., medical or nursing degree) experience.

9. The total commitment of HMRF approved by FC in 2011 is \$1,415 million (including \$332 million from the former HHSRF and the former Research Fund for Control of Infectious Diseases (RFCID) approved projects). The project categories and their respective progress are summarised as follows –

Project Category	Description	Progress
Investigator-initiated research projects ³	<p>These projects are initiated by applicants with reference to thematic priorities of the HMRF. Applications are submitted in “HMRF Open Call” invitation.</p> <p>Funding cap for each project was increased from \$1.0 million to \$1.2 million with effect from the 2014 open call.</p>	<p>As at 31 March 2016, a total of 2 613 applications have been received. 634 projects were funded with a total commitment of \$543 million. Examples of some key projects can be found at Enclosure 2.</p>
Commissioned research programmes	<p>These programmes are commissioned by HMRF on specific themes to build research capacity, fill knowledge gaps, support policy formulation, address specific issues, assess needs and threats, etc., on the advice of the RC.</p>	<p>Six new programmes⁴ have been commissioned with a total commitment of \$225 million. Approved funding for each programme ranges from \$10 million to \$40 million.</p>

Encl. 2

/Research

³ Applications are invited from the locally-based academics, and healthcare practitioners from the public and private sectors. The principal applicant must be based in a Hong Kong institution throughout the project period.

⁴ The six programmes include two Phase 1 Clinical Trials Centres which leverage on the existing strength of the two medical schools; study on “Quality of healthcare for the ageing population” which aims to achieve better understanding of the needs for elderly services; study to assesses the risk of breast cancer in Hong Kong; study to evaluate colorectal cancer pilot screening programme, and research on control of infectious diseases.

Project Category	Description	Progress
Research fellowships	<p>These fellowships seek to enhance research capability and build research capacity to facilitate the translation of knowledge into clinical practice by supporting researchers or professionals in their early to mid-career to enhance their skills in health and medical research.</p> <p>Grant ceiling per award is \$1.2 million, including \$0.2 million for local/overseas training/attachment relating to health services or public health policy topics.</p>	<p>The Scheme⁵ was launched in August 2015. Five applicants are awarded in May 2016 with a total commitment of close to \$5 million.</p>

10. The administering institution (AI) and the principal applicant⁶ 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. For completed projects, principal applicants are required to submit to the Government a final and dissemination report and independent audited accounts or certified financial statements not more than six months after project completion.

/Evaluation

⁵ Funding support will be provided for the successful applicants to: (a) attend local or overseas specialist training courses or attachments to acquire new knowledge and specialised skills to conduct research; and (b) carry out a research project related to the training courses/ attachments completed as part of the Fellowship Scheme.

⁶ All principal applicants should be based in a Hong Kong institution throughout the project period and be employed by the AI at the time of submission of application. Applicants who are employed by an institution outside Hong Kong (be it in Mainland or overseas) are not eligible to be principal applicants.

Evaluation of HMRF projects

Encl. 3

11. 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-Hanney⁷ research payback questionnaire. Results of the outcome evaluation are set out at Enclosure 3. In overall terms, the evaluation showed that both investigator-initiated and commissioned studies contributed significantly to informing health policy, changing clinical practice, increasing knowledge production, enhancing capacity building, and wider dissemination of research findings.

12. HMRF also organises the Health Research Symposia from time to time for researchers and healthcare 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 which was held in 2014 attracted over 500 participants.

13. Approved projects as well as the final and dissemination reports of the completed projects are uploaded to the RFS’s website (<http://rfs.fhb.gov.hk>) for public access.

Financial Position of HMRF

14. The uncommitted funding balance as at 31 March 2016 was \$310 million. An additional commitment of \$250 million is expected to be approved by the RC in 2016-17. Accordingly, the uncommitted funds of around \$60 million would not be enough to support further applications in 2017-18, which will be included in the 2016 HMRF open call to be announced in December 2016.

/HCPF

⁷ 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).

