



# HONG KONG COLLEGE OF COMMUNITY MEDICINE Annual Scientific Meeting 2026

19 September 2026  
Hong Kong Academy of Medicine

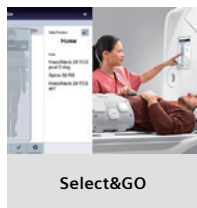
**Healthcare Regulation:  
Enabling A Safe and  
Vibrant Healthcare System**



**PROGRAMME BOOK**

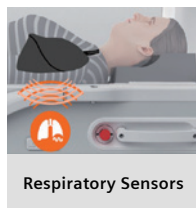
# Unique Workflow Tools

[siemens-healthineers.us/magnetic-resonance-imaging](https://siemens-healthineers.us/magnetic-resonance-imaging)



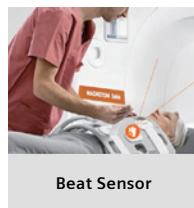
Select&GO

- AI based, one touch patient positioning
- Removes laser-light positioning
- Pre-fetches exam card for the anatomy to be scanned



Respiratory Sensors

- Removes need for both respiratory belt and navigator for triggering abdominal scans
- Technologists can visualize respiratory rate which helps determine anxiety level of patient, focus on calming patient



Beat Sensor

- Removes need for ECG leads for gating cardiac scans
- Covers all cardiac sequences
- Adds a level of patient comfort, removes need to shave chest



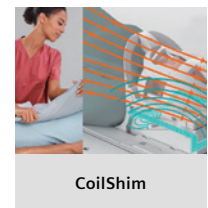
Tim coils

- High density coils and amplifier power are the driving forces behind SNR enabling fast acquisition times
- DirectConnect (cableless coils) and SlideConnect technology (guides pins directly into connectors)
- Head coil tilts between 0, 9 and 18 degrees, without placing wedges underneath the coil



Dockable Table

- No foot pedals
- Auto docks
- Supports 550 lbs.



CoilShim

- (two shim channels in base of head coil) and Slice Adjust (slice by slice shim versus volume shim)
- Automatically improve local B0 homogeneity
- Reduces fat suppression and broken spine artifacts at FoV edges



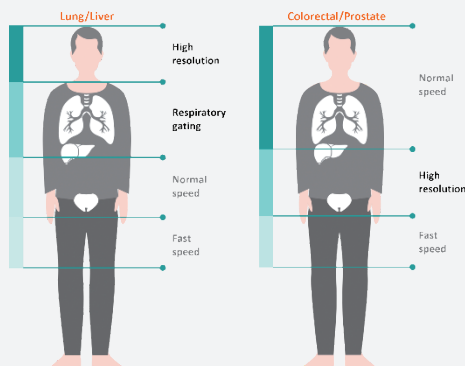
**SIEMENS**  
Healthineers

## Delivering a standardized yet personalized imaging experience with AI-powered PET/CT imaging

AIDAN is our intelligent imaging platform for Biograph PET/CT scanners that supports the demanding processing power of AI-based solutions. Combined with the Biograph family of smart PET/CT scanners, AIDAN accelerates operational efficiency and creates an elevated patient workflow that generates more precise diagnoses and helps transform care delivery.

### Patient Preparation

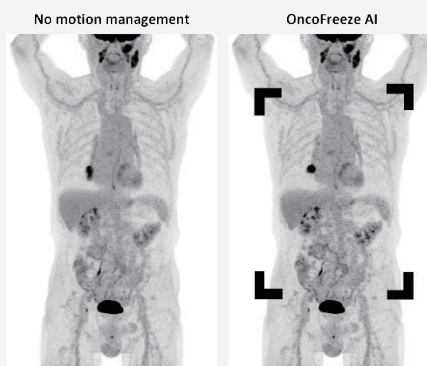
#### FlowMotion AI



- Automatically defines PET/CT protocol ranges, enabling standardized yet personalized imaging
- Up to 60% fewer user interactions

### Image Acquisition

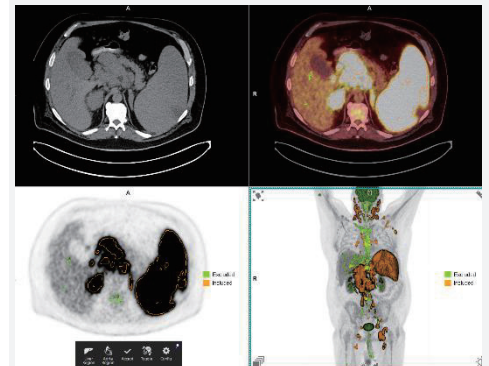
#### OncoFreeze AI



- Deviceless 1-click motion correction for respiratory movement
- Reduces PET/CT setup and scan times while enhancing patient comfort

### Reporting

#### Lesion Scout with Auto ID



- AI-powered tool for rapid, accurate whole-body tumor assessment for PET/CT scans
- Ready in 10 seconds with 92% accuracy



**Scan here to learn more about Biograph PET/CT scanners.**

**SIEMENS**  
Healthineers

## Table of Contents

**3** Committees

---

**4** Programme

---

**6** Invited Speakers

---

**18** Joint Sub-Specialty Review Meeting &  
Round Table of HKCCM Trainees

---

**21** Free Paper Presentations

---

**25** Poster Presentations

---

**88** Acknowledgements





# FACT

**INSURANCE POLICIES  
HAVE CLAIMS LIMITS.**

**WE HAVE  
NO LIMITS<sup>†</sup>**

Defending a claim, or your reputation in front of the regulator, can be expensive.

Insurance companies only offer insurance, using fixed terms and conditions with a limit on how much they cover and an excess to pay.

We use discretionary medical indemnity which has no financial limits and no excesses, providing you with comprehensive protection and peace of mind.<sup>†</sup>

Get expert protection  
for your career, reputation,  
and finances.

**GET THE FACTS**



**medicalprotection.org**  
Always there for you

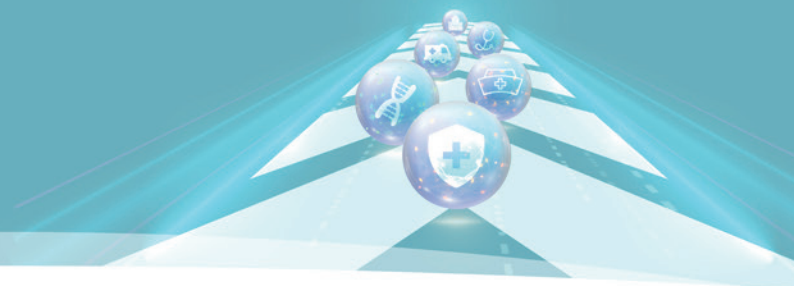
Medical  
Protection



<sup>†</sup>Limits and excesses apply to a small number of obstetric, gynaecology and paediatric members.

Medical Protection is a trading name of The Medical Protection Society Limited ("MPS"). MPS is a company limited by guarantee in England with company number 00036142 at Level 19, The Shard, 32 London Bridge Street, London, SE1 9SG. Medical Protection serves and supports the medical members of MPS with access to the full range of benefits of membership, which are all discretionary, and set out in MPS's Memorandum and Articles of Association. MPS is not an insurance company. Medical Protection® is a registered trademark of MPS.

For information on MPS's use of your personal data and your rights, please see our Privacy Notice on the website.



# Committees

## Organising Committee

### Chairman:

**Dr Darwin W. L. MAK**

Assistant Director (Chinese Medicine), Department of Health

### Members:

**Dr Cissy Y. S. CHOI**

Medical Director, Trinity Medical Centre

**Dr Tony C. Y. CHOW**

Occupational Health Consultant, Labour Department

**Prof. Pui Hong CHUNG**

Assistant Dean (Health Sciences Programmes & Admissions), LKS Faculty of Medicine,  
The University of Hong Kong

**Mr Samuel C. K. LI**

Senior Pharmacist (Risk Management and Operations), Department of Health

**Dr Ada W. C. LIN**

Specialist in Infectious Disease, Hong Kong Sanatorium & Hospital

**Dr Christina K. C. MAW**

Assistant Director of Strategic Purchasing Office, Health Bureau

**Dr Ambrose C. H. WONG**

Principal Medical and Health Officer (Medical Device), Department of Health

## Scientific Committee

**Dr Frank W. K. CHAN**

Hospital Chief Executive, Hong Kong Buddhist Hospital/ Our Lady of Maryknoll Hospital/ TWGHs Wong Tai Sin Hospital

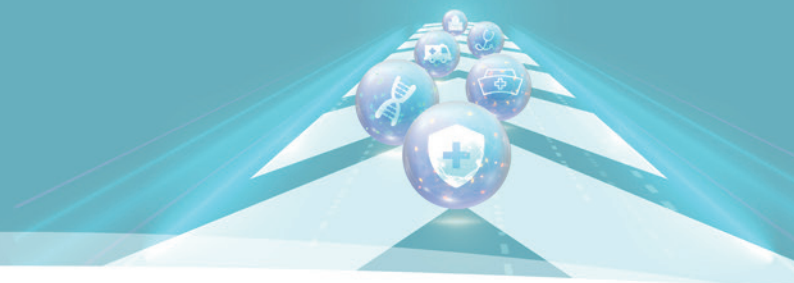
**Prof. Pui Hong CHUNG**

Assistant Dean (Health Sciences Programmes & Admissions), LKS Faculty of Medicine,  
The University of Hong Kong

**Dr Sandy S. T. POON**

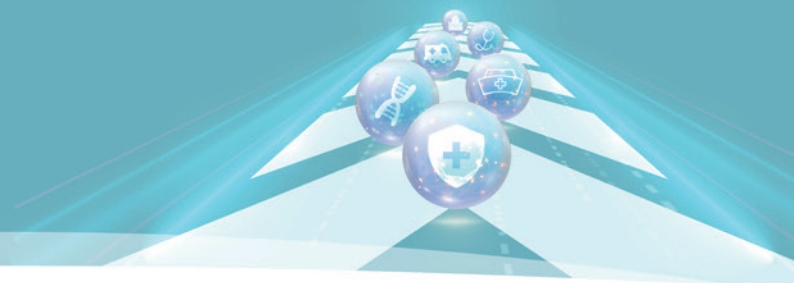
Lead Occupational Health Physician, Goldman Sachs (Asia) L.L.C.

