Health and Medical Research Fund:

2014-15 Annual Report
Health and Medical Research Fund (HMRF)

On 9 December 2011, Legislative Council Finance Committee approved a new commitment of $1,415 million for setting up the HMRF, by consolidating the former Health and Health Services Research Fund (HHSRF) and the Research Fund for the Control of Infectious Diseases (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 $225 million respectively during the establishment.

The HMRF aims 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. It provides funding support for health and medical research activities, research infrastructure and research capacity building in Hong Kong in various forms, including investigator-initiated research projects and government-commissioned research programmes.

The HMRF, steered by the Research Council (RC), supports 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.) (previously funded by HHSRF);

(b) prevention, treatment and control of infectious diseases, in particular emerging and re-emerging infectious diseases (previously funded by RFCID); and

(c) advanced medical research in the fields of paediatrics, neuroscience, clinical genetics and clinical trials (a broadened scope under the HMRF).

It provides funding support for the following types of projects:

(a) Investigator-initiated research projects - funding for individual research grant proposals submitted by individual researchers in response to the annual “HMRF Open Call” invitation for research grant applications with reference to the research areas and thematic priorities. The funding ceiling for a research proposal is $1,200,000 and the usual duration is two years. Higher grants or grants of
longer duration may be awarded where justified.

(b) *Government-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 the RC. Funding for such programmes may cover research projects, facilities, infrastructure and other capacity building initiatives as appropriate.

(c) *Research fellowships* - to enhance research capability and build research capacity to facilitate the translation of knowledge into clinical practice, research fellowships will be awarded to eligible candidates covering a range of research areas and specialties and geared toward a variety of levels (e.g. PhD students, post-doctoral fellows, clinical research fellows, etc.) on the advice of the RC.

In general, members of any discipline or profession in the health or health-related field can apply for research funding. Grants may be awarded for research in tertiary institutions, hospitals, medical schools or other appropriate centres, units or services. Members of other disciplines, such as social welfare and education may also apply if the proposed research is within the ambit of the HMRF.

Research applications are assessed by a stringent two-tier review process, first by external referees, and then by the Grant Review Board (GRB) according to the criteria set out below:

- originality of the research topic
- relevance to the scope of funding and thematic priorities
- significance of the research question
- quality of scientific content
- credibility for study design and method
- feasibility of the intended project
- research ethics
- translational potential/value

The GRB will also take into account the past performance and track records of the grant applicants, research capability of the administering institution, and the proposal’s value for money when considering the funding recommendation. The RC will review and endorse the funding recommendations of the GRB. The GRB will provide specific feedback for each application.

In addition, the HMRF organises Health Research Symposium 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.

**Governance**

Chaired by the Secretary for Food and Health, the RC is responsible for providing strategic steer for funding health and medical research, and overseeing the administration of the HMRF including the allocation of funds for approved grants. Its terms of reference are as follows –

(a) to determine research agenda and funding control mechanism of the HMRF;
(b) to approve procedures for inviting, and criteria for vetting research applications;

(c) to approve standard terms and conditions for grant-holders;

(d) to approve funding allocation after peer-review process;

(e) to approve processes for the ongoing monitoring and evaluation of approved research projects;

(f) to establish Grant Review Board to carry out the technical work of the RC; and

(g) to disseminate key findings of funded projects.

The RC is supported by the GRB, the GRB Executive (GRBE) and the Referee Panel for technical inputs. Individual members of the Referee Panel are selected according to their specific field of expertise to review grant applications.

The membership of the RC, GRBE and GRB is at Appendix A. Their operation is supported by the Research Fund Secretariat of the Research Office under the Food and Health Bureau.

**Highlights of 2014-15**

**2014 HMRF Open Call**

The 2014 Open Call was issued in December 2014 and by the closing date of 31 March 2015, a total of 1,055 funding applications were received. In accordance with the updated thematic priorities (Appendix B) and the established assessment criteria, the GRB’s funding recommendations will be considered by the RC. Funding results will be announced in November 2015.

During the year, final reports of 105 completed projects were assessed by circulation.