HCPF

15. HCPF was established in 1995 upon FC's approval of a commitment of \$80 million for a grant to the 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 the Research Office under the then Health, Welfare and Food Bureau. In 2006, the Health Care and Promotion Fund Committee (HCPFC), which was the governing committee for this fund, 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 and creating an environment conducive to supporting good health practices.

Operation and progress of HCPF

Encl. 4

16. HCPFC provides strategic steer for funding healthcare and promotion projects and to oversee the administration of the Fund. Its membership and terms of reference are at Enclosure 4. Under HCPFC, there is a Promotion Sub-committee comprising local experts, which is responsible for providing expert review advice on applications. Same as HMRF, the work and day-to-day administration of HCPF are also supported by the RFS of FHB's Research Office. Members are appointed by SFH for a two-year term. The progress reports and financial statements of the HCPF are also submitted to the LegCo annually.

17. 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. Applications are reviewed by the Promotion Sub-committee. 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 AI and applicants. The project categories and progress are summarised as follows -

/Project

Project Category	Description	Progress
Health promotion projects ⁸	<p>Coordinated events/activities promoting good health and prevention of illness in the community.</p> <p>Funding ceiling per project is \$300,000 normally, although the ceiling can be increased to \$500,000 when HCPFC considers it appropriate to fund the extension of a project.</p>	Since 1995, 252 projects have been supported.
Seed funding scheme projects	<p>Structured programmes which aim at facilitating mobilisation of local resources to promote health in the community and encourage partnership between public bodies, private organisations and NGOs</p> <p>This category was established in 2007, with a funding ceiling of \$500,000 per project.</p>	As at 31 March 2016, 37 projects have been funded.

18. The AI and the principal applicant⁹ 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 made upon satisfactory progress and submission of acceptable deliverables as set out in the contractual agreement. For completed projects, principal applicants are required to submit a final and dissemination report as well as independent audited accounts or certified financial statements not more than three months after project completion.

/19.

⁸ Formerly known as Non-Research Health Promotion Projects.

⁹ All principal applicants should be based in a Hong Kong institution throughout the project period and be employed by the AI at the time of submission of application. Applicants who are employed by an institution outside Hong Kong (be it in Mainland or overseas) are not eligible to be principal applicants.

19. All approved projects for HCPF through the open call submissions, together with abstracts and the approved amounts, are uploaded to the RFS's website (<http://rfs.fhb.gov.hk>) for public access.

Evaluation of HCPF projects

20. To assess the benefits of projects beyond the grant period, an outcome evaluation using the Reach Effectiveness Adoption Implementation Maintenance (RE-AIM) framework¹⁰ was conducted in 2015. Results of the outcome evaluation are set out at Enclosure 5. In overall terms, the funded projects are able to reach out to the target population of the community, enhancing their knowledge and awareness of adopting a healthier lifestyle for prevention of illnesses. Specific examples of informative projects are set out at Enclosure 6.

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

Financial Position of HCPF

22. Taking into account committed projects to date, the balance of uncommitted funds of 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 on mental health projects¹¹, the uncommitted funds will be exhausted by end of 2016-17.

/PROPOSED

¹⁰ 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.)

¹¹ The mental health projects are commissioned to promote mental health in the community in light of the Joyful@HK Campaign initiated by the Review Committee on Mental Health in 2015.

PROPOSED INCREASE IN COMMITMENT FOR HMRF AND EXPANSION OF SCOPE OF HMRF

23. Given the projects funded by both HMRF and HCPF are both healthcare-related; the operation and administration of both funds is supported by FHB's Research Office; and the balance of HCPF would soon be fully committed, we consider it timely that the scope of HMRF should be expanded to incorporate the functions of HCPF. This would achieve efficiency, promote sharing of support resources and enhance flexibility in deployment of funds.

24. The expanded HMRF will comprise two parts – one will continue with the original function to fund health and medical research; the other will be the Health Care and Promotion Scheme (HCPS) under HCPF. The revised ambit of HMRF will be as follows –

- (a) funds research projects and research infrastructure in health and health services as well as infectious diseases;
- (b) provides dedicated funding support for research projects, research infrastructure and research capacity building initiatives in specific areas of advanced medical research identified on the advice of relevant experts in the RC;
- (c) provides research fellowship grants to enhance research capability and build research capacity to facilitate translation of knowledge into clinical practice; and
- (d) provides financial support for projects related to health promotion, preventive care and related research.