# Programme



| Time          | Programme                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 08:30 - 09:00 | Registration                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 09:00 - 09:15 | <b>Opening Ceremony</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 09:15 - 09:55 | <b>T. Y. CHAU Lecture</b><br>Moderator: Dr. Amy P. Y. CHIU<br><br><b>THE SILVER TSUNAMI IS HERE - Can Artificial Intelligence Save Hong Kong's Healthcare System?</b><br><b>Prof. Erwin LOH</b><br><i>Royal Australasian College of Medical Administrators (RACMA), Australia</i>                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 09:55 - 10:55 | <b>Session 1: Paradigm for Quality and Safety in Healthcare</b><br>Moderator: Dr. Christina K. C. MAW<br><br><b>Evolving Health Regulation Strategy - European Partnership for Supervisory Authorities</b><br><b>Ms. Jooske VOS</b><br><i>Stichting E.P.S.O., The Netherlands</i><br><br><b>Models of Healthcare Regulation to Promote Safety and Innovation in Healthcare Services</b><br><b>Prof. Eng Kiong YEOH</b><br><i>The Chinese University of Hong Kong, Hong Kong SAR</i>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 10:55 - 11:30 | Coffee / Tea                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|               | Parallel Sessions                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 11:30 - 12:30 | <b>Session 2: Healthcare in the New Era</b><br>Moderator: Dr. Ada W. C. LIN<br><br><b>Regulation of Telemedicine in Mainland China</b><br><b>Ms. Mujia ZHANG</b><br><i>National Health Commission of the People's Republic of China, China</i><br><br><b>Mapping the Risks of AI across Healthy Aging and the Care Continuum: A Scoping Review and Implications for AI Governance</b><br><b>Prof. Alex HE</b><br><i>The Hong Kong University of Science and Technology, Hong Kong SAR</i> | <b>Free Paper Session</b><br><i>Location: Function Room I (2/F)</i><br>Moderator: Dr. Raymond W. M. LEUNG<br><br><b>(8) From Compliance to Excellence: The Hospital Authority's Experience with CIHA Hospital Accreditation</b><br><b>Dr. Jeffrey LAI</b><br><i>Hospital Authority, Hong Kong SAR</i><br><br><b>(12) Development of a syndromic surveillance system for the 15th National Games of China in Hong Kong</b><br><b>Dr. Kenny K. L. LAU</b><br><i>Communicable Disease Branch, Centre for Health Protection, Department of Health, Hong Kong SAR</i><br><br><b>(17) Efficacy, Immunogenicity, and Safety of Enterovirus 71 Vaccines in Children: A Systematic Review and Meta-Analysis</b><br><b>Dr. Guan Xing LAI</b><br><i>Centre for Health Protection, Department of Health, Hong Kong SAR</i><br><br><b>(23) Evaluating the Impact of Hong Kong's 2026 Fee and Charges Reform for Public Healthcare: A Mixed-Method Analysis of Access, Adherence, Perceptions and Willingness-To-Pay</b><br><b>Mr. Sze Ho WONG</b><br><i>United Christian Hospital, Hong Kong SAR</i> |

# Programme



|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12:30 - 14:05 | Lunch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 14:05 - 14:45 | <b>S. H. LEE Lecture</b><br>Moderator: Dr. Ambrose WONG<br><br><b>Global Harmonization of Medical Device Regulation</b><br><b>Dr. Muralitharan PARAMASUA</b><br><i>Medical Device Authority, Ministry of Health Malaysia, Malaysia</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|               | Parallel Sessions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 14:45 - 16:15 | <b>Session 3: Dimensions of Regulation of Healthcare Services</b><br>Moderator: Dr. Yonnie LAM<br><br><b>Regulation of Private Healthcare Facilities in Hong Kong</b><br><b>Dr. Bo Yee SHU</b><br><i>Office for Regulation of Private Healthcare Facilities, Department of Health, Hong Kong SAR</i><br><br><b>Development in Drug Regulations in Hong Kong</b><br><b>Mr. Lot CHAN</b><br><i>Preparatory Office for CMPR, Hong Kong SAR</i><br><br><b>Regulation to Innovation: How GCMTI's Testing Science and Advanced Analytics Drives Advancement of the Chinese Medicines Sector</b><br><b>Ms. Jacqueline CHENG</b><br><i>Chinese Medicine Regulatory Office, Department of Health, Hong Kong SAR</i> | <b>Joint Sub-Specialty Review Meeting / Round Table of HKCCM Trainees</b><br><i>Location: Function Room I (2/F)</i><br>Moderators: Dr. Joan FOK, Dr. Raymond HO, Dr. Eddie YUEN<br><br><b>AI Governance in Healthcare</b><br><b>Dr. Tom C. C. HO</b><br><i>Hospital Authority, Hong Kong SAR</i><br><br><b>Case Sharing of a Computer User with Neck Pain: DSE Ergonomics Hazards Assessment and Control</b><br><b>Dr. Vienna C. W. LEUNG</b><br><i>Pamela Youde Nethersole Eastern Hospital, Hong Kong SAR</i><br><br><b>Overview of Health System Efficiency: In Theory and Practice</b><br><b>Dr. Caci N. S. HO</b><br><i>Primary Healthcare Commission, Hong Kong SAR</i> |
| 16:15 - 16:30 | <b>Closing Ceremony</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

All times indicated are Hong Kong Time (UTC +8).

\* Programme is subject to change without prior notice.

# Invited Speakers

## • T. Y. CHAU Lecture



**PROF. ERWIN LOH**

*Royal Australasian College of Medical Administrators (RACMA), Australia*

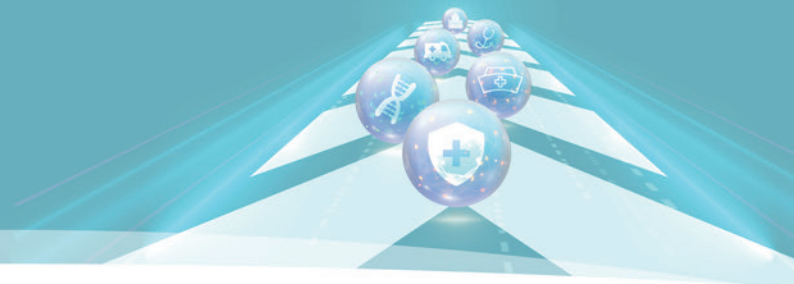
Professor Erwin Loh is the current President of the Royal Australasian College of Medical Administrators, the specialty medical college for medical leaders, and Director of Medical Services at Peninsula Private Hospital, part of Ramsay Health Care. He has had past national medical leadership roles at St Vincent's and Calvary Health. He is a recognised leader in health ethics, and is appointed by the Federal Health Minister as a member of the Australian Health Ethics Committee (AHEC) of the NHMRC, and a member of the AHEC AI Working Group. He has been an invited speaker on health leadership and AI, and has published peer-reviewed articles and books on these topics, including the textbook "Artificial Intelligence in Medicine" published by Nature Springer. He has adjunct professorships at University of Melbourne, Macquarie University and Monash University. He is a member of the Association of Professional Futurists.

### **Abstract**

#### **THE SILVER TSUNAMI IS HERE - Can Artificial Intelligence Save Hong Kong's Healthcare System?**

Hong Kong is ageing faster than almost any city on Earth — one in four residents is already over 65, rising to more than one in three by 2046, even as hospitals buckle under record wait times and a looming shortfall of thousands of doctors and nurses. This lecture argues that artificial intelligence, already being piloted across Hong Kong homes, care facilities and hospitals, offers the only realistic way to bend this curve — shifting care from hospital to home, reactive to predictive. It confronts the real risks — digital exclusion, trust, privacy, fragmentation — and calls on public health and family physicians to lead the solution, not watch it happen.

# Invited Speakers



## ● Session 1: Paradigm for Quality and Safety in Healthcare



MS. JOOSKE VOS

*Stichting E.P.S.O., The Netherlands*

After Ms. VOS's studies in Dutch language and literature, Law, and Economics (master Law, teaching degree Economics), Ms. VOS started her career at the legal department of University of Groningen (Netherlands) in various management and research positions.

Afterwards Ms. VOS held senior positions at various ministries in the Netherlands and worked with legislation and regulation at national and international level.

Ms. VOS has been working for EPSO, the European Partnership for Supervisory Organizations in Health Services and Social Care since 2008, most recently as chairman.

Ms. VOS's recent activities as chairman are aimed at cooperation and information exchange between health and social care inspectorates and regulators in Europe - and since 2019 also between EPSO partners worldwide; this includes among other things EPSO Monthly-Meetings (online), Conferences, Working-groups, Peer-evaluations and other cross-border projects in cooperation with health- and social-care organisations and experts.

### Abstract

#### Evolving Health Regulation Strategy - European Partnership for Supervisory Authorities

This presentation discusses the changing landscape of health regulation and highlights ten key global trends - as observed in the EPSO network- on quality and safety regulation and inspection:

1. Shift in Regulatory Approach: Moving away from punitive compliance toward cooperation, improvement, positive incentives and listening to patients.
2. Prioritizing Systemic Learning from adverse events over individual blame to prevent future occurrences and improve healthcare.
3. Integrated Care instead of pillars of care: Improving patient outcomes by better connecting hospital, community, and primary care.
4. Digital Transformation: Scaling up digital care- e-health and virtual care as standard practices.



## Invited Speakers

5. Hospital at Home: Exploring home-based care models to enhance system efficiency and better care.
6. The concept of “Good Enough Health” as opposed to Excellence, finding a balance between the pursuit of excellence and practical aspects such as rising costs and staff shortages, among others, in order to achieve cost sustainability in healthcare.
7. New Regulation regarding End-of-Life Care included Assisted Dying is an upcoming trend: Managing the regulatory complexities of assisted dying legislation and involvement of public regulation.
8. AI in Regulation: the use of AI on health-data by Regulators and Inspectorates to individualize and improve care; Supervisory organisations often have far more data than they realize, but much of it remains under-utilized. Therefore, rather than focusing on AI as a technology, the most important question is: How can regulators make better use of the data they already have.

The presentation concludes that these trends serve as a valuable framework for regulators worldwide to reflect on their own practices and identify opportunities for improvement.

# Invited Speakers

## Session 1: Paradigm for Quality and Safety in Healthcare



PROF. ENG KIONG YEOH

*The Chinese University of Hong Kong, Hong Kong SAR*

Professor Yeoh is Professor of Public Health, Director of the Centre for Health Systems and Policy Research at the JC School of Public Health and Primary Care, and Co-director of the Institute of Health Equity. His research is in health systems, services, financing and policy studying how the complex components of health systems interact and interrelate. He has led and collaborated in research projects in health system & policy with academic institutions and networks, World Bank Institute and World Health Organization. His research includes an Extended Study on Regulatory Framework for Healthcare Professions, developing and piloting the 1st accredited registers scheme for allied healthcare professionals, strengthening regulatory requirements for primary care doctors to enhance quality assurance and conducting comparative studies for appropriate regulatory oversight.

He was Secretary for Health, Welfare and Food of the Government of the HKSAR (1999 – 2004), head & the first Chief Executive of the Hong Kong Hospital Authority (1990-1999), with responsibility for transforming the organisation and management of the corporatised public healthcare system.

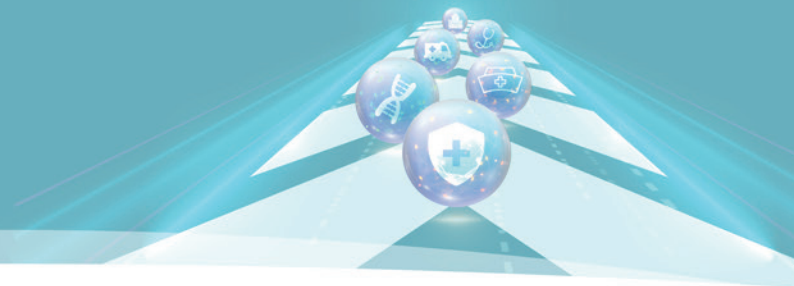
### Abstract

#### Models of Healthcare Regulation to Promote Safety and Innovation in Healthcare Services

Healthcare systems are increasingly complex and multidisciplinary, requiring policies and regulatory approaches to ensure patient safety while facilitating innovation and service development. This presentation examines the different concepts and theoretical constructs of regulation and the corresponding approaches and models for healthcare regulation and their application in promoting a safe and dynamic healthcare system.

Regulation is not limited to statutory control but encompasses broader governance arrangements and social or professional norms that influence behaviour. A typology of regulation is used to illustrate key dimensions, mechanisms, agents, instruments, targets, and strategies. Different regulatory mechanisms—such as command and control, incentive based approaches, and self regulation—serve distinct and complementary purposes and are implemented through instruments including legislation, licensing, accreditation, governance, and contractual and incentive arrangements.

## Invited Speakers



Using Hong Kong as an illustrative case, the presentation highlights how meta-regulatory and co-regulatory models are applied across different domains. Examples include statutory regulation through professional registration ordinances and the Private Healthcare Facilities Ordinance, accreditation of professional bodies in the Accredited Registers Scheme, and employer based oversight by healthcare organisations. These approaches demonstrate how regulatory approaches and tools can be combined to address different levels of risk and complexity.