**Investigator-initiated Research Projects**

Of the 1,088 Investigator-initiated Research Projects funded under the HMRF, 613 projects have been completed. The research topics include management and prevention of chronic diseases including cardiovascular illnesses, cerebrovascular diseases, cancers, alcohol consumption behavior and harm, mental health, injury prevention, environmental pollution, elderly care, Chinese medicine, epidemiology,
surveillance and control of emerging and re-emerging infectious diseases, antimicrobial resistance, paediatrics, neurosciences and clinical genetics.

Government-commissioned Research Programmes

Three portfolios of commissioned programmes on Control of Infectious Diseases Phase III have been approved during the year. Research areas of programmes approved in the previous years include healthcare manpower planning and projection, regulatory framework for healthcare professionals, Phase I Clinical Trials Centres and emerging Influenza A viruses with epidemic potential.

During the year seven portfolios have been completed and the results of five completed portfolios have been disseminated to relevant health policy teams and healthcare services providers.

Research Fellowships Scheme

The Research Fellowships Scheme is one of the initiatives under the HMRF. A Brainstorming Group with representatives from the academic and clinical sectors was convened to propose the framework for the Scheme. It was proposed to support early to mid-career professionals to enhance their skills in health and medical research. The first call will be issued in August 2015 and funding decision will be available in February 2016.

Financial Position

The cash balance of the HMRF as at 31 March 2015 is $1,152 million, with an uncommitted funding balance of $528.28 million (i.e. funding available for new projects/programmes). The financial position for the HMRF for the 2014-15 financial year is at Appendix C.
## Membership of the Research Council, the Grant Review Board Executive and the Grant Review Board
(as at 31 March 2015)

### (A) Research Council

#### Chairman

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

#### Members

- Prof Francis CHAN Ka-leung
- Prof Annie CHEUNG Nga-yin
- Prof FOK Tai-fai
- Prof Sian Meryl GRIFFITHS
- Prof David HUI Shu-cheong
- Prof Mary IP Sau-man
- Prof Nancy IP Yuk-yu
- Prof LAU Yu-lung
- Prof Diana LEE Tze-fan
- Prof Gabriel M LEUNG
- Dr Patrick LI Chung-ki
- Prof Dennis LO Yuk-ming
- Prof Alex MOLASIOOTIS
- Prof Joseph Sriyal Malik PEIRIS
Appendix A

Prof Paul TAM Kwong-hang

Dr Dominic TSANG Ngai-chong

Prof Maurice YAP Keng-hung

Director of Health (or representative)

Chief Executive of Hospital Authority (or representative)

Secretary

Head of Research Office
Food and Health Bureau
Appendix A

(B) Grant Review Board Executive

Terms of Reference:

The terms of reference of the Grant Review Board Executive are:

(a) to assess and recommend action (on behalf of the GRB) on requests for additional funds, budget revision and/or reallocation, changes to study design or methods, and changes to the principal applicant or administering institution;

(b) to monitor the quality of the peer review including the assignment of referees to grants for review;

(c) to monitor the response of grant applicants and grant holders to requests by the GRB;

(d) to evaluate and advise the GRB regarding changes to the grant or final report review process; and

(e) to advise the Research Fund Secretariat on the monitoring of the progress of current research projects.

Members

Dr Felix CHAN Hon-wai

Prof Francis CHAN Ka-leung

Prof Sian Meryl GRIFFITHS

Prof David HUI Shu-cheong

Prof Nancy IP Yuk-yu

Prof Timothy KWOK Chi-yui

Prof Cindy LAM Lo-kuen

Prof LAU Yu-lung

Prof Gabriel M LEUNG
(C) Grant Review Board

Terms of Reference:

The terms of reference of the Grant Review Board are:

(a) to set Standard Operating Procedures for the grant submission and review process, and the assessment and dissemination of final reports;

(b) to distribute guidelines for the formulation of research proposals, grant applications and the submission of final and dissemination reports;

(c) to review and assess applications and recommend projects for funding;

(d) to review and assess final and dissemination reports;

(e) to promote the development of research in the areas of health & health services, controlling infectious diseases and advanced medicine in the wider community;

(f) to monitor the progress of approved projects; and

(g) to monitor the financial performance of approved projects.

