

**Health and Medical Research Fund**  
**Thematic Priorities for 2022 Open Call for Investigator-initiated Projects**

**I. Infectious Diseases**

**Ref. Code    Description**

**Theme 1: Respiratory pathogens** (Seasonal and zoonotic influenza, SARS-CoV-2 and other coronaviruses, emerging respiratory viruses, and tuberculosis)

**Aetiology and epidemiology**

- A-0101      Promote research to better understand the pathogen characteristics and host factors that drive the impact of respiratory infections
- A-0102      Identify mechanisms and risk factors for the emergence of resistance to antiviral agents to respiratory pathogens, develop and evaluate effective strategies to ameliorate resistance emergence
- A-0103      Assess threats from zoonotic or other emerging respiratory pathogens and develop methods for reducing zoonotic risk
- A-0104      Impact of co-circulation or co-infection with COVID-19 and other respiratory pathogens

**Prevention and vaccine uptake**

- A-0105      Investigate modes of transmission of respiratory pathogens (including determinants of contagiousness) and identify non-pharmaceutical interventions to limit its spread in hospitals and the community
- A-0106      Develop and evaluate strategies to improve COVID-19 and seasonal influenza vaccine uptake, especially in high risk groups

**Detection and diagnosis**

- A-0107      Develop novel and effective surveillance methods that allow early detection of respiratory pathogens at the community level
- A-0108      Promote research, evaluation and innovation for improved and novel detection and diagnosis of respiratory pathogens

A-0109 Identify and characterise the spectrum and epidemiology of long COVID, particularly among different age groups and vulnerable populations

### **Treatment development and evaluation**

A-0110 Identify new correlates of immune protection against respiratory pathogens

A-0111 Develop candidate vaccines or therapeutics against respiratory pathogens

A-0112 Identify and evaluate new or repurposed treatments and rehabilitation programmes for long COVID patients

### **Theme 2: Antimicrobial Resistance**

A-0201 Develop novel diagnostics tools to aid diagnosis and treatment of infections and antimicrobial resistance

A-0202 Develop novel preventive measures on antimicrobial resistance

A-0203 Develop novel antimicrobials or other alternative agents

A-0204 Promote awareness and education regarding antimicrobial resistance, infection prevention and control, and antibiotic stewardship

A-0205 Research on promoting behavioural changes regarding the use of antimicrobials in the public

A-0206 Research on estimating local health burden of antimicrobial resistance

A-0207 Research on the role of environment in the evolution of antimicrobial resistance

A-0208 Research on preventive measures on the spread of antimicrobial resistance through the environment

### **Theme 3: Preparedness and Response to Pandemic and Epidemic**

- A-0301      Utilise operational research, big data, artificial intelligence, digital technologies and –omics approaches for clinical and public health applications, including prevention, contact tracing, screening for infection, surveillance, disease control, clinical management and programme delivery
  
- A-0302      Evaluate psychological, societal and economic impact of infection control interventions
  
- A-0303      Develop assessment frameworks for ethical, legal and privacy issues on the use of digital health technology

## **II. Non-communicable Diseases (NCD)**

### **Ref. Code    Description**

#### **Detection, treatment and management**

- B-0001      Epidemiology; identify modifiable risk and protective factors for prevention and development of major NCD including cardiovascular diseases, cancers, chronic respiratory diseases, diabetes and mental disorders
- B-0002      Develop and test novel approaches for enhancing prevention, early diagnosis, treatment, and recovery/ rehabilitation from major NCD
- B-0003      Study effective measures to address physical and psychosocial burdens and enhance the capacity of carers, and in particular vulnerable carers such as single parent and elderly couples
- B-0004      Study to eliminate health disparities and improve quality of care in underserved populations

#### **Ageing and elderly care**

- B-0005      Tackle issues relating to ageing population including sarcopenia, frailty, fracture, falls, cognitive impairment and promotion of healthy ageing
- B-0006      Develop and evaluate palliative care and end-of-life care delivery

#### **Mental health**

- B-0007      Identify means to increase mental health literacy, promote mental wellbeing and reduce stigma towards persons with mental health needs
- B-0008      Evaluate the impact of physical and mental comorbidity in people with mental disorders, chronic illnesses, and the elderly