25. The expanded HMRF will continue to fund research in the following broad areas –

- (a) public health, human health and health services (e.g. primary care, non-communicable diseases and Chinese medicine);
- (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.

26. HMRF will mainly be funding studies/research with focus on biomedical science, bio-technology and technology in the medical field, in addition 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. HMRF will also continue to support research fellowships for nurturing local manpower and developing talents in health and medical specialties.

27. For the Health Care and Promotion Scheme under the expanded HMRF, it will cover projects supported by the existing HCPF. With a strengthened emphasis on evidence-based research, the future applications related to health promotion would be able to cover projects with far-reaching impact requiring strong scientific support, as well as high sustainability and replicability in different community settings. For example, health promotion projects may include the scientific evaluation of successful factors in implementing behavioral interventions in the complex community setting. These projects would facilitate the generation of scientific evidence before large scale health promotion programmes could be introduced in the community. The HCPFC will be renamed as the Health Care and Promotion Committee and will continue to provide strategic steer for funding health promotion projects. We plan to increase the funding ceiling for healthcare promotion projects from the current \$500,000 to \$1.2 million in order to allow projects to be implemented in larger scale with more capacity for community participation. Under the present planning, the key important topical areas include organ donation, breastfeeding, cancer prevention and reducing salt and sugar in meals. The current mechanism of application assessment, dissemination of funding, monitoring and outcome evaluation will continue to be adopted.

28. Incorporating HCPF into the HMRF would create synergy and provide more flexibility in supporting both health and medical research and health promotion efforts, as well as streamlining administrative procedures. NGOs would be encouraged to partner with the academia in projects/study. This would facilitate the translation of science into practice for health promotion projects through collaboration and partnership between academics and community organisations.

/FINANCIAL

FINANCIAL IMPLICATIONS

29. We propose to increase the approved commitment for HMRF from \$1,415 million by \$1,500 million to \$2,915 million in 2016-17. According to HMRF's track record and strategic directions planned, the annual expenditure is expected to be about \$300 million as compared with the average annual spending of \$235 million in the past five years. The direct operation costs¹² are estimated to be about \$4 million per annum. The exact cashflow requirements over the coming years will depend on the number of applications submitted and projects approved each year and the expenditure pattern for individual projects. Projects currently under HCPF will be covered by the expanded HMRF after the funding balance of the HCPF has all been committed by end of 2016-17. The tentative estimate of the average funding requirement for each year as compared with the annual average for the past five years is as follows –

Item		Average spending under two funds 2011-2015 (\$ million / year)	Estimated Budget for the expanded HMRF (\$ million / year)
1	HMRF – Investigator-initiated projects	180	around 200
2	HMRF – Commissioned studies	45	50
3	Health Care Promotion Scheme (currently under HCPF)	6	40
4	Research Fellowship Scheme	1	10
5	Direct Operation Costs	3	4
Total:		around 235	around 300

/IMPLEMENTATION

¹² Direct operation costs cover meeting costs of the Research Council and the Health Care and Promotion Committee, and their constituent panels, boards and committees for members' technical and advisory input to the HMRF and the HCPS; publication of research dissemination reports; publicity, training workshops and seminars; and expenses for other activities necessary to support the HMRF and the HCPS operations under the direction of the Research Council and the Health Care and Promotion Committee respectively.

IMPLEMENTATION PLAN

30. Subject to FC's approval, we will proceed to prepare for the 2016 HMRF Open Call tentatively planned for December 2016. The incorporation of HCPF's functions into the expanded HMRF will take effect in 2017-18. On-going health promotion and seed funding scheme projects funded by the HCPF would continue to operate under the ambit of the Health Care and Promotion Scheme in the HMRF and be subject to continued monitoring.

PUBLIC CONSULTATION

31. At the meeting of the Panel on Health Services on 18 April 2016, Members supported the submission of the proposals to the FC for consideration. We have also consulted RC and HCPFC and they agreed with the proposed expansion of HMRF to incorporate functions of the HCPF.