Members

Prof Anil Tejbhan AHUJA

Dr Alma AU May-lan
Dr AU YEUNG Tung-wai
Prof John BACON SHONE
Prof Iris Frances Forster BENZIE
Prof BIAN Zhao-xiang
Prof Kenneth BOHELER
Prof CAI Zongwei
Prof Chetwyn CHAN Che-hin
Prof Godfrey CHAN Chi-fung
Prof Juliana CHAN Chung-ngor
Prof Henry CHAN Hin-lee
Dr Karen CHAN Kar-loen
Prof Paul CHAN Kay-sheung
Prof Allen CHAN Kwan-chee
Prof Andrew CHAN Man-lok
Prof Daniel CHAN Tak-mao
Dr CHAN Wai-chi
Dr Johnny CHAN Wai-man
Prof CHAN Wai-yee
Prof Emily CHAN Ying-yang
Prof Kathryn CHEAH Song-eng
Dr CHEN Honglin
Appendix A

Dr CHEN Zhiwei
Prof Christopher CHENG Hon-ki
Prof Bernard CHEUNG Man-yung
Prof Annie CHEUNG Nga-yin
Prof Raymond CHEUNG Tak-fai
Prof CHEUNG Yiu-fai
Prof CHIEN Wai-tong
Prof James CHIM Chor-sang
Dr Wilson CHING Yick-pang
Dr CHOI Cheung-hei
Prof Winnie CHU Chiu-wing
Dr Brian CHUNG Hon-yin
Prof Tony CHUNG Kwok-hung
Dr Benjamin John COWLING
Prof Richard FIELDING
Dr Daniel FONG Yee-tak
Prof FUNG Kwok-pui
Prof Tony GIN
Dr William B GOGGINS
Prof James GRIFFITH
Prof GUAN Yi
Appendix A

Prof Joseph HARWELL
Prof Karl HERRUP
Dr HO King-man
Dr HO Lai-ming
Dr HO Pak-leung
Dr Daniel HO Sai-yin
Prof HUANG Yu
Prof Mamie HUI
Dr Ivan HUNG Fan-ngai
Dr Dennis IP Kai-ming
Prof Margaret IP
Prof Mary IP Sau-man
Prof JIN Dong-yan
Dr Janice M JOHNSTON
Prof KHONG Pek-lan
Prof KHOO Ui-soon
Prof KWAN Hoi-shan
Dr Patrick KWAN Kwok-leung
Prof Paul LAI Bo-san
Dr Alexander LAI Chi-keung
Dr Christopher LAI Kei-wai
Appendix A

Prof Jimmy LAI Shiu-ming
Prof Timothy LAI Yuk-yau
Dr David LAM Chi-leung
Prof LAM Ching-wan
Prof Linda LAM Chiu-wa
Prof Karen LAM Siu-ling
Prof Carly LAM Siu-yin
Prof LAM Tai-hing
Prof LAM Tai-pong
Dr Wiley LAM Tak-chiu
Dr Wendy LAM Wing-tak
Prof Joseph LAU Tak-fai
Prof Simon LAW Ying-kit
Prof Nelson LEE Lai-shun
Prof Tatia LEE Mei-chun
Dr Jenny LEE Shun-wah
Dr LEE So-lun
Prof Diana LEE Tze-fan
Dr LEUNG Chi-chiu
Mr LEUNG Kwok-fai
Prof Cynthia LEUNG Man
Prof LEUNG Po-sing
Prof LEUNG Suet-yi
Dr Shirley LEUNG Sze-lee
Prof LEUNG Ting-fan
Prof Ronald Adolphus LI
Dr Wilina LIM Wei-ling
Prof LIN Zhi-xiu
Prof LIU Su
Prof LO Kwok-wai
Dr Raymond LO See-kit
Dr Janice LO Yee-chi
Prof LU Aiping
Dr Christopher LUM Chor-ming
Prof Maria LUNG LI
Prof David MAN Wai-kwong
Prof Bradley MCPHERSON
Prof Alex MOLASIO TIS
Prof John Malcolm NICHOLLS
Dr Eddy NG Kwok-po
Prof Irene NG Oi-lin
Prof NG Pak-cheung
Prof Simon NG Siu-man
Prof Gabriel NG Yin-fat
Prof Hextan NGAN Yuen-sheung
Prof Joseph Sriyal Malik PEIRIS
Prof Randy POON Yat-choi
Prof Timothy Hudson RAINER
Prof John RUDD
Dr C Mary SCHOOLING
Prof SHEN Jiangang
Prof SO Kwok-fai
Prof SZETO Cheuk-chun
Dr TAM Cheuk-yin
Prof TAM Lai-shan
Prof Kathryn TAN Choon-beng
Prof TANG Jin-ling
Prof Nelson TANG Leung-sang
Dr Marie A TARRANT
Prof Agnes TIWARI Fung-yee
Prof TO Ka-fai
Dr Tony TO Shing-shun
Dr Antonio TONG Chi-kit
Appendix A

