

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)