A key emphasis is on the concept of proportionate, risk based regulation. The spectrum of regulatory approaches—from light touch to more coercive forms—should align with the level of potential harm to the public. A locally adapted risk assessment tool is presented as a structured approach to inform decisions on the appropriate level of regulation for different healthcare professions. Incorporating patient perspectives and maintaining engagement with healthcare professionals are critical to ensure acceptability, relevance, and sustainability.

Effective regulation requires more than appropriate tools; in addition depends not only on objectives aligned with strategic policy frameworks, and legitimacy but also on how the regulation is designed, implemented and evaluated. This will be discussed in the policy for direct access to physiotherapists in primary care.

In conclusion, achieving a balance between safety and innovation requires regulation that is purpose driven, risk based, and context specific. A flexible and integrated regulatory model can support both public protection and innovation in the provision of healthcare services.

# Invited Speakers

## ● Session 2: Healthcare in the New Era



MS. MUJIA ZHANG

*National Health Commission of the People's Republic of China, China*

Zhang Mujia serves as Deputy Director of the Division of Medical Resources, Department of Medical Administration, National Health Commission of the People's Republic of China. In this capacity, she oversees policies and initiatives related to medical resource allocation, integrated healthcare delivery, and the improvement of service capacity at both tertiary and primary levels.

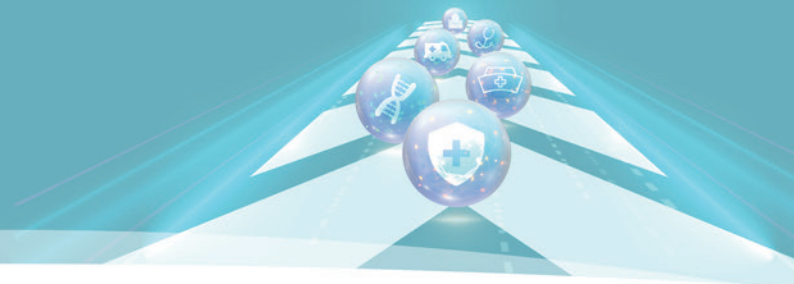
Her work focuses on promoting the development of medical alliances (integrated healthcare networks) and advancing the hierarchical diagnosis and treatment system. By the end of 2023, she reported that over 18,000 such alliances had been established nationwide. She has delivered policy interpretations on high-quality development of public hospitals at the "Honghu Plan" training sessions for hospital administrators, and has participated in national programmes such as "Strengthening Counties, Empowering Thousand Counties" to enhance county-level medical services. She also serves as a designated contact person for the National Health Commission's Pilot Programme for Comprehensive Pain Management, and has spoken at forums on smart hospital construction and healthcare insurance payment reform.

Zhang Mujia has conducted field research and inspection visits across multiple regions, including Xinjiang, Tibet, Anhui, and Inner Mongolia. She has stressed the importance of standardised in-hospital assessment to reduce venous thromboembolism (VTE) risks, and has commended medical teams for their responsive support to local healthcare needs during national mobile medical missions.

## Regulation of Telemedicine in Mainland China

Pending.

# Invited Speakers



## Session 2: Healthcare in the New Era



**PROF. ALEX HE**

*The Hong Kong University of Science and Technology, Hong Kong SAR*

Professor Jingwei Alex HE holds a tenured professorship at the Division of Public Policy, The Hong Kong University of Science and Technology (HKUST), where he headed its Institute for Public Policy from 2023 to 2026. He received his PhD from the Lee Kuan Yew School of Public Policy, National University of Singapore, in 2011.

His research specializes in health policy and governance, social welfare reforms, and policy innovation. Professor He has been ranked among the world's top 2% most-cited scientists since 2021. In Hong Kong's Research Assessment Exercise (RAE 2020), his research impact case was one of only two to receive a 4-star rating (full score) for "internationally outstanding" impact in the field of public policy. In 2025, the International Public Policy Association (IPPA) conferred upon him its Transition and Developing Economies Award, making him the first Chinese national to receive one of IPPA's individual recognition awards.

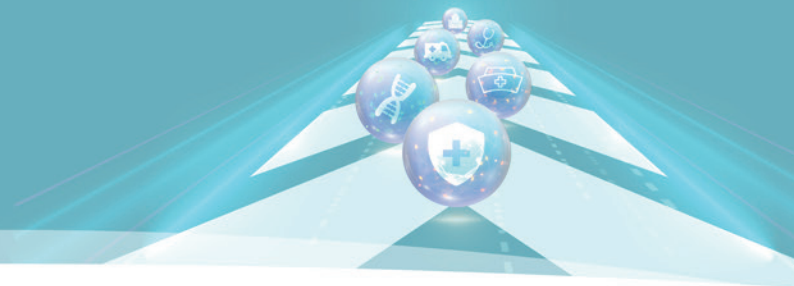
Professor He is also a recipient of the Hong Kong Research Grants Council's Humanities and Social Sciences Prestigious Fellowship, the Karl Lowenstein Fellowship, the Ronald Coase Institute Fellowship, and the HKUST Faculty Recognition Award.

### Abstract

#### **Mapping the Risks of AI across Healthy Aging and the Care Continuum: A Scoping Review and Implications for AI Governance\***

*\*This work is part of a collaborative project with the WHO Western Pacific Regional Office and School of Public Health, Seoul National University*

Artificial intelligence is increasingly deployed across the care continuum for older adults, from home-based monitoring and companion robots to clinical decision support in long-term care facilities, yet associated risks in adoption and deployment remain poorly mapped. This scoping review systematically examines how AI risks distribute across technology types, stakeholders, and care settings, drawing on 117 studies published between 2020 and 2026. Following the PRISMA-ScR guidelines, we searched Scopus, Web of Science, and PubMed using a four-domain strategy, screening 437 unique records to identify 125 potentially relevant studies, of which 117 were retrieved and included. Autonomy and dignity emerged



## Invited Speakers

as the most pervasive risk domain, cutting across all four AI technology categories. A monitoring–privacy paradox was identified: clinical safety justifications drive AI surveillance adoption, while privacy violations generate resistance, a tension particularly acute in dementia home care. An accountability vacuum was observed across the literature: the extended care chain, from vendor through institution, care worker, and family caregiver to the older adult, diffuses responsibility to the point where no single actor is clearly accountable. The majority of identified risks remain author-articulated concerns rather than empirically documented harms. Critically, AI developers, regulators, and macro-level societal perspectives are almost entirely absent from the risk literature. We argue that the care continuum creates structurally distinct AI governance challenges requiring accountability chain design, technology-specific regulation, and setting-sensitive governance mechanisms.

# Invited Speakers

## S. H. LEE Lecture



### DR. MURALITHARAN PARAMASUA

*Medical Device Authority, Ministry of Health Malaysia, Malaysia*

Ts. Dr. Muralitharan Paramasua is the Chief Executive of the Medical Device Authority (MDA) under the Ministry of Health Malaysia, a position he has held since February 2023. In this role, he leads the national regulatory agency responsible for ensuring the safety, quality, and performance of medical devices in Malaysia.

With over 20 years of experience in public service, Ts. Dr. Muralitharan has served in key roles across multiple ministries. At the Ministry of Health, he served as an Administrative and Diplomatic Officer, contributing to policy development and regulatory oversight in the healthcare sector. He also served the Ministry of Natural Resources and Environment, where he was involved in international relations and represented Malaysia in various bilateral and multilateral trade negotiations.

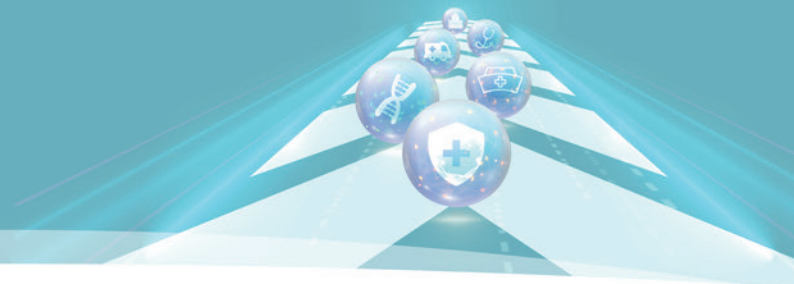
Ts. Dr. Muralitharan holds a PhD in International Trade from the University of Malaya, where he also earned his Master's Degree in Criminal Justice and Bachelor's Degree in Biohealth Science.

His multidisciplinary expertise bridges science, policy, and international law, positioning him as a strong advocate for regulatory innovation and global collaboration in healthcare.

## Global Harmonization of Medical Device Regulation

Pending.

# Invited Speakers



## ● Session 3: Dimensions of Regulation of Healthcare Services



DR. BO YEE SHU

*Office for Regulation of Private Healthcare Facilities, Department of Health,  
Hong Kong SAR*

Dr. SHU Bo Yee is a Specialist in Public Health Medicine and graduate of the Chinese University of Hong Kong. She has served in the Department of Health across the Communicable Disease Branch, the Special Preventive Programme for HIV prevention, and the Centre for Food Safety, where she managed food incidents.

During the COVID-19 epidemic, she contributed to the coordination of Hong Kong residents returning from Hubei Province. For the past 6 years, Dr. Shu has worked in the Office for Regulation of Private Healthcare Facilities, now under the Quality and Standard Division, where she leads efforts in setting standards for the regulation of private healthcare facilities.

### Abstract

#### Regulation of Private Healthcare Facilities in Hong Kong

While the regulatory framework for private healthcare facilities in Hong Kong has remained unchanged for decades, the evolving healthcare landscape has called for a reform to address existing legislative gaps. This presentation will give an overview of the Private Healthcare Facilities Ordinance (“the Ordinance”), which is being implemented in phases based on the risk levels of various types of private healthcare facilities. All premises where registered medical practitioners or registered dentists practise must obtain a licence or a letter of exemption. Measures set out to safeguard patient safety will be discussed. As the statutory regulatory regime for clinics is expected to be fully implemented as early as the end of December 2027, this session will highlight the key arrangements of clinic licensing.

# Invited Speakers



## ● Session 3: Dimensions of Regulation of Healthcare Services



MR. LOT CHAN

*Assistant Director, Preparatory Office for CMPR, Hong Kong SAR*

Mr. Lot Chan studied pharmacy in the UK and Public Health in Hong Kong. He joined the Department of Health more than 30 years ago. For many years he has been involved in regulation of pharmaceutical products. During his service in the Department of Health, Mr. Lot Chan has led the application for the accession to the Pharmaceutical Inspection Co-operation Scheme and the statutory regulation of advanced therapy products.

Currently, Mr. Lot Chan is the Assistant Director of Health, responsible for the preparatory work for the establishment of the Centre for Medical Products Regulation (CMPR), a new Centre under the Department of Health that regulates medicines and medical devices.

### Abstract

#### Development in Drug Regulations in Hong Kong

Unlike many commodities, medical products are heavily regulated around the world due to their potential risks and impacts to health. In Hong Kong, statutory framework for the regulation of pharmaceutical products was set up almost 50 years ago. Since then, there were dramatic changes in the pharmaceutical field, these changes included the complexity and variety of pharmaceutical products, standards of pharmaceutical products, production approaches, cross-border supply-chain, and even the global dynamics of medical advancement. As such, medical products regulation has been evolving very rapidly, and international harmonization and reliance has become an important aspect.

This presentation will take a look back to our history in drug regulation, followed by our plan to set up the Centre for Medical Products Regulation (CMPR) and how the new Centre could better contribute to public health and medical innovation.