BACKGROUND

32. On 9 December 2011, the LegCo FC approved a new commitment of \$1,415 million vide FCR(2011-12)57 for setting up HMRF, by consolidating the former HHSRF and the former Research Fund for the Control of Infectious Diseases, with a broadened scope for funding health and medical research in Hong Kong. Research projects funded under the two funds have been subsumed under HMRF.

33. The HCPF was established in 1995 upon FC's approval vide FCR(95-96)13 to provide a grant of \$80 million to 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. In 2006, the governing committee of the fund decided to revise the scope of the HCPF to focus primarily on health promotion activities and disease prevention.

Enclosure 1 to FCR(2016-17)29

**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

Members

Prof Francis CHAN Ka-leung

Dean, Faculty of Medicine
The Chinese University of Hong Kong

Prof Annie CHEUNG Nga-yin

Laurence LT Hou Professor in Anatomical
Molecular Pathology
Department of Pathology
The University of Hong Kong

Prof FOK Tai-fai

Choh-Ming Li Professor of Paediatrics
Pro-Vice-Chancellor/Vice-President
The Chinese University of Hong Kong

Prof David HUI Shu-cheong

Stanley Ho Professor of Respiratory
Medicine
Department of Medicine and Therapeutics
The Chinese University of Hong Kong

Prof Mary IP Sau-man

Mok Hing Yiu Chair Professor of
Respiratory Medicine
Personal Professor, Chief of Division of
Respiratory and Critical Care Medicine
Department of Medicine
The University of Hong Kong

Prof Nancy IP Yuk-yu

The Morningside Professor of Life
Science
Dean of Science
The Hong Kong University of Science and
Technology

Membership (as at 1 January 2016)

Prof LAU Yu-lung	Doris Zimmern Professor in Community Child Health Chair Professor of Paediatrics Department of Paediatrics and Adolescent Medicine The University of Hong Kong
Prof Diana LEE Tze-fan	Professor of Nursing and Assistant Dean (Alumni Affairs) The Nethersole School of Nursing The Chinese University of Hong Kong
Prof Gabriel M LEUNG	Dean, Li Ka Shing Faculty of Medicine The University of Hong Kong
Prof Dennis LO Yuk-ming	Chairman, Department of Chemical Pathology Director, Li Ka Shing Institute of Health Sciences Associate Dean (Research), Faculty of Medicine The Chinese University of Hong Kong
Prof Alex MOLASIOTIS	Director of WHO Collaborating Centre for Community Health Services Angel SP Chan Lau Professor in Health and Longevity Chair Professor of Nursing and Head of School School of Nursing The Hong Kong Polytechnic University
Prof Joseph Sriyal Malik PEIRIS	Chair of Virology School of Public Health The University of Hong Kong
Prof Paul TAM Kwong-hang	Provost and Pro-Vice-Chancellor Li Shu Pui Professor in Surgery Chair of Paediatric The University of Hong Kong

Membership (as at 1 January 2016)

Dr Dominic TSANG Ngai-chong	Consultant Medical Microbiologist Department of Pathology Queen Elizabeth Hospital Cluster Clinical Director (Infection Control) Chief Infection Control Officer, Hospital Authority
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><u>Secretary</u></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

Investigator-initiated research projects

Colorectal screening strategies (approved funding around \$670,000)

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. A study conducted in 2010/12 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 conducting a pilot programme for colorectal cancer screening. The Government plans to launch a 3-year Colorectal Cancer Screening Pilot Programme in September 2016 for eligible Hong Kong residents aged 61 to 70. The Pilot Programme will be implemented in phases and it is expected that there will be a total of about 300 000 attendances for Faecal Immunochemical Test screening, a new version of faecal occult blood test, of whom some 10 000 will require colonoscopy assessment for a positive stool test result.

Asthma control (approved funding around \$80,000)

2. Asthma affects about 330,000 people in Hong Kong - a large number of which are children and adolescents. Researchers supported by HMRF funding prepared a potentially inhalable spray-dried powder of omalizumab. The spray-dried powder might allow improved asthma control (especially in children) as the usual route of administration of this medication is by sub-cutaneous injection.