### **III. Primary Healthcare**

<b>Ref. Code</b>	<b>Description</b>
C-0001	Enhance primary care services for the prevention and management of NCD, and avoidable demand for secondary and tertiary care
C-0002	Develop and evaluate the effectiveness and cost-effectiveness of collaborative, interdisciplinary, inter-sectoral and integrated care service models (including public-private interface and medical-social collaboration) for prevention and management of NCD and multi-morbidity at the community level, such as District Health Centres
C-0003	Develop and evaluate innovative service models for preventing, managing and treating individuals and families at risk of developing or living with chronic diseases in public and private primary healthcare settings
C-0004	Develop strategies to promote family doctor concept to provide comprehensive, continuing, whole-person, co-ordinated and preventive care to individuals and their families
C-0005	Identify and evaluate the incentives/enhancers to encourage people to preferentially use primary healthcare services, in particular the elderly

#### **IV. Preventive Medicine**

<b>Ref. Code</b>	<b>Description</b>
------------------	--------------------

##### **Tobacco control**

- |        |   |
|--------|---|
| D-0001 | Develop and evaluate innovative measures to further reduce smoking prevalence in Hong Kong  |
| D-0002 | Develop innovative methods, measures, and study designs to assess tobacco use knowledge, attitudes, perceptions, and behaviours; including measures to best predict future use of tobacco products other than conventional cigarettes |

##### **Healthy lifestyle**

- |        |   |
|--------|---|
| D-0003 | Develop and evaluate innovative measures to increase the public's adoption of balanced diet in a practical and sustainable manner so as to increase fruit and vegetables consumption and reduce salt, sugar and fat consumption, in different subpopulations and across different key settings and cultures |
| D-0004 | Develop and evaluate innovative approaches to increasing physical activity and reducing sedentary behaviour, including the testing of digital technologies (e.g. mobile or wearable devices), in different subpopulations and across different key settings and cultures                                    |

##### **Patient empowerment**

- |        |   |
|--------|---|
| D-0005 | Promote health literacy and patient empowerment   |
| D-0006 | Promote underserved groups such as new immigrants, low income groups, marginalised groups and ethnic minority groups to receive evidence-based screening programmes, and better manage their own health |

## **V. Telehealth and Advanced Technology**

<b>Ref. Code</b>	<b>Description</b>
------------------	--------------------

E-0001	Clinical application of knowledge from genetics / genomics for prevention / personalised medicine
E-0002	Apply big data analytics to examine clinical information for prevention, diagnosis, therapeutics, rehabilitation and better management of patients
E-0003	Develop, apply and evaluate technology-based clinical management systems including digital healthcare/ artificial intelligence/ telehealth approaches to improve patient care and experience
E-0004	Develop, apply and evaluate IT tools/solutions and advanced technology to enable smart care provision like smart ward, smart clinic, smart pharmacy

## **VI. Implementation Science**

### **Introduction**

Implementation science aims to promote the systematic uptake of research findings and other evidence-based information into routine practice. It also aims to assess the performance, and, hence, improve the quality and effectiveness of health services. Proposals submitted under this thematic priority should aim to improve the existing healthcare system in terms of enhancing patient care or informing health policies.

There are several established theories, frameworks, models and taxonomies that can be used to analyse barriers and facilitators of implementation outcomes. Relevant frameworks include CFIR (Consolidated Framework for Implementation Research), PRISM (Practical, Robust, Implementation Sustainability Model), RE-AIM (Reach Effectiveness Adoption Implementation Maintenance), Theoretical Domains Framework (TDF), and PARHiS (Promoting Action on Research Implementation in Health Services). Human-centred design (HCD) is another framework which helps tailor innovations to fit end-users, narrowing the gap between efficacious interventions and large-scale impact.

Interested parties from non-academic institutions are highly recommended to collaborate with partners from academic institutions to prepare their implementation research proposals.

### **Ref. Code    Description**

F-0001	Strategies to implement and disseminate evidence-based health promotion, prevention, screening, early detection, and diagnostic interventions, as well as effective treatments, clinical procedures or guidelines into existing care systems, particularly with the use of smart technology to facilitate patient care
F-0002	Studies on health care and public health policies and other contextual factors that influence the success of dissemination or implementation efforts
F-0003	To conduct formative and process evaluation for improving implementation outcomes and sustainability
F-0004	Implementation of multiple levels of interventions within community or health services settings to meet the needs of complex patients and diverse systems of care
F-0005	Studies on reducing or stopping (“de-implementing”) the use of clinical and community practices that are ineffective, unproven, low-value, or harmful