# Invited Speakers

## Session 3: Dimensions of Regulation of Healthcare Services



**MS. JACQUELINE CHENG**

*Chinese Medicine Regulatory Office, Department of Health, Hong Kong SAR*

Ms. Jacqueline Cheng is a Senior Pharmacist in the Chinese Medicine Regulatory Office of the Department of Health. With training in both Clinical Pharmacy and Chinese Medicines, alongside robust experience in the pharmaceutical manufacturing, she is dedicated to bridging the gap between research and practice.

Jacqueline has worked across key areas of Chinese medicine regulation in the Department of Health, spanning the licensing and inspection of traders, preparing for the permanent Government Chinese Medicines Testing Institute (GCMTI) and serving as the Chair of the Scientific Committee of Hong Kong Chinese Materia Medica Standards Project.

At the GCMTI, she leads the development of advanced macroscopic and microscopic identification methods to guarantee the authenticity and quality of Chinese medicines, and oversees the operation of the Chinese medicines herbarium. Her team's work bridges traditional heritage with rigorous scientific standards to strengthen the dimensions of healthcare service regulation in Hong Kong.

### Abstract

#### **Regulation to Innovation: How GCMTI's Testing Science and Advanced Analytics Drives Advancement of the Chinese Medicines Sector**

The healthcare regulation has traditionally focused on a triad of core pillars: public safety, quality benchmarking, and therapeutic efficacy. However, regulation can also be seen as playing a role as an active driver of industrial advancement and scientific innovation.

This presentation explores how the Government Chinese Medicines Testing Institute (GCMTI) leverages advanced analytical science, high-throughput technologies, and digital transformation to empower the Chinese medicines sector and drive the advancement of the trade. Local traders and manufacturers frequently encounter technical bottlenecks, including complex multi-component assays, stringent heavy metal and pesticide residue limits, and sophisticated authentication requirements. GCMTI addresses these challenges by developing internationally recognised reference standards, multi-component chromatographic fingerprints, and accessible analytical methods.

## Joint Sub-Specialty Review Meeting & Round Table of HKCCM Trainees



### DR. TOM C. C. HO

*Higher Specialist Trainee, Administrative Medicine at the Hong Kong College of Community Medicine, Hong Kong SAR*

Dr Tom Ho is a Higher Specialist Trainee in Administrative Medicine at the Hong Kong College of Community Medicine and currently Senior Manager (Strategy and Service Planning) at the Hospital Authority. His experience spans health policy, medical training, clinical trial development, patient safety and technology management. He holds an MBBS and PhD from the University of Hong Kong and master's degrees in genomics and bioinformatics, and health services management from the Chinese University of Hong Kong. In 2020, as a College basic trainee, he received the Best Original Research by Trainees – Bronze Medal for research developing a genomic-based RT-PCR assay for COVID-19.

### AI Governance in Healthcare

Artificial intelligence (AI) is rapidly entering healthcare, offering opportunities to support clinical decisions and improve administrative efficiency. The central management challenge, however, extends beyond technological capability: how can healthcare organisations select, implement, integrate, monitor and evaluate AI safely, ethically and effectively without stifling innovation?

This presentation reviews healthcare AI governance trends as at the third quarter of 2026, with particular reference to Hong Kong. It considers international governance approaches, local guidance and the World Health Organization's recommendations for large multimodal models. Particular attention is given to accountability across the AI value chain, organisational responsibilities for deployment, and emerging governance questions surrounding agentic AI.

For healthcare leaders, the discussion is organised around three strategic questions: Where are we now? Where do we want to go? How do we get there safely? An organisational maturity framework provides a starting point for assessing readiness and identifying capability gaps. Contrasting experiences from IBM Watson and AI adoption within the United Kingdom's National Health Service illustrate the consequences of premature scaling, inadequate stakeholder engagement, fragmented oversight and obstructive implementation processes. These cases highlight the importance of evidence-based adoption, clear accountability and risk-proportionate governance.

The presentation concludes by reflecting on community medicine practitioners' interconnected roles as medical professionals, health system managers, and leaders of change. Beyond acquiring AI skills, practitioners should help shape how technology transforms professional work, supports staff and preserves meaningful human interaction. Three messages underpin the discussion: make accountability explicit, match regulation to risk, and keep healthcare human as technological capabilities and institutional expectations evolve.

## Joint Sub-Specialty Review Meeting & Round Table of HKCCM Trainees

### Dr. Vienna C. W. LEUNG

*Pamela Youde Nethersole Eastern Hospital, Hong Kong SAR*

Dr. Leung is an Associate Consultant practicing in both the Occupational Health Centre and Staff Clinic at Pamela Youde Nethersole Eastern Hospital. With a foundational background as a Specialist in Family Medicine, Dr. Leung is currently expanding her expertise as a Higher Specialist Trainee in Occupational and Environmental Medicine. Her clinical practice focuses on management of patients with injury on duty, workplace health optimization, workforce wellness and safety.

### Case Sharing of a Computer User with Neck Pain: DSE Ergonomics Hazards Assessment and Control

Prolonged use of display screen equipment (DSE) has emerged as a primary source of occupational health hazards for modern office workers, frequently resulting in debilitating clinical diseases such as musculoskeletal disorders (MSDs). Among these conditions, chronic neck pain is a prevalent complaint that directly impairs employee well-being and productivity. This presentation utilizes a clinical case study of a computer user suffering from neck pain to illustrate the direct relationship between poor workstation ergonomics and adverse clinical outcomes. To address these risks, the session defines what constitutes a standard DSE workstation and advises on ergonomic design. Key parameters such as optimal monitor height, seat adjustability, keyboard alignment, and the maintenance of neutral postures are discussed to demonstrate how a workspace can be structurally optimized. Furthermore, the presentation outlines the critical process of identifying and controlling ergonomic health hazards inherent to repetitive computer work, emphasizing common risk factors like static awkward postures and insufficient recovery breaks. These practical interventions are framed within the context of current occupational health and safety legislation and regulations related to DSE, highlighting the legal frameworks and statutory compliance requirements that govern workplace safety. By integrating clinical insights with systematic ergonomic risk assessments and a robust hierarchy of controls—combining engineering modifications with administrative stretching protocols—this case demonstrates how targeted workplace adjustments successfully mitigated the patient's neck symptoms. This presentation highlights the importance of clinical medicine, regulatory compliance, and proactive ergonomic design to safeguard the long-term health of the modern office workforce.

## Joint Sub-Specialty Review Meeting & Round Table of HKCCM Trainees



### Dr. Caci N. S. HO

*Higher Specialist Trainee in Public Health Medicine and Associate Fellow, Hong Kong College of Community Medicine, Hong Kong SAR*

With a passion to drive healthcare system improvement for better health, Dr Caci Ho has nearly a decade of cross-sectoral work experience spanned across Hong Kong's health authorities and leading global biotechnology company. She is currently serving at Primary Healthcare Commission under the Health Bureau of HKSAR, and had supported the development and implementation of new community-based healthcare service models and launched the first Guidelines on Community Pharmacy to set out the service quality foundation in Hong Kong.

Dr Caci Ho is an Associate Fellow of Hong Kong College of Community Medicine, and holder of a Master Degree in Health Services Management. She is undergoing higher specialist training in Public Health Medicine and pursuing postgraduate education in Global Health Policy from London School of Hygiene and Tropical Medicine. She is also serving on volunteer basis as mentor for university students in Hong Kong and Singapore, and as Vice President for 4th Executive Cabinet of JC School of Public Health and Primary Care Alumni Association, Chinese University of Hong Kong.

### Overview of Health System Efficiency: In Theory and Practice

The topic presents an overview of health system efficiency from key theoretical concepts to strategies for driving health system efficiency improvement in actual practices. The presentation aims to revisit the importance of health system efficiency, key definition, efficiency measurements, determinants of health system efficiency and outlined the common challenges to health system efficiency. An introduction on system-level strategies for health system efficiency enhancement, including global budgeting, risk pooling, workforce optimization, primary care strengthening, supply chain and procurement strategy will also be covered in the presentation.

# Free Paper Presentations

8

## From Compliance to Excellence: The Hospital Authority's Experience with CIHA Hospital Accreditation

Dr. Jeffrey Lai<sup>1</sup>, Ms. Gladys Kan<sup>1</sup>, Mr. Kenny Wong<sup>1</sup>, Prof. Joseph Lui<sup>2</sup>

<sup>1</sup>Hospital Authority, Hong Kong SAR, <sup>2</sup>LKS Faculty of Medicine, The University of Hong Kong, Hong Kong SAR

### Introduction

The Hospital Authority (HA), a statutory body established under the Hospital Authority Ordinance in 1990, is responsible for complying with relevant legislation as part of its governance and organisation risk management. While legislative compliance (e.g., Prevention and Control of Disease Ordinance, Human Organ Transplant Ordinance, Occupational Safety and Health Ordinance and Personal Data (Privacy) Ordinance) establishes essential baseline standards, it does not inherently drive continuous improvement. In contrast, hospital accreditation motivates organisations to pursue excellence beyond minimum requirements.

To foster continuous quality improvement, HA adopted the China's International Hospital Accreditation (CIHA) Standards (2021 Version) (the Standards), developed by the Shenzhen Hospital Accreditation Research Center. Five major public hospitals had successfully attained accreditation.

### Purpose

This study evaluates the contribution of CIHA hospital accreditation in driving quality improvement within HA.

### Methods

HA implemented a structured strategic framework based on the CIHA model, with local customisation of the Standards to suit Hong Kong's healthcare context. Key initiatives were launched to strengthen quality and safety systems. A Likert-scale survey was administered to assess staff perceptions.

### Results

While regulatory compliance focuses on harm prevention, accreditation promotes proactive risk reduction, standardisation, outcome measure and continuous improvement. The dual approach yielded measurable gains in patient safety, operational efficiency and staff competency. By 2026, five major public hospitals – Pamela Youde Nethersole Eastern Hospital, Prince of Wales Hospital, United Christian Hospital, Tuen Mun Hospital and Queen Mary Hospital – had successfully attained accreditation. Key initiatives included a Two-Tier Responsibility System, Standardised Care Pathways, a Peri-Operative Safety Framework and a Fortified Emergency Response Structure.

A survey of 278 staff members yielded highly positive feedback: over 85% rated training as effective, 88% found surveyors' recommendations practical and 82% affirmed that accreditation improved patient care. Although accreditation required greater administrative effort and contextual adaptation, it delivered substantially greater returns than regulatory compliance alone.

### Conclusion

HA's integration of mandatory compliance with CIHA hospital accreditation demonstrates that regulation sets the safety net while accreditation builds the ladder to excellence. Moving forward, HA plans to roll out these enhanced systems across all public hospitals and extend CIHA hospital accreditation to additional major hospitals.

# Free Paper Presentations

12

## Development of a syndromic surveillance system for the 15th National Games of China in Hong Kong

**Dr. Kenny Kin Lun Lau<sup>1</sup>**, Dr. Kenneth Ling Fung Mak<sup>1</sup>, Dr. Philip Kin Ho Wong<sup>1</sup>, Dr. Albert Ka Wing Au<sup>1</sup>

<sup>1</sup>Communicable Disease Branch, Centre for Health Protection, Department of Health, Hong Kong SAR

### Introduction

The National Games of the People's Republic of China (NG) is the nation's largest sporting event. The 15th NG, co-hosted in 2025 by Guangdong, Hong Kong and Macao, introduced heightened risks of communicable disease transmission due to mass gathering and high volume of exchange among participants from different cities. In collaboration with Guangdong and Macao health authorities, the Centre for Health Protection (CHP) developed a syndromic surveillance reporting system to enhance our ability to detect early communicable diseases and possible outbreak signals.