Dr Thomas TSANG Ho-fai
Prof Kenneth TSANG Wah-tak
Prof George TSAO Sai-wah
Prof TSE Hung-fat
Prof Karl TSIM Wah-keung
Prof Stephen TSUI Kwok-wing
Prof WEI Xiaolin
Prof WING Yun-kwok
Prof Ian WONG Chi-kei
Prof Martin WONG Chi-sang
Dr William WONG Chi-wai
Dr Wong Chit-ming
Dr WONG Ka-hing
Prof Lawrence WONG Ka-sing
Prof Frances WONG Kam-yuet
Prof Chris WONG Kong-chu
Prof David WONG Sai-hung
Prof WONG Tze-wai
Prof Vincent WONG
Prof Gary WONG Wing-kin
Prof Samuel WONG Yeung-shan
Prof WONG Yung-hou
Prof Patrick WOO Chiu-yat
Prof Justin WU Che-yuen
Dr Joseph WU
Prof WU Wutian
Prof WU Zhenguuo
Prof Hannah XUE Hong
Dr YAM Wing-cheong
Prof Michael YANG Mengsu
Prof Maurice YAP Keng-hung
Prof YEUNG King-lun
Prof YU Cheuk-man
Prof Doris YU Sau-fung
Dr YU Weichuan
Prof Benjamin YUNG Yat-ming
Prof Benny ZEE Chung-ying
Prof ZHANG Zhangjin
Prof ZHAO Guoping
Prof ZHAO Zhongzhen
Thematic Priorities of the Health and Medical Research Fund for 2014

Research Area 1: Health and Health Services

This area focuses on the cause, treatment, prevention of human diseases and the effectiveness and cost-effectiveness of healthcare services.

Theme 1: Public Health

a. Major non-communicable diseases (NCD)
   - Identification of factors that influence health behaviour, particularly modifiable lifestyle factors
   - Effectiveness of interventions to tackle NCD and their contributing factors, e.g. cancer, cardiovascular diseases, cerebrovascular diseases, childhood obesity
   - Extent and impact of food marketing on children’s eating behaviour and body weight

b. Modifiable lifestyle factors
   - Tobacco control
     - Identification of factors and evaluation of methods to prevent uptake of smoking
     - Effectiveness of smoking cessation programmes and publicity including new media
     - Evaluation of tobacco control policies
   - Alcohol consumption behaviour and harm
     - Identification of factors influencing drinking behaviour
     - Effectiveness and cost-effectiveness of interventions to reduce alcohol-related harm
     - Public health impact of alcohol tax change
     - Effect of restricting off-premises alcohol sale to underage people
Appendix B

○ Promoting good mental health
  ▪ Assessment of the mentally ill and ex-mentally ill
  ▪ Risk and protective factors for mental disorders
  ▪ Effectiveness of interventions to promote mental well-being
  ▪ Mental health literacy of the general public

○ Injury and poisoning
  ▪ Identification of risk factors and effectiveness of prevention methods, especially in the areas of domestic injury, sports injury, falls and drowning/near drowning

c. Environmental pollution and climate change
  ○ Epidemiology, identification and quantification of pollutants
  ○ Impact on health
  ○ Improve public health knowledge about linkages between health and climate
  ○ Effectiveness of climate change adaptation and mitigation to protect health

Theme 2: Health Services

a. Primary care
  ○ Developing multidisciplinary health service models
  ○ Evaluation of adoption of the Hong Kong Reference Frameworks in Primary Care Settings and identification of the associated enabling factors and/or barriers
  ○ Effectiveness of primary care programmes

b. Chronic disease management and palliative care
  ○ Service delivery models and effectiveness for chronic disease management
  ○ Effectiveness of supportive and palliative/end of life care
  ○ Symptom management
  ○ Preventable vision loss
  ○ Service delivery and treatment of chronic skin diseases with
significant adverse impacts on health-related quality of life, such as psoriasis

c. Reducing avoidable hospitalisation
   ○ Effectiveness of programmes to reduce avoidable hospitalisation
   ○ Evaluation of models of ambulatory care
   ○ Health systems research to support enhancing care in the community

d. Elderly care
   ○ Prevention of cognitive decline in old age, exploring intervention methods and models of care for dementia
   ○ Effectiveness of structured fall prevention programmes for elders in the community
   ○ Effectiveness of end-of-life programmes in residential care homes