Liver cancer (approved funding around \$160,000)

3. Liver cancer was the third leading cause of cancer deaths in Hong Kong and in 2014, a total of 1585 people died from this cancer. Researchers supported by HMRF have been investigating new biomarkers to enhance detection and monitoring of treatment as well as developing potential new forms of treatment. High serum levels of a protein biomarker called granulin-epithelin precursor (GEP) were associated with poor prognosis in hepatocellular carcinoma patients. Therefore, targeting GEP might represent a novel therapeutic approach against liver cancer. In separate studies also supported by HMRF, researchers found that GEP binding to liver cancer cells requires heparin sulfate. Another protein called

glypican-3 is also involved in this interaction. It is possible that combination treatment with anti-GEP and anti-glypican-3 monoclonal antibodies could be an effective method to treat liver cancer.

Nasopharyngeal cancer (approved funding around \$1 million)

4. Nasopharyngeal cancer is the malignant change in the tissues of the nasopharynx. The cancer is more common in the southern part of China than in Western countries. In 2013, there were 841 new cases of nasopharyngeal cancer in Hong Kong. Researchers supported by HMRF found a novel gene in local patients associated with nasopharyngeal cancer susceptibility. Additional biomarkers for nasopharyngeal cancer might help identify high-risk subjects.

Stroke and blood flow (approved funding around \$270,000)

5. In Hong Kong, nearly 3000 people die of stroke each year. Researchers supported by HMRF developed a feasible method to non-invasively visualise cerebral artery blood flow in high-risk stroke patients. Understanding blood flow in brains of stroke patients may help select high-risk patients for pre-emptive treatment and reduce disability, financial and social burden of stroke.

Commissioned research programmes^{Note}

Pneumococcal vaccination (approved funding around \$930,000)

6. An in-depth cost-effectiveness analysis study was conducted in 2006/07 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 ("CIP"). In order to lower the risk of getting invasive pneumococcal disease, the Government has incorporated pneumococcal conjugate vaccine ("PCV") into the CIP since 1 September 2009. All newborns born on or after 1 July 2009 can receive free pneumococcal vaccination in the Maternal and Child Health Centres ("MCHCs") of the Department of Health. From 1 September 2009 to 31 March 2011, a one-off 18-month PCV catch-up programme was launched for children born between 1 September 2007 and 30 June 2009 inclusively who could receive catch-up pneumococcal vaccination at MCHCs. Up to 27 March 2016, a total of 1 389 948 doses of pneumococcal conjugate vaccine were administered to 365 971 children under the CIP since its launching on 1 September 2009.

^{Note} There could be more than one project under each commissioned research programme. Items in paragraphs 6 to 8 are examples of specific projects.

Management of diabetes mellitus (approved funding around \$1.88 million)

7. Diabetes mellitus is a major cause of morbidity and mortality in Hong Kong. It was responsible for 15,300 in-patient discharges and in-patient deaths in all hospitals, and 390 registered deaths in 2014. Researchers supported by HMRF are conducting an evaluation in a cohort of 133,954 diabetes mellitus patients under the care of Hospital Authority General Out-patient Clinic on the 3-year effectiveness of a programme to help patients manage risk factors for diabetes. The evaluation showed a reduction in cardiovascular disease and other complications of diabetes mellitus after the patients are better managed for the risk factors.

Avian influenza vaccine (approved funding around \$1.11 million)

8. 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.

**Results of Outcome Evaluation for the HMRF
Based on Buxton-Hanney Research Payback Questionnaire**

Using data from the most recent round of evaluation conducted in mid-2015 with the Buxton-Hanney Research Payback Questionnaire, the impact of the research supported by the former HHSRF and the former Research Fund for Control of Infectious Diseases (RFCID) is summarised as follows:

2. The majority (73.1%) of projects reported publication of research findings. There were, on average, 1.6 peer-reviewed publications per project generated. Evidence-based knowledge will help shape and direct healthcare policy.