### Methods

The CHP developed an online syndromic surveillance reporting system, "National Games Portal," to monitor eight core symptoms, including conjunctivitis, diarrhoea, fever, influenza-like illness, jaundice, rash, vomiting and non-traumatic joint pain. Symptom notifications reported throughout the surveillance period were subjected to immediate epidemiological investigation. Aggregate surveillance data were analysed to evaluate system performance.

### Results

From 27 October 2025 to 17 December 2025, after deduplication, the CHP received 25 syndromic surveillance notifications related to NG. 13 notifications were received during the 15th National Games and 12 notifications were received during the 12th National Games for Persons with Disabilities and the 9th National Special Olympic Games. These notifications involved 23 individuals (Male =15, Female =8), median age was 23 (range 17-58). Of these, 12 were competing athletes, while the remaining were personnel such as officials and media staff. The symptoms reported include: diarrhoea (n=9), influenza-like illness (n=7), fever (n=5), rash (n=3), conjunctivitis (n=2) and vomiting (n=1). All cases were followed up with epidemiological investigations and provided with health advice. Daily summary reports were distributed to stakeholders as part of the risk communication.

### Discussions

Our syndromic surveillance framework demonstrated high sensitivity and operational flexibility in monitoring real-time disease trends and identifying early outbreaks signals. Throughout the surveillance period, the system allowed CHP to rapidly investigate and provide relevant health advice to stakeholders. Our syndromic surveillance system represents a robust and scalable implementation of digital public health infrastructure tailored for mass events.

# Free Paper Presentations

17

## Efficacy, Immunogenicity, and Safety of Enterovirus 71 Vaccines in Children: A Systematic Review and Meta-Analysis

Dr. Guan Xing Lai<sup>1</sup>, Dr. Albert Ka Wing Au, Dr. Edmond Siu Keung Ma

<sup>1</sup>Centre for Health Protection, Department of Health, Hong Kong SAR

### Background/Objectives

Hand, foot and mouth disease (HFMD) caused by enterovirus 71 (EV71) may cause severe complications and death in children. It is also a common cause of outbreaks in the Asia-Pacific Region. A systematic review and meta-analysis was performed to review evidence on vaccine efficacy (VE), immunogenicity, and safety of two doses of EV71 vaccine in children.

### Methods

Randomized controlled trials comparing EV71 vaccine with placebo or with another EV71 vaccine in children and adolescents aged  $\leq 18$  years were searched on PubMed, Medline, Embase, CENTRAL, and CNKI (Chinese) in week 5 November 2024. The reference list of each study and the websites of vaccine manufacturers were also searched. The Cochrane Risk of Bias 2 tool was used to assess the risk of bias. VE, immunogenicity (including seropositive rate, seroconversion rate, geometric mean titer (GMT), Geometric Mean Fold Increase (GMFI)), and rate of adverse events (AEs) were analyzed.

### Results

A total of 4199 articles were identified, and 25 studies were finally included. VE (%) against EV71 HFMD in children aged  $\leq 5$  years at 12 months was 94.8% (95%CI 87.2–97.9) for Sinovac and 90.9% (95%CI 70.4–97.2) for Wuhan Institute of Biological Products (WIBP), while the Chinese Academy of Medical Sciences (CAMS) reported 97.4% (95%CI 92.9–99.0) at 11 months. At 1 month after the second dose, 99.19% (95%CI 98.15–99.65) of children aged  $\leq 5$  years in the vaccine group were seropositive, and 96.30% (95%CI 92.71–98.17) achieved seroconversion. GMT at 1 month after the second dose in the vaccine group was 46.78 (95%CI 26.18–83.61) times that in the placebo group. GMFI at 1 month after the second dose in the vaccine group was 28.41 (95%CI 22.18–36.39) times that of the placebo group. The rate of serious AEs was lower in the vaccine group than the placebo group (1.23% (95%CI 0.58–2.69) vs. 1.34% (95%CI 0.58–3.07)) at 1 month after the second dose. There was no significant difference in other AEs between the vaccine and placebo groups.

### Conclusions

EV71 vaccines were effective, immunogenic and safe. Areas with a high incidence of EV71 may consider introducing EV71 vaccines.

# Free Paper Presentations

23

## Evaluating the Impact of Hong Kong's 2026 Fee and Charges Reform for Public Healthcare: A Mixed-Method Analysis of Access, Adherence, Perceptions and Willingness-To-Pay.

**Mr. Sze Ho Wong<sup>2</sup>**, Prof. Hong Fong<sup>1</sup>

<sup>1</sup>CUHK, Hong Kong SAR, <sup>2</sup>UCH, , Hong Kong SAR

### Objectives

To evaluate the early impact of Hong Kong's 2026 public healthcare fee reform (physiotherapy co-payment increased from HKD 80 to 250 per attendance) on service accessibility, patient adherence, perceived value of care, and willingness-to-pay (WTP).

### Methods

A pre-post mixed-methods study was conducted in a public physiotherapy outpatient department. Quantitative data comprised administrative data (OPAS) from pre-reform (Q1 2019-2025, Q4 2025) and post-reform (Q1 2026), supplemented by a telephone questionnaire by 100 randomly selected patients (50 pre-reform, 50 post-reform). Outcomes included no-show rate, default rate, new referrals, waiting list, cancellation intentions, session reduction requests, affordability, WTP, and service satisfaction. Qualitative data from an open-ended question were analyzed using inductive thematic analysis.

### Results

Post-reform, the proportion of patients likely to cancel due to cost increased sixfold, and those requesting session reductions rose sevenfold (both  $p < 0.001$ ). Affordability difficulty increased significantly ( $p < 0.001$ ), but mean WTP remained stable (HK\$273 vs. HK\$274,  $p = 0.975$ ). Regression analyses revealed a shift in WTP determinants from clinical need (pain severity) and service experience (satisfaction, individual treatment) in pre-reform to primarily financial capacity (private insurance coverage) and condition severity post-reform. No substitution for alternative treatments occurred. Qualitative findings confirmed financial concerns and damaged perceived value, alongside persistent operational issues.

### Conclusion

The reform increased cost-related non-adherence intentions and shifted WTP drivers from clinical need to financial capacity, raising equity concerns for patients with chronic conditions, especially those who are uninsured or not on a waiver. Proactive service redesign (flexible scheduling, enhanced communication) is recommended. This study provides a baseline for a future one-year longitudinal evaluation.

# Poster Presentations

2

## Rising Threats of MRSA and Carbapenem-Resistant Acinetobacter in Residential Care Homes for the Elderly During COVID-19 in Hong Kong

**Dr. Siu-Keung Edmond Ma**<sup>1</sup>, Ms Shuk-Ching Wong<sup>2,3</sup>, Dr. Chi-Chung Vincent Cheng<sup>2,3,4</sup>, Mr Know Enoch Hsu<sup>1</sup>, Dr. Hong Chen<sup>1</sup>, Dr. Lok-Kin Edwin Tsui<sup>5</sup>

<sup>1</sup>ICB, CHP, DH; <sup>2</sup>Infection Control Team, QMH; <sup>3</sup>Department of Microbiology, School of Clinical Medicine, Li Ka Shing Faculty of Medicine, HKU; <sup>4</sup>Department of Microbiology, QMH, <sup>5</sup>CHP, DH

### Purpose:

This territory-wide point prevalence survey aimed to estimate the prevalence of methicillin-resistant *Staphylococcus aureus* (MRSA) and resistant *Acinetobacter* among residents of residential care homes for the elderly (RCHEs) in Hong Kong.

### Methodology:

Researchers employed stratified single-stage cluster sampling based on RCHE type (private or non-private), geographical location, and facility size. Between July and November 2022, a total of 1,529 residents were recruited from 26 RCHEs, comprising 20 private and 6 non-private homes. Trained nurses collected nasal, axilla, and groin specimens, which were cultured at a microbiology laboratory to identify MRSA, carbapenem-resistant *Acinetobacter* (CRA), and multidrug-resistant *Acinetobacter* (MDRA).

### Results:

The overall prevalence rates were 33.9% for MRSA, 8.1% for CRA, and 0.8% for MDRA. Private homes exhibited a higher prevalence of multidrug-resistant organisms (MDROs) than non-private homes; specifically, CRA prevalence was 9.9% in private facilities compared to 4.7% in non-private facilities ( $p < 0.05$ ). Geographically, RCHEs in the Hong Kong region showed the highest prevalence of all MDROs, followed by Kowloon and the New Territories. The observed 33.9% MRSA prevalence indicates a continued upward trend from the 30.1% reported in a 2015 local survey.

### Conclusion:

The study identifies a high prevalence of MRSA and significant levels of CRA in RCHEs during the COVID-19 pandemic. These elevated rates may be attributed to the diversion of infection control resources to combat COVID-19 and potential cross-transmission within quarantine holding centers. There is a need for continuous surveillance and stringent infection control measures to protect this vulnerable population, with a specific focus on providing targeted support to private RCHEs.

# Poster Presentations

3

## Universal decolonization for methicillin-resistant *Staphylococcus aureus* and carbapenem-resistant *Acinetobacter* in elderly homes: A large cohort of over 16,000 residents in Hong Kong

**Dr. Edmond Siu-Keung Ma**<sup>1</sup>, Ms Shuk-Ching Wong<sup>2,3</sup>, Dr. Vincent Chi-Chung Cheng<sup>2,3,4</sup>, Dr. David Christopher Lung<sup>5</sup>, Ms Suet-Yi Lee<sup>6</sup>, Dr. Kristine Shik Luk<sup>7</sup>, Dr. Raymond Wai-Man Lai<sup>8</sup>, Dr. Vivien Wai-Man Chuang<sup>8</sup>, Mr Enoch Hsu<sup>1</sup>, Mr Vincent Chow<sup>1</sup>, Dr. Andrea Liu<sup>1</sup>, Dr. Hong Chen<sup>1</sup>, Dr. Edwin Lok-Kin Tsui<sup>9</sup>, Prof. Kwok-Yung Yuen<sup>3,4</sup>

<sup>1</sup>ICB, CHP, DH; <sup>2</sup>Infection Control Team, QMH; <sup>3</sup>Department of Microbiology, School of Clinical Medicine, Li Ka Shing Faculty of Medicine, HKU; <sup>4</sup>Department of Microbiology, QMH; <sup>5</sup>Department of Pathology, QEH; <sup>6</sup>Infection Control Team, QEH; <sup>7</sup>Department of Pathology, PMH; <sup>8</sup>Hospital Authority; <sup>9</sup>CHP, DH

### Purpose:

The purpose of this study was to investigate the effectiveness of a universal decolonization program using nasal povidone-iodine (PI) and chlorhexidine gluconate (CHG) baths in reducing methicillin-resistant *Staphylococcus aureus* (MRSA) and carbapenem-resistant *Acinetobacter* (CRA) infections, bacteremia, and associated mortality among residents in residential care homes for the elderly (RCHE).

### Methodology:

This quasi-experimental quality improvement program involved 16,190 residents from 257 RCHEs in Hong Kong. Participants were instructed to apply 10% PI nasal ointment twice daily once a week (later adjusted to once daily, 5 days every alternate week) and use 2% CHG solution for bathing on alternate days. Group 1 (n = 6,094,040 resident-days) received decolonization at RCHEs and during hospitalization; Group 2 (n = 5,950,595 resident-days) received it at RCHEs only. Residents from non-invited RCHEs served as the control group. The 2023 incidence of infection and mortality was compared to a 2017–2019 baseline using the Poisson exact test.

