Health and Medical Research Fund - Thematic Priorities for 2017 Open Call for Investigator-initiated Research Projects

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 and policy.

Theme 1: Public Health

Ref. Code  Major non-communicable diseases (NCD)
PH-NC-1  ○ Identification and surveillance of socioeconomic and health-related risk factors associated with quality of life and major NCD in local population
PH-NC-2  ○ Risk factors of cancers that has rising trends in Hong Kong in recent years including thyroid cancer, corpus cancer, prostate cancer, kidney cancer, non-small cell lung cancer and ovarian cancer
PH-NC-3  ○ Effectiveness of interventions to tackle major NCD and their contributing factors, e.g. cancer, cardiovascular diseases, cerebrovascular diseases, diabetes mellitus, childhood nutrition and obesity
PH-NC-4  ○ Extent and impact of food marketing on children’s eating behaviour and body weight
PH-NC-5  ○ Mechanisms for engaging patients and methods for enabling patient self-management for major NCD

Modifiable lifestyle factors
○ Tobacco control
PH-MF-1a  ▪ Identification of factors and evaluation of methods to prevent uptake of smoking, e-cigarettes and novel tobacco products
PH-MF-1b  ▪ Effectiveness of strategies to reduce smoking prevalence in general population
PH-MF-1c  ▪ Effectiveness of smoking cessation programmes and publicity including new media
PH-MF-1d  ▪ Evaluation of tobacco control policies (including surveillance and intervention)

○ Alcohol consumption behaviour and harm
PH-MF-2a  ▪ Identification of factors influencing drinking behaviour
PH-MF-2b  ▪ Effectiveness and cost-effectiveness of interventions to reduce alcohol-related harm

PH-MF-2c  ▪ Public health impact of alcohol tax change and/or alcohol marketing (including online media)
PH-MF-2d  ▪ Effect of restricting off-premises alcohol sale to underage people
○ Promoting good mental health
PH-MF-3a   Assessment of people suffering from and at risk of developing mental disorders
PH-MF-3b   Risk and protective factors for mental disorders
PH-MF-3c   Effectiveness of interventions to promote mental well-being and optimise recovery from mental disorders
PH-MF-3d   Evaluation of models of community mental health interventions
PH-MF-3e   Mental health literacy of the general public

○ Injury and poisoning
PH-MF-4a   Identification of risk factors and effectiveness of prevention methods, especially in the areas of domestic injury, sports injury, falls and drowning/ near drowning
PH-MF-4b   Study on the epidemiology and the clinical aspects of metal poisoning in Hong Kong

○ Sleep deprivation
PH-MF-5a   Effects of sleep deprivation on physical and mental health outcomes
PH-MF-5b   Effectiveness of strategies to promote sleep hygiene
PH-MF-5c   Effects of sleep intervention to reverse the adverse outcomes in chronically sleep deprived individuals

○ Exercise science and health
PH-MF-6a   Effectiveness of exercise intervention to promote physical and psychological well-being in disease populations
PH-MF-6b   Effective strategies to promote physical activity in general population
PH-MF-6c   Relationships between fundamental motor development and physical literacy
PH-MF-6d   Exercise and cognitive health

○ Environmental factors in health
PH-EP-1   Epidemiology, identification and quantification of pollutants
PH-EP-2   Impact of living environment on health
PH-EP-3   Improve public health knowledge about linkages between health and climate
PH-EP-4   Effectiveness of climate change adaptation and mitigation to protect health

Theme 2: Health Services

○ Primary care
HS-PC-1   Developing multidisciplinary health service models
HS-PC-2   Evaluation of adoption of the Hong Kong Reference Frameworks in Primary Care Settings and identification of the associated enabling factors and/or barriers
HS-PC-3   Effectiveness of primary care programmes and community-based interventions
○ **Chronic disease management and palliative care**

**HS-CD-1**
- Service delivery models and intervention and implementation effectiveness for chronic disease management, palliative and end-of-life care

**HS-CD-2**
- Health economic analysis of the new targeted/biological therapies

**HS-CD-3**
- Effectiveness and safety of new medications or innovative devices in the management of obesity

**HS-CD-4**
- Effectiveness of end-of-life programmes in residential care homes

**HS-CD-5**
- Effectiveness of supportive and palliative/end of life care

○ **Reducing avoidable hospitalisation**

**HS-RH-1**
- Effectiveness of programmes (e.g. geriatric service at the front door / Emergency Department) to reduce avoidable hospitalisation

**HS-RH-2**
- Evaluation of models of ambulatory care

**HS-RH-3**
- Health systems research to enhance co-ordination and continuity in the transitions of care, including supporting enhanced care in the community

