Health and Medical Research Fund

Thematic Priorities for 2023 Open Call for Investigator-initiated Projects

I. Infectious Diseases

Infectious diseases with public health implications, including those infectious diseases that are prevalent in or pose threat to Hong Kong and neighbouring areas

Ref. Code   Description

Aetiology and epidemiology

A-0001   Promote research to better understand the pathogen characteristics, disease mechanism and risk factors that drive the impact of infections

A-0002   Assess threats from zoonotic or other emerging infectious pathogens and develop methods for reducing zoonotic risk

Prevention, Detection and Management

A-0003   Investigate modes of transmission of infectious pathogens (including determinants of contagiousness) and identify non-pharmaceutical interventions to limit its spread in hospitals and the community

A-0004   Economic studies on vaccines and develop and evaluate strategies to improve acceptability and vaccine uptake, especially in high risk groups

A-0005   Develop and test novel approaches for enhancing prevention, surveillance, early detection, diagnosis, treatment, and recovery/rehabilitation from infectious diseases and its sequelae

Antimicrobial Resistance

A-0006   Develop novel diagnostics tools to aid diagnosis and treatment of infections and antimicrobial resistance

A-0007   Develop novel preventive measures on antimicrobial resistance

A-0008   Develop novel antimicrobials or other alternative agents

Ref. Code	Description
A-0009	Promote awareness and education regarding antimicrobial resistance, infection prevention and control, and antibiotic stewardship
A-0010	Research on promoting behavioural changes regarding the use of antimicrobials in the public
A-0011	Research on estimating local health burden of antimicrobial resistance
A-0012	Research on the role of environment in the evolution of antimicrobial resistance
A-0013	Research on preventive measures on the spread of antimicrobial resistance through the environment

Preparedness and Response to Pandemic and Epidemic

A-0014	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-0015	Evaluate psychological, societal and economic impact of infection control interventions
A-0016	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, encourage help-seeking, and reduce stigma towards persons with mental health needs

B-0008   Identify and evaluate novel measures to address mental health needs of vulnerable groups (including low-income, ethnic minority families and the elderly)

B-0009   Evaluate the impact of physical and mental comorbidity in people with mental disorders, chronic illnesses, and the elderly

III. Primary Healthcare

Ref. Code	Description
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	Develop strategies and measures to adopt a life course preventive care approach to address unique needs across lifespan of each age group and to evaluate the effectiveness and cost-effectiveness of preventive care, including cost of enhancements through specific schemes, programmes and interventions for specific age groups/cohorts
C-0006	Identify and evaluate the incentives/enhancers to encourage people to preferentially use primary healthcare services, in particular the elderly

IV. Preventive Medicine

Ref. Code   **Description**

Tobacco control

D-0001   Develop and evaluate innovative measures to further reduce smoking prevalence in Hong Kong, in particular preventing the younger generation from smoking (including the use of alternative smoking products)

D-0002   Develop innovative methods, measures, and study designs to assess tobacco use knowledge, attitudes, perceptions, and behaviours and other related addictions such as video gaming and drug abuse; 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

Ref. Code	Description
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. Clinical Trials and Implementation Science

Introduction

Clinical trials provide research evidence into clinical practice and help improve population health, while 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 and Sustainability Model), RE-AIM (Reach, Effectiveness, Adoption, Implementation and Maintenance), Theoretical Domains Framework (TDF), and PARiHS (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.

Ref. Code	Description
Clinical Trials	
F-0001	Clinical trials on the development and testing of new drugs, techniques, treatments, diagnostic and therapeutic medical devices, public health and health system interventions with a view to improving clinical practice and population health
F-0002	Clinical trials that adopt a lifecycle approach to include children and older adults, as well as other population groups often underserved by clinical trials
Implementation Science	
F-0003	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-0004	Studies on health care and public health policies and other contextual factors that influence the success of dissemination or implementation efforts

Ref. Code	Description
F-0005	To conduct formative and process evaluation for improving implementation outcomes and sustainability
F-0006	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-0007	Studies on reducing or stopping ("de-implementing") the use of clinical and community practices that are ineffective, unproven, low-value, or harmful