### Results:

Mean utilization rates ranged from 79.4% to 96.2% for PI and 79.9% to 97.2% for CHG. Group 1 showed a significant 12.2% reduction in MRSA infections (risk ratio [RR]: 0.878; 95% CI: 0.776–0.992; p=0.035). MRSA bacteremia was reduced in Group 1 (RR: 0.719; p=0.158) and Group 2 (RR: 0.721; p=0.207), though these were not statistically significant. Reductions in MRSA-associated mortality were 51.1% for Group 1, 18.7% for Group 2, and 22.2% for controls. No significant reduction in CRA infection, bacteremia, or death was detected in the intervention groups.

### Conclusion:

Universal decolonization with PI and CHG is effective in reducing hospitalizations due to community-onset MRSA among RCHE residents, particularly when a regional approach is adopted across both residential and hospital settings. The intervention was not effective against CRA, likely due to the higher impact of environmental contamination on CRA transmission.

# Poster Presentations

9

## Beyond Screen Time: A Person-Centred Analysis of Adolescent Digital Use

**Ms. Yuhe Wang<sup>1</sup>**, Dr Xin Wang<sup>1</sup>, Prof Xue Yang<sup>1</sup>

<sup>1</sup>The Chinese University of Hong Kong, Hong Kong SAR

### Background:

Increasing public health concerns have surrounded the increasing amount of time adolescents spend on digital use, alongside the notable prevalence of Internet Gaming Disorder (IGD) and Social Media Addiction (SMA). However, the association between screen time and symptoms of behavioural dysregulation remains debated. The current study applies a person-centred approach to explore latent profiles of adolescent digital use patterns based on their screen time, IGD, and SMA symptoms. How cognitive, psychological, and social factors link with profile membership were also investigated.

### Method:

A cross-sectional survey was administered across nine schools in Hong Kong. Latent profile analysis was conducted using data from 2,305 students (Mean age = 13.2 years, SD = 2.3; 43% female). Multinomial logistic regressions were then used to evaluate factors associated with the latent profiles.

### Results:

Four latent profiles were identified: Low Risk, Moderate Risk, High Risk profile, and Habitual Use. The Habitual Use profile was characterised by longest time spend on screen-based entertainment, but lower levels of IGD and SMA symptoms compared to the High Risk profile. Regression results demonstrated that psychological flexibility significantly differentiated all four profiles. Other factors of interest, such as psychological distress and others' digital use frequencies, were significantly associated with one or more of the latent profiles.

### Conclusion:

In contrast to the dose-response assumption, extensive screen time by itself is not a direct indicator of problematic digital use. Instead, cognitive, psychological, and social resources play a crucial role in how adolescents regulate their screen-based entertainment. With sufficient internal resources (e.g., psychological flexibility) and guidance, habitual users can maintain high-volume but non-problematic use. Findings also highlight the value of person-centred, process-based interventions, such as acceptance and commitment therapy, to guide adaptive digital use among adolescents.

# Poster Presentations

13

## Modeling Secondhand Smoke Dispersion at Transit Tunnel Entrances: Deriving a Protective Benchmark Distance

**Ms. Rachel Yui Ki Chu**<sup>1,2</sup>, Mr Kam Chiu Szeto<sup>1</sup>, Sophia Siu Chee Chan<sup>1</sup>

<sup>1</sup>The University of Hong Kong, Hong Kong SAR

<sup>1</sup>School of Public Health, LKS Faculty of Medicine, The University of Hong Kong; <sup>2</sup>Department of Pharmacology and Pharmacy, The University of Hong Kong

### Background:

Secondhand smoke (SHS) dispersion at urban pedestrian tunnel entrances presents an extended, underrecognised public health hazard, yet no quantitative framework exists to define health-protective distance-based smoking restrictions at such locations. This study aimed to develop a mathematical diffusion model linking outdoor SHS dispersion with indoor tunnel infiltration and to determine a minimum buffer zone away from smokers for underground pathway entrances.

### Methods:

A two-step advection-diffusion partial differential equation model was developed, comprising a two-dimensional outdoor dispersion component coupled with a one-dimensional indoor tunnel infiltration component. The outdoor model incorporated a parameterised diffusion tensor accounting for wind speed, street canyon width, and the number of active smokers, while the indoor model captured channelled airflow within tunnels driven by entrance area and ventilation. A total of 10,000 stochastic scenarios were generated using Hong Kong environmental data, with buffer distance defined as the shortest distance at which SHS-induced indoor fine particulate matter (PM<sub>2.5</sub>) concentration remained below 35 µg/m<sup>3</sup> for at least 95% of simulation time.

### Results:

The model yielded a buffer distance of 10.7 meters at the 35 µg/m<sup>3</sup> threshold. At a more stringent World Health Organization 24-hour guideline of 15 µg/m<sup>3</sup>, the required distance exceeded 20 meters. Scenarios classified as insufficient smoke-free distance were found to have a 15-fold median SHS-induced PM<sub>2.5</sub> concentration than that of buffer-zone scenarios (12.0 vs. 0.8 µg/m<sup>3</sup>;  $p < 0.0001$ ).

### Conclusions:

This study provides the first quantitative evidence supporting a minimum 10-meter buffer zone between smoking areas and tunnel entrances. The model offers a tailored tool applicable to cities worldwide seeking to align outdoor smoking restrictions with health-protective air quality standards.

# Poster Presentations



38

## Managing Candida auris Outbreak in Residential Care Homes for the Elderly: Key Takeaways from an Outbreak in Hong Kong

**Dr. Suet Ying Shing<sup>1</sup>**, Dr. Hong Chen<sup>1</sup>, Dr. Edmond Siu-keung Ma<sup>1</sup>

<sup>1</sup>Infection Control Branch, Centre for Health Protection, Department of Health, Hong Kong SAR

### Background:

Candida auris, a critical priority pathogen by the World Health Organization, is linked to hospital outbreaks and high mortality rates, particularly among vulnerable populations. Controlling outbreaks in residential care homes for the elderly (RCHes) is challenging. On 7th March 2024, the Centre for Health Protection of the Department of Health, Hong Kong Special Administrative Region, was notified of an RCHE resident who tested positive for C. auris upon hospital admission, raising concerns about potential transmission within the facility, which experienced a C. auris outbreak two years prior.

### Methods:

A multi-disciplinary response team conducted epidemiological investigations and implemented control measures to contain the outbreak. Contact tracing identified six additional colonized residents, apart from the index case and five residents who had persistent colonization from the previous outbreak. Infection control recommendations included proper placement of affected residents and frequent environmental disinfection, along with decolonization therapy arranged for all affected residents.

### Results:

The present outbreak involved seven residents, all with medical conditions that affect their ability to maintain personal hygiene. None developed clinical infections. Five residents were cleared with C. auris six months after completing decolonization therapy, while two passed away due to unrelated conditions.

### Discussion and conclusion:

Current knowledge regarding clearance criteria, effective decolonization regime, and the role of air dispersal in transmission is limited, meriting further research. Effective communication among health authorities, hospitals, and RCHE staff is vital for prompt outbreak response, while continuous support enhances compliance and builds rapport with RCHes, ensuring better outbreak management outcomes.

# Poster Presentations



40

## Investigation and Containment of Hong Kong's First Local Chikungunya Fever Cluster Linked to the Tsing Yi Nature Trails

Dr. Pui Shan Yeung<sup>1</sup>, Dr. Wai-wa David TSAI, Dr. Yan-tung Terri KWOK, Dr. Tonny NG, Dr. Ka-wing Albert AU

<sup>1</sup>Department Of Health, Hong Kong SAR

### Purpose

In late 2025, the Centre for Health Protection (CHP) identified an unprecedented cluster of locally acquired chikungunya fever (CF) cases epidemiologically linked to the Tsing Yi Nature Trails (the trails) and surrounding areas. This study describes the epidemiological, genomic, and entomological characteristics of the cluster, as well as the multi-departmental environmental interventions deployed to contain Hong Kong's first major local CF outbreak.

### Methodology

Following the identification of the index local case on 3 November 2025, the CHP initiated active case finding, spatiotemporal mapping, and epidemiological risk assessments. The CHP's Public Health Laboratory Services Branch performed whole-genome sequencing on the patients' serum specimens to determine viral lineages and phylogenetic relatedness. Concurrently, a government coordinated, interdepartmental environmental remediation strategy was implemented.

### Results

Between 3 November and 10 December 2025, 12 epidemiologically linked local CF cases associated with the trails and surrounding areas were identified. The cohort had an average age of 67.8 years, presenting with fever (100%), arthralgia (100%) and rash (91.6%). All excepted the first case visited the trails between 6 and 30 November 2025 and had onset of symptoms between 30 October and 4 December 2025. Exposure histories overlapped geographically along the trails, and multiple cases reporting mosquito bites in the vicinities of the trails within their incubation periods. Genomic analysis revealed minimal single-nucleotide polymorphism variance among clinical isolates, supporting a local transmission event mediated by *Aedes albopictus*, likely seeded by an undetected imported case. To interrupt transmission, the Government temporarily closed the trails to facilitate intensive vector control operations during 9 December 2025 and 23 February 2026, which successfully reduced local mosquito indicator to a safe level. No further community transmission was detected after the reopening of the trails.

### Conclusion

This outbreak demonstrates the competence of local *Aedes albopictus* populations to sustain autochthonous transmission of the chikungunya virus under favorable environmental conditions. Rapid interdepartmental coordination, temporary closure of high-risk environmental sites, and targeted vector control were effective in interrupting transmission and preventing the establishment of CF endemicity in a dense populated urban setting.

# Poster Presentations

46

## From Discussion to Documentation: Factors Associated with AMD and DNACPR Completion among Persons with Physical Disabilities at End of Life in Hong Kong

**Mr. Qian Cong**<sup>1</sup>, Dr Julia Chan<sup>1</sup>, Prof Pui Hong Chung<sup>1</sup>

<sup>1</sup>School of Public Health, Li Ka Shing Faculty of Medicine, The University Of Hong Kong, Hong Kong SAR

### Purpose:

Advance care planning (ACP) supports preferences for end-of-life (EoL) care. Persons with physical disabilities (PwPD) approaching EoL may face complex decisions about advance medical directives (AMD) and do-not-attempt cardiopulmonary resuscitation (DNACPR) documentation. However, limited evidence is available on factors in facilitating their decision-making process.

### Methodology:

A longitudinal cohort of PwPD receiving a community-based EoL care service was analyzed. Of 198 eligible cases, 81 provided AMD and DNACPR completion data at least once across enrollment (T0), 1 month (T1), and 3 months into the service (T2). Binary logistic regression was used to identify predictors of AMD and DNACPR completion based on baseline patient and caregiver understanding of disease prognosis, ACP awareness, ACP discussion alongside significant demographic and clinical covariates. Exploratory latent class analysis (LCA) was subsequently conducted to identify distinct profiles of care engagement.

### Results:

AMD completion was observed in 33/74 participants (44.6%), and DNACPR completion was observed in 42/79 (53.2%) by T2. Logistic regression showed that AMD completion was predicted by patient disease understanding (OR=45.98,  $p=0.032$ ). For DNACPR, patient disease understanding (OR=9.52,  $p=0.034$ ), prior ACP discussion (OR=12.31,  $p=0.041$ ) and a non-religious affiliation (OR=0.046,  $p=0.015$ ) predicted completion. LCA supported a 2-class solution (BIC = 1454; entropy = 0.554). The low-engagement class ( $n=120$ ; 61.0%) was characterised by limited patient and caregiver disease understanding, with lower documented ACP discussion. The active-engagement class ( $n=78$ ; 39.0%) was characterised by extensive patient/caregiver understanding in disease and prognosis, more documented ACP discussion, and higher palliative care specialty enrollment. Among observed outcomes, AMD completion was higher in the active-engagement class than the low-engagement class (23/33, 69.7% vs. 10/41, 24.4%), as was DNACPR completion (26/33, 78.8% vs. 16/46, 34.8%). Post-hoc analyses confirmed that both AMD and DNACPR signers engaged in significantly more ACP discussions involving both family and healthcare providers, whereas non-signers spoke with family alone.