3. Over thirty percent (31.0%) of the projects reported impact on (i) informing policy through promoting health and/or raising awareness about a health condition; (ii) supporting current/informing future policy and/or decision-making; (iii) informing treatment guidelines; and (iv) enhancing provision of health services.

4. Investigator-initiated research supported by the FHB funds has been instrumental in building research capacity and infrastructure in Hong Kong. Work on funded projects has enabled research staff to improve their scientific and healthcare-related research skills and to gain promotion at their institutions. Career advancement of research team members was reported for 44.8% of projects. Acquisition of higher qualifications was reported for 46.1% of projects. In addition, many project teams (39.2%) attracted additional funding to support subsequent research. These highly skilled talents form an important strategic research asset for Hong Kong.

5. In summary, the impact of research supported by the HHSRF and RFCID compares well with that found with other funding agencies with similar public health objectives, e.g. National Health Service (UK), National Health and Medical Research Council (Australia).

Enclosure 4 to FCR(2016-17)29

**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

Members

Dr CHAN Wai-man	Former Assistant Director (Family and Elderly Health Services) Department of Health
Ms Mabel CHAU Man-ki	Former Chief Executive Officer The Hong Kong Society for Rehabilitation
Dr Eugenie LEUNG Yeuk-sin	Director of Counselling and Person Enrichment Centre of Development and Resources for Students The University of Hong Kong
Mr James LEUNG Wing-yee	Former Assistant Director The Boy's & Girl's Clubs Association of Hong Kong
Dr Andrew SIU Man-hong	Associate Professor Department of Rehabilitation Sciences The Hong Kong Polytechnic University
Mr TSE Hung-sum	Principal Caritas St. Joseph Secondary School
Dr Gene TSOI Wai-wang	Immediate Past President Chairman, External Affairs Committee The Hong Kong College of Family Physicians
Ms Deborah WAN Lai-yau	Former Chief Executive Officer New Life Psychiatric Rehabilitation Association

Membership (as at 1 January 2016)

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

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.

**Results of Outcome Evaluation for the HCPF
using the Reach Effectiveness Adoption Implementation Maintenance
(RE-AIM) framework**

The evaluation was successfully conducted for 122 projects funded since 2004 and completed for 12 months or longer. Impact of the health promotion projects are summarised below:

2. Over 90% of projects covered areas of health promotion needs under the HCPF thematic priorities. Among projects approved, 65% were from community organisations (e.g. healthy cities and NGOs) and other non-profit making organisations, 31% from universities and 4% from hospitals. Over 900 000 people benefited from participating in these projects.

3. Encouraging outcomes were documented in knowledge gained (76%), changes in behaviors (52%), improved in health status (35%) of the participants joining the health promotion programmes .

4. To sustain the long term benefits of effective health promotion interventions, 70% of completed projects had been incorporated into the core business or became part of the routine practices in the administering institutions.

Examples of Projects Supported by the HCPF

Smoking cessation (Approved funding around \$300,000)

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.

Childhood obesity (Approved funding around \$300,000)

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.

Traffic-related injury analysis (approved funding around \$220,000)

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.

Promoting Tai Chi to Elders (approved funding around \$490,000)

4. A project, led by a local academic unit, was funded to introduce Tai Chi among the elderly. Along with the Tai Chi courses, an educational VCD on Tai Chi was also produced with health talks and workshops were conducted in elderly centres and homes for the aged. Elderly participants demonstrated significant increase in physical functioning (i.e. upper body strength, lower body strength and lower body flexibility) and psychological health (i.e. general health, social functioning and role-emotion).

Mental health (approved funding around \$500,000)

5. A project was funded to a community organisation with an aim to promote mental health of the deprived groups through mobilisation of the community resources. A network was formed to improve health literacy and mental health for the newly arrived in Sham Shui Po District. Through the collaborative efforts with Caritas Medical Centre, a self-help network was set up to support families of the newly arrived. The reach-out service had benefited this under-privileged group and organisations which render new arrivals service by referring the vulnerable targets for early medical and mental health support. Some participants also became the “Healthy Angels” who conveyed health and mental health promotion messages in the district.