Theme 3: Chinese Medicine
a. Establishing safety and quality profiles for certain Chinese herbs and medicines
b. Interactions between Chinese medicines and Western medicines
c. Integrated approaches in combining Chinese and Western models of health care
d. Effectiveness of Chinese medicine in prevention/ treatment of human diseases
Research Area 2: Infectious Diseases

This area focuses on the research of infectious diseases which pose potential threats in Hong Kong and neighbouring areas.

Theme 1: Respiratory pathogens (including influenza)
   a. Epidemiology (including mathematical modelling)
   b. Rapid diagnostic tests
   c. Novel control approaches
   d. Economic burden of disease

Theme 2: Emerging & zoonotic diseases
   a. Characterise new pathogens in animals that can infect humans
   b. Identification of risk factors that contribute to the emergence of disease
   c. Development of diagnostic tests
   d. Surveillance methods for emerging infections

Theme 3: Antimicrobial resistance
   a. Epidemiology of multi-drug resistant organisms
   b. Identification of risk factors for colonisation and infection
   c. Mechanisms of resistance and its transfer
   d. Laboratory-based strategies for detection
   e. Optimal infection control measures including screening
   f. Appropriate therapy

Theme 4: Vaccination programmes
   a. Development of new vaccines
   b. Acceptability of vaccination programmes
   c. Measures to enhance vaccination of elderly, institutionalised or other at-risk populations
Theme 5: Technology platforms

a. Application of modern technology to control infectious diseases, particularly hospital-acquired (nosocomial) infections

b. Genome sequencing and molecular epidemiology

c. Technology substitution/supplement for traditional pathogen typing methods
Appendix B

Research Area 3: Advanced Medical Research

This area focuses on the development and use of new technologies, and treatment paradigms to improve human health. The following 4 themes are our priorities:

Theme 1: Clinical Genetics
a. Genetic and genomic study of major chronic and hereditary diseases in Hong Kong
b. Identification of biomarkers for common cancers using molecular biology approaches
c. Genetic counselling
d. Genetic education

Theme 2: Clinical Trials
a. Assessing the safety and effectiveness of a new medication/new device/new indication of existing medication or device on a specific group of patients
b. Comparing the effectiveness in patients with a specific disease of two or more already approved or common interventions for that disease

Theme 3: Neuroscience
a. Epidemiology, identification of risk factors, prevention, diagnosis, treatment, management and rehabilitation of neurological diseases, particularly neurodegenerative diseases, stroke and injuries
b. Stem cell therapy and regenerative medicine
Theme 4: Paediatrics

Epidemiology, identification of risk factors, prevention, diagnosis, treatment, management in the following special areas: Neonatology, respiratory, allergy, clinical immunology, dermatology, nutrition, gastroenterology, metabolomics, haematology, oncology, cardiovascular and surgical diseases
## Appendix C

### Health and Medical Research Fund

**Financial Position as at 31 March 2015**

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<tr>
<th>Description</th>
<th>HK$</th>
<th>HK$</th>
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<td><strong>Cash balance as at 31.3.2014</strong></td>
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<td>Grants paid for the period from 1.4.2014 to 31.3.2015</td>
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<td>Former HHSRF Commissioned project grants</td>
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<td>Investigator-initiated project grants</td>
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<td>HMRF Commissioned project grants</td>
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<td>(new projects) Investigator-initiated project grants</td>
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<td><strong>Cash balance as at 31.3.2015</strong></td>
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<td>Former HHSRF Fund committed but not yet paid</td>
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<td>Commissioned project grants</td>
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<td></td>
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<tr>
<td>Investigator-initiated project grants</td>
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<tr>
<td>Former RFCID Fund committed but not yet paid</td>
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<td>Commissioned project grants</td>
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<td>HMRF Fund committed but not yet paid</td>
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<tr>
<td>(new projects)</td>
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