### Conclusion:

Better disease prognosis understanding in PwPDs is a strong factor in promoting the documentation of ACP and DNACPR. To support effective ACP among PwPDs, healthcare providers should prioritise enhancing the understanding of disease prognosis for PwPDs whilst promoting structured family-healthcare provider discussions, enabling EoL preferences to be translated into formal documentation.

# Poster Presentations

48

## Brucellosis Beyond Zoonotic Exposure: Two Linked Brucellosis Cases in a Household in Hong Kong

**Dr. Ka Yee Ma<sup>1</sup>**, Dr. See-lai Janet KWAN<sup>1</sup>, Dr. Tonny NG<sup>1</sup>, Dr. Ka-wing Albert AU<sup>1</sup>

<sup>1</sup>Communicable Disease Branch, Centre for Health Protection, Department of Health, , Hong Kong SAR

### Background

Brucellosis is a rare zoonotic bacterial infection in Hong Kong. Local person-to-person transmission has not been documented previously. Between December 2025 and March 2026, two laboratory-confirmed brucellosis cases within the same household were notified to the Centre for Health Protection, raising concerns for non-zoonotic transmission.

### Methods

An epidemiological investigation was conducted, including interviews with the patients and household contacts using a standardized questionnaire, and a comprehensive review of clinical, occupational, travel and exposure histories.

### Results

The index case was a 63-year-old male with prior occupational exposure to sheep as an abattoir worker in the Chinese Mainland (2012 - 2022). He had spinal brucellosis in 2021, and was managed with surgical intervention and antimicrobial therapy. He did not have any further occupational exposure to sheep after 2022. In December 2025, he presented with fever, headache and loin pain. Blood culture grew *Brucella melitensis*, consistent with relapse.

The secondary case was his 62-year-old wife with underlying illness. She developed headache, myalgia and malaise in February 2026, followed by fever and abdominal pain in March 2026. Blood culture also yielded *Brucella melitensis*, the same species identified in her husband. Extensive investigation revealed no recent zoonotic exposures for either patient. Both denied consumption of unpasteurized dairy products and raw or undercooked meat, and reported no contact with farm animals since 2023. Travel during the incubation period was limited to urban areas in Shenzhen without high-risk exposure. The couple reported unprotected sexual contact during the wife's incubation period, corresponding with the husband's symptomatic relapse. No additional cases were identified through active case finding.

### Conclusion

This investigation provides compelling epidemiological evidence supporting probable sexual transmission of brucellosis in the absence of identifiable zoonotic exposures. The temporal relationship between the two cases, isolation of concordant *Brucella* species, and reported unprotected sexual contact strongly support a human-to-human transmission route. These findings underscore the importance of including sexual contact history in brucellosis investigations and maintaining vigilant for non-traditional transmission pathways to ensure timely diagnosis, appropriate risk assessment, and targeted control measures.

# Poster Presentations

53

## Epidemiological Investigation of Norovirus Food Poisoning Outbreaks Linked to Raw Oysters in Hong Kong, January–March 2026

**Dr. Yu Ting Stephen Li<sup>1</sup>**, Dr. Wing Sum Sam Li<sup>1</sup>, Dr. Tonny NG<sup>1</sup>, Dr. Ka-wing Albert AU<sup>1</sup>

<sup>1</sup>Communicable Disease Branch, Centre for Health Protection, Department of Health, the Government of Hong Kong SAR, Hong Kong SAR

### Background

Between January and March 2026, the Centre for Health Protection (CHP) recorded a significant upsurge in food poisoning outbreaks (FPOs) associated with consumption of raw oysters. To identify the sources of contamination and mitigate further risks, the CHP conducted comprehensive epidemiological investigations and source tracing, and implemented control measures in collaboration with the Centre for Food Safety (CFS).

### Method

An FPO was defined as an incident in which two or more epidemiologically linked persons developed compatible gastrointestinal symptoms following ingestion of a common food, with epidemiological analysis implicating the food as the source of illness. Exposed persons were interviewed by medical staff via telephone or standardised questionnaires. Further public health investigations included active case finding, collection of clinical stool specimens for laboratory testing, and on-site environmental assessments at the implicated food premises.

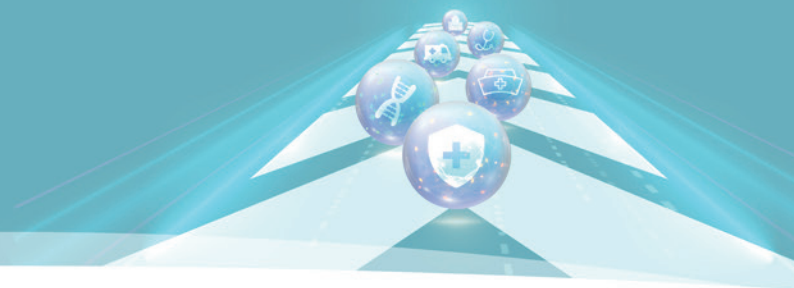
### Results

From January to March 2026, 66 FPOs were recorded, of which 46 (69.7%) were associated with norovirus, affecting 47 males and 82 females aged 9 to 70 years old. Epidemiological investigations identified raw oysters as the incriminated food item in 44 (95.7%) of these norovirus-associated FPOs. Source tracing revealed that the implicated oysters originated from multiple countries, including Korea, France, Ireland, and Spain, with several outbreaks involving oysters from mixed sources. Of note, some restaurants provided Korean oysters while claiming to customers that the oysters were from Japan, France, or Australia. Source tracing analysis linked the vast majority of the implicated Korean oysters to two distinct suppliers, and the Spanish oysters to a single supplier. Guided by this compelling epidemiological evidence, the CFS's suspended the import and sale of raw oysters from the implicated Korean and Spanish sources in February 2026. The number of FPOs subsequently returned to baseline levels by April 2026.

### Conclusion

This upsurge in norovirus outbreaks highlights the inherent public health risks associated with raw oyster consumption. Timely epidemiological investigation and rigorous source tracing are indispensable for implementing decisive, evidence-based regulatory control measures. Targeted import suspensions effectively interrupted the supply of contaminated batches of raw oysters, thereby rapidly curbing norovirus-associated FPOs and protect public health.

# Poster Presentations



56

## Epidemiological Investigation and Public Health Response to a Hepatitis A Outbreak among Men Who Have Sex with Men in Hong Kong, 2025-2026

**Dr. Yan Tung Kwok<sup>1</sup>**, Dr. Tonny Ng<sup>1</sup>, Dr. Ka Wing, Albert Au<sup>1</sup>

<sup>1</sup>Communicable Disease Branch, Centre for Health Protection, Department Of Health, Hong Kong SAR

### Background

Hepatitis A virus (HAV) is primarily transmitted via the faecal-oral route through contaminated food or water, as well as through close person-to-person contact, including sexual exposure. The latter route was the primary driver of a previous HAV outbreak among men who have sex with men (MSM) in Hong Kong (2015 to 2017). In September 2025, an aberrant increase in acute hepatitis A notifications prompted an epidemiological and laboratory investigation to ascertain transmission dynamics and guide control measures.

### Methods

The Centre for Health Protection (CHP) analysed surveillance data to delineate the temporal and demographic characteristics of the outbreak. Epidemiological investigations were conducted to assess exposure histories and identify modes of transmission. To evaluate genetic relatedness and delineate transmission clusters, the CHP's Public Health Laboratory Services Branch performed molecular characterisation and phylogenetic analysis on available specimens from confirmed cases.

### Results

From September 2025 to mid-March 2026, 70 cases of acute hepatitis A were identified, significantly exceeding historical baseline levels. Demographic analysis revealed a disproportionate impact on males, with the male-to-female ratio rising from a historical range of 1.0–1.5:1 to 3.4:1. Genetic analysis of 50 available isolates showed that 26 (52%) shared an identical genetic sequence, forming a distinct genotypic cluster. Within this cluster, 92% (24/26) were male, among whom 62.5% (15/24) explicitly self-identified as MSM. Epidemiological investigations did not identify a common point-source exposures (food, water, or household), supporting person-to-person transmission mediated by close and sexual contact.

### Public Health Response

In March 2026, targeted control measures were launched for the MSM community, including the provision of a free two-dose hepatitis A vaccination programme for eligible, unvaccinated individuals at designated Social Hygiene Clinics and the Integrated Treatment Centre. These efforts were augmented by targeted risk communication and health education campaigns delivered synergistically through community partners, non-governmental organizations, and social media platforms.

### Conclusion

Epidemiological and genomic evidence confirms a resurgent, sexually transmitted outbreak of hepatitis A concentrated within the local MSM population in Hong Kong. The rapid identification of this transmission cluster enabled targeted vaccination and risk communication, underscoring the importance of integrating surveillance, laboratory analysis, and community-based interventions for outbreak control.

# Poster Presentations



59

## End-of-Life and Palliative Care Policies and Services for People with Mental Illness and Intellectual Disability in Hong Kong: A Scoping Review Protocol

**Ms. Rachel Yui Ki Chu**<sup>1</sup>, Miss Nicole CHAN<sup>3</sup>, Miss Sum Yu Charlotte WONG<sup>7</sup>, Miss Xuan LIN<sup>5</sup>, Miss Wai Ching Vincy LEE<sup>2</sup>, Mr Yu Chak Josh KAN<sup>4</sup>, Mr Wang Yui Cyrus SZE<sup>6</sup>

<sup>1</sup>The University of Hong Kong, Hong Kong SAR, <sup>2</sup>Pui Chung Middle School, Hong Kong, <sup>3</sup>King George V School, Hong Kong, <sup>4</sup>La Salle College, Hong Kong, <sup>5</sup>St Paul's Convent School, Hong Kong, <sup>6</sup>Christian Alliance International School, Hong Kong, <sup>7</sup>South Island School, Hong Kong

### Purpose:

This scoping review protocol outlines a methodology to map public policy, legislative structures, and clinical service models governing end-of-life (EOL) and palliative care for individuals with severe mental illness or intellectual disability in Hong Kong, and to identify systemic, legal, and behavioural impediments to advance care planning and substitute decision-making within this population.

### Methodology:

This scoping review follows the Joanna Briggs Institute methodology. Searches will be conducted in MEDLINE, Embase, CINAHL, Scopus, PsycINFO, and Web of Science, alongside Hong Kong government and grey literature. Eligible documents include peer-reviewed studies, government reports, legislation, and NGO publications addressing EOL/palliative care, advance care planning, or substitute decision-making for people with MI and/or ID in Hong Kong. Extraction will capture policy and legal frameworks, service gaps, and stakeholder roles, alongside barriers to EOL decision-making at the individual (capacity, understanding), family/social (stigma, caregiver burden), and system (legal ambiguity, service availability) levels.

### Anticipated Policy and Practice Implications:

This synthesis will highlight structural gaps and statutory ambiguities within Hong Kong's current EOL infrastructure for psychiatric and neurodevelopmental populations. The findings will provide empirical evidence for healthcare administrators and policymakers to standardise cognitive capacity assessment protocols, refine proxy decision-making frameworks, and guide public sector health service planning to enhance equitable palliative care access.

### Conclusion:

Consolidating multi-sectoral health policy and clinical evidence will establish a crucial baseline to inform local regulatory reform, improve inter-speciality coordination between psychiatric and palliative services, and advance health equity for underserved populations in Hong Kong.

