

## Health and Medical Research Fund - Thematic Priorities

### **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

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

### Theme 2: Health Services

- a. Primary care
  - o Developing multidisciplinary health service models
  - o Evaluation of adoption of the Hong Kong Reference Frameworks in Primary Care Settings and identification of the associated enabling factors and/or barriers.
  - o Effectiveness of primary care programmes
- b. **Chronic disease management and palliative care**
  - o Service delivery models and effectiveness for chronic disease management
  - o Effectiveness of supportive and palliative/end of life care
  - o Symptom management
  - o Preventable vision loss
  - o 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**
  - o Effectiveness of programmes to reduce avoidable hospitalisation
  - o Evaluation of models of ambulatory care
  - o Health systems research to support enhancing care in the community
- d. Elderly care
  - o Prevention of cognitive decline in old age, exploring intervention methods and models of care for dementia
  - o Effectiveness of structured fall prevention programmes for elders in the community
  - o 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

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### **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

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### **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