○ **Elderly care**

**HS-EC-1**
- Prevention of cognitive decline in old age, exploring intervention methods and models of care for dementia

**HS-EC-2**
- Promote the bone health of elderly population and to promulgate secondary prevention of fragility fractures

**HS-EC-3**
- Early return to function and quality of life after fragility fractures in elderly

**HS-EC-4**
- Effectiveness of structured fall prevention programmes for elders in the community

**HS-EC-5**
- Clinical application and service planning implication of frailty identification in older population

○ **Evaluation on efficiency**

**HS-EE-1**
- Cost-effectiveness models for better management plans

**HS-EE-2**
- Cost-utility comparisons between treatment options

**HS-EE-3**
- Efficiency and effectiveness of health services

○ **Use of modern information technology in healthcare**

**HS-IT-1**
- Improve quality and safety of patient care

**HS-IT-2**
- Enhance efficiency

**HS-IT-3**
- Facilitate public private collaboration

**HS-IT-4**
- Enhance the capacity and ability in ambulatory / community care
Theme 3: Chinese Medicine

CM-1 Integrated approaches in combining Chinese and Western models of health care
CM-2 Effectiveness of Chinese medicine in prevention/ treatment of human diseases
CM-3 Interactions including efficacy and toxicity of combined Chinese-western medicine
CM-4 Identifying quality control parameters for Chinese medicines
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 and tuberculosis)

RP-1 Epidemiology (including mathematical modelling)
RP-2 Transmission
RP-3 Pathogenesis
RP-4 Rapid diagnostic tests
RP-5 Novel control approaches
RP-6 Economic burden of disease
RP-7 Vaccine and therapies

Theme 2: Emerging & Zoonotic Diseases

EZ-1 Characterise new pathogens in animals that can infect humans
EZ-2 Identification of risk factors that contribute to the emergence of disease
EZ-3 Transmission
EZ-4 Pathogenesis
EZ-5 Development of diagnostic tests
EZ-6 Surveillance methods for emerging infections
EZ-7 Vaccine and therapies

Theme 3: Antimicrobial Resistance

AR-1 Epidemiology and burden of multi-drug resistant organisms
AR-2 Identification of risk factors for colonisation and infection
AR-3 Mechanisms of resistance and its transfer
AR-4 Novel tools for diagnosis or treatment guidance
AR-5 Optimal infection control measures
AR-6 Appropriate antimicrobial therapy and avoidance of antibiotic overuse
AR-7 Effectiveness of programmes to promote antibiotic awareness in community and antimicrobial resistance

Theme 4: Vaccination Programmes

VP-1 Development of new vaccines
VP-2 Acceptability of vaccination programmes (e.g. pneumococcal vaccination in elderly) and factors affecting vaccination
VP-3 Effectiveness and economic analysis of vaccine (e.g. effectiveness in seasonal influenza vaccine in local community and cost-benefit analysis of hepatitis A vaccine)
VP-4 Measures to enhance vaccination of elderly, institutionalised or other at-risk populations
Theme 5: Technology Platforms

TP-1  Application of the “omics” technologies in infectious diseases diagnosis and epidemiology studies
TP-2  Application of the new mobile IT technologies in infectious disease surveillance and contact tracing
TP-3  Genome sequencing and molecular epidemiology
TP-4  Technology substitution/supplement for traditional pathogen typing methods

Theme 6: Severe Sepsis

SS-1  Epidemiology in Hong Kong
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

CG-1 Genetic and genomic study of major chronic and hereditary diseases in Hong Kong
CG-2 Identification of biomarkers for common cancers using molecular biology approaches
CG-3 Genetic counselling
CG-4 Research on ethical, legal and social issues associated with advances in medical genetics and genomics

Theme 2: Clinical Trials

CT-1 Assessing the safety and effectiveness of a new medication/new device/new indication of existing medication or device on a specific group of patients
CT-2 Comparing the effectiveness in patients with a specific disease of two or more already approved or common interventions for that disease

Theme 3: Neuroscience

NS-1 Epidemiology, identification of risk factors, prevention, diagnosis, treatment, management and rehabilitation of neurological diseases, particularly neurodegenerative diseases, stroke and injuries
NS-2 Stem cell therapy and regenerative medicine

Theme 4: Paediatrics

PD-1 Epidemiology, identification of risk factors, prevention, diagnosis, treatment, management in the following special areas: Neonatology, respiratory, allergy, clinical immunology, dermatology, gastroenterology, haematology, oncology, metabolic, cardiovascular, surgical diseases and nutrition (Vitamin D supplementation to exclusive breastfed babies)