# Poster Presentations

4

Natural clearance of colonization with vancomycin-resistant *Enterococcus* and carbapenemase-producing *Enterobacterales*: a 13-year study among territory-wide residents of residential care home for the elderly in Hong Kong

**Dr. Edmond Siu-Keung Ma**, Dr. Raymond Wai-Man Lai, Dr. Vivien Wai-Man Chuang, Dr. Bianca Suet-Ying Shing, Dr. Leo Lui, Mr Enoch Know Hsu, Ms Emily Hoi-Lam Kiu, Dr. Hong Chen, Dr. Edwin Lok-Kin Tsui

## Purpose:

This study aims to report the natural clearance duration of vancomycin-resistant *Enterococcus* (VRE) and carbapenemase-producing *Enterobacterales* (CPE) and identify factors associated with prolonged colonization among residents of residential care homes for the elderly (RCHE) in Hong Kong.

## Methodology:

A retrospective study was conducted on VRE and CPE colonization cases reported between 1 January 2012 and 31 December 2024. Clearance was defined as negative culture results for at least 2 consecutive specimens for VRE and 3 for CPE, collected at least 48 hours apart. Clearance times were estimated using the Kaplan-Meier method, and factors influencing the duration of carriage were determined by univariate and multiple Cox regression.

## Results:

A total of 3,626 VRE cases and 4,434 CPE cases were followed up. Carriage duration for CPE was significantly longer than for VRE ( $p < 0.01$ ). Half of the VRE and CPE cases achieved natural clearance by 85 and 131 days, respectively. The carriage duration for 90% of VRE cases was 400 days, while it extended to 818 days for CPE. Mortality rates were similar for both groups, at 25.7% for VRE and 25.1% for CPE. After adjusting for associated factors, a longer readmission length of stay (LOS) in hospitals and lower occupancy rates in RCHEs were significantly associated with prolonged carriage status.

## Conclusion:

The natural clearance of CPE takes significantly longer than VRE, requiring over 2 years for the majority of CPE cases to clear the bacteria. These findings provide essential data to improve screening guidelines for previously colonized patients and to determine the necessary duration of contact precautions to prevent the transmission of multi-drug resistant organisms (MDRO) among vulnerable populations in long-term care facilities.

# Poster Presentations

5

## Improving regularity of general practice attendance: a difference-in-differences study of Hong Kong's District Health Centre roll out

**Ms. Zhenyuan LIU<sup>1</sup>**

<sup>1</sup>The University of Hong Kong, School of Public Health, Hong Kong SAR

### Purpose:

Regular attendance at primary care is an important aspect of chronic disease management, but conventional continuity-of-care measures may not capture follow-up regularity. We evaluated whether implementation of District Health Centers (DHCs), a community-based public-private primary care integration model in Hong Kong, was associated with improved regularity of general outpatient clinic attendance among adults with diabetes and/or hypertension.

### Methodology:

We conducted a retrospective cohort study using territory-wide administrative data from the Clinical Management System of the Hong Kong Hospital Authority from January 1, 2013, to December 31, 2023. A staggered difference-in-differences design was applied to assess district-level DHC implementation. Eligible participants were adults aged 18 to 85 years with type 2 diabetes or hypertension diagnosed before DHC implementation. The final sample included 671,661 patients contributing 5,435,451 patient-years. The primary outcome was visit regularity, measured by the coefficient of variation of intervisit intervals and categorized into quartiles, with quartile 1 indicating the most regular attendance and quartile 4 the least regular. The secondary outcome was better-than-expected regularity, defined as an observed coefficient of variation lower than that predicted by a pre-implementation risk-adjustment model. Ordered logistic and binary logistic difference-in-differences models were adjusted for demographic characteristics, time-varying biomarkers, and complication status.

### Results:

DHC implementation was associated with a higher probability of most-regular attendance (quartile 1; absolute increase, 7.33 percentage points; 95% confidence interval [CI]: 3.31 to 11.34;  $P<0.001$ ) and a lower probability of least-regular attendance (quartile 4; absolute decrease, 5.49 percentage points; 95% CI, 2.41 to 8.57;  $P<0.001$ ). The probability of quartile 3 attendance also decreased (2.12 percentage points; 95% CI, 1.03 to 3.20;  $P<0.001$ ), while quartile 2 increased modestly (0.28 percentage points; 95% CI, 0.03 to 0.53;  $P=0.026$ ). Better-than-expected regularity increased by 9.19 percentage points (95% CI, 2.00 to 16.38;  $P=0.012$ ) after implementation.

### Conclusion:

DHC implementation was associated with meaningful improvement in follow-up regularity among adults with diabetes and/or hypertension in Hong Kong. Community-based public-private primary care integration may support more consistent chronic disease follow-up and inform future health system design.

# Poster Presentations

10

## Informing Evidence-Based Healthy Ageing: Exploring Temporal Associations Between 24-Hour Movement Behaviour Composition and Loneliness Among Older Adults

**Mr. Elvin Tsz Fung Wong<sup>1</sup>**, Dr. Eric Kam Pui Lee<sup>1</sup>, Prof. Phoenix Kit-han Mo<sup>1</sup>, Prof. Sherry Xue Yang<sup>1</sup>, Prof. Samuel Yeung Shan Wong<sup>1</sup>

<sup>1</sup>The Chinese University of Hong Kong, Hong Kong, Hong Kong SAR

### Purpose:

Loneliness is a major public health concern among older adults. As healthcare systems increasingly promote preventive and lifestyle-based approaches to healthy aging, longitudinal evidence is needed to avoid translating cross-sectional associations into premature intervention recommendations. Although daily time allocation across movement behaviours may be related to loneliness, whether these constructs are temporally and bidirectionally associated remains uncertain. This study applied compositional data analysis (CoDA) and cross-lagged panel models (CLPMs) to examine potential bidirectional associations between 24-hour movement behaviour composition and loneliness over time.

### Methodology:

This secondary analysis used data from a randomised controlled trial evaluating a mindfulness-based intervention for loneliness among older adults. Two waves of data with a twelve-month interval were analysed. Loneliness was measured using the validated Chinese six-item de Jong Gierveld Loneliness Scale. Sleep duration and domain-specific sedentary behaviours were self-reported using the Chinese version of the Last 7-Day Sedentary Behaviour Questionnaire. CLPMs examined reciprocal associations between movement composition and overall, emotional, and social loneliness. Sensitivity analyses using two six-month lags assessed robustness.

### Results:

Fifty-eight participants contributing data to at least two waves were included. Overall model fit was suboptimal. Cross-lagged paths were non-significant, providing no evidence of bidirectional associations between movement composition and overall loneliness. Emotional loneliness was significantly associated with movement composition at baseline; both constructs demonstrated significant autoregressive effects, indicating moderate temporal stability. Cross-lagged associations remained non-significant. Sensitivity analyses yielded comparable results.

### Conclusion:

The modest sample size relative to model complexity may have contributed to suboptimal fit. Emotional loneliness and movement behaviour composition were temporally stable and cross-sectionally associated at baseline, with no cross-lagged effects detected. Any temporal associations, if present, may unfold over longer timescales or require larger sample sizes with more frequent measurement. Future research using larger cohorts, extended follow-up, and life-event tracking is needed to clarify these dynamics, while using qualitative and mixed-method approaches may illuminate micro-level behavioural substitutions alongside psychosocial experiences. These findings can inform evidence-based healthy aging by cautioning against recommendations based solely on hypothetical reallocations of movement behaviours, while highlighting the need for interventions that consider the meaning, enjoyment, and social context of older adults' daily activities.

# Poster Presentations

11

## Identification of *Sinopodophylli Radix et Rhizoma* (*Sinopodophyllum hexandrum*) by Polymerase Chain Reaction-Restriction Fragment Length Polymorphism

Mr. Ka-lok Wong<sup>1</sup>, Ms. Yuk-yu LAU<sup>1</sup>, **Mr. Ka-lok WONG<sup>1</sup>**, Dr. Hau-san TANG<sup>1</sup>

<sup>1</sup>Government Chinese Medicines Testing Institute, Department of Health, Hong Kong SAR, CHINA

### Purpose:

To develop and validate a DNA-based method for differentiating toxic Chinese Materia Medica (CMM) *Sinopodophylli Radix et Rhizoma* (*Sinopodophyllum hexandrum*), which also known as Guijiu (Taoerqi), from its confused CMMs *Clematidis Radix et Rhizoma* (*Clematis chinensis*, *C. hexapetala* and *C. manshurica*) and *Gentianae Radix et Rhizoma* (*Gentiana scabra* and *G. rigescens*).

### Methodology:

A method involving two tests was developed based on polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) technology: (a) Internal positive amplification control test (IPAC): internal control test using primer pair CP03-F/CP03-R to ensure the DNA amplifiability of the sample by PCR; (b) Differentiation test (DT): Chloroplast DNA region ATP synthase CF0 subunit I (atpF) region was first amplified by PCR with primer pair atpF\_F12/atpF\_R8 and then digested with restriction enzyme EcoRI to generate a DNA band profile unique to *S. hexandrum*. Authenticated samples of *S. hexandrum* (9 samples) and its confused species (31 samples) collected from GCMTI herbarium, Hong Kong Chinese Materia Medica Standards and National Institutes for Food and Drug Control were used for method validation.

### Results:

For *S. hexandrum* and its confused species, all tested samples showed positive amplification in PCR analysis of IPAC and DT. For the restriction digestion analysis of DT, a characteristic two-band pattern (~180 bp and ~260 bp) was only obtained with *S. hexandrum*, while no cleavage was observed with the confused species. To further demonstrate the selectivity of the method, 41 species of other medicinal materials of plants, animals and fungi origin were tested and no cross-reactivity was found. This method demonstrated a limit of detection of 0.24 ng of template DNA per reaction.

### Conclusion:

By providing a cost-effective alternative to traditional methods, this approach serves to refine the identification of *Sinopodophylli Radix et Rhizoma* and enhance the quality control framework for Chinese medicines. Furthermore, this innovation facilitates robust regulatory enforcement and establishes a scalable model for developing identification assays for other toxic CMMs, thereby safeguarding public health.

# Poster Presentations

14

## Validation of EuroSCORE II in post-cardiac surgery patients at the Prince of Wales Hospital (PWH): A Retrospective Single-center Study

**Ms. Karen HL Ng<sup>1</sup>**, Mr Kailu Wang<sup>2</sup>

<sup>1</sup>Division of Cardiothoracic Surgery, Department of Surgery, Prince of Wales Hospital, Hong Kong SAR, China, <sup>2</sup>Centre for Health Systems and Policy Research, The Jockey Club School of Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR, China

### Purpose:

The study objective is to assess the performance of the European System for Cardiac Operative Risk Evaluation (EuroSCORE) II, a widely used tool, in predicting post-operative mortality among cardiac surgery patients at Prince of Wales Hospital (PWH).

### Methodology:

Complete data on 4,180 patients who underwent cardiac surgery at PWH during 2013-2023 were available for validation of EuroSCORE II and to compare its discriminatory ability with the logistic EuroSCORE. The discriminatory performance of EuroSCORE II was primarily assessed through the areas under the receiver operating characteristics curve (AUROC), while its calibration was evaluated using the Hosmer-Lemeshow (HL) test, the coefficient of determination ( $R^2$ ), and Normalized Root Mean Square Error (NRMSE).

### Results:

EuroSCORE II had strong discrimination and good calibration in predicting 30-day mortality across the entire group (AUROC = 0.829, Hosmer-Lemeshow  $P = 0.155$ ). Additionally, more than 90% of the variation in the 30-day mortality could be explained by EuroSCORE II across these groups ( $R^2 = 98.7\%$ ). EuroSCORE II also demonstrated improved discrimination and calibration compared to logistic EuroSCORE across these groups, with higher AUROC and lower NRMSE values.

### Conclusion:

EuