

Health and Medical
Research Fund:

2014-15 Annual Report

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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-

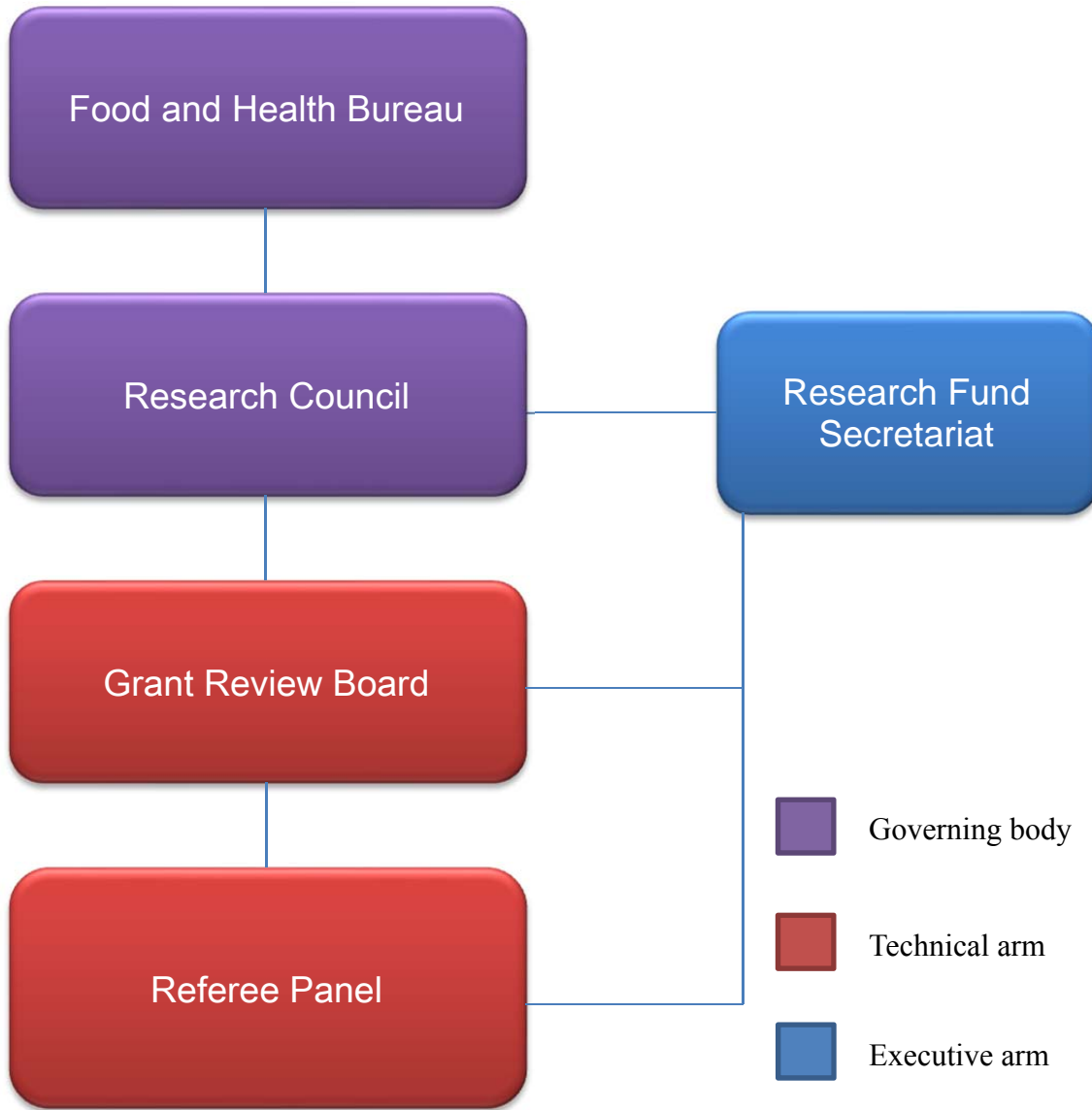
- originality of the research topic
- relevance to the scope of funding and thematic priorities
- significance of the research question
- quality of scientific content
- credibility for study design and method
- feasibility of the intended project
- research ethics
- translational potential/value

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 MOLASIOTIS

Prof Joseph Sriyal Malik PEIRIS

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

(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

Dr Patrick LI Chung-ki

Prof Dennis LO Yuk-ming

Dr Dominic TSANG Ngai-chong

Prof YIP Shea-ping

Prof YUEN Kwok-yung

(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

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

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

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 MOLASIOTIS

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

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 Zhenguo

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

- 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

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

Health and Medical Research Fund
Financial Position as at 31 March 2015

	HK\$	HK\$
Cash balance as at 31.3.2014		1,245,955,198.16
Grants paid for the period from 1.4.2014 to 31.3.2015		(93,969,599.39)
<u>Former HHSRF</u> Commissioned project grants	(3,461,657.04)	
Investigator-initiated project grants	(20,127,455.55)	
<u>Former RFCID</u> Commissioned project grants	(5,178,407.60)	
Investigator-initiated project grants	(31,452,858.30)	
<u>HMRF</u> Commissioned project grants	(9,713,091.00)	
<u>(new projects)</u> Investigator-initiated project grants	(21,004,775.10)	
Direct operation costs paid	(3,031,354.80)	
Cash balance as at 31.3.2015		1,151,985,598.77
Less:		(623,705,174.33)
<u>Former HHSRF</u> Fund committed but not yet paid		
Commissioned project grants	(11,692,609.45)	
Investigator-initiated project grants	(25,791,126.17)	
	<u>37,483,735.62</u>	
<u>Former RFCID</u> Fund committed but not yet paid		
Commissioned project grants	(14,883,677.50)	
Investigator-initiated project grants	(51,563,478.78)	
	<u>66,447,156.28</u>	
<u>HMRF</u> Fund committed but not yet paid		
<u>(new projects)</u>		
Commissioned project grants	(162,169,626.00)	
Investigator-initiated project grants	(357,604,656.43)	
	<u>519,774,282.43</u>	
Uncommitted balance as at 31.3.2015		528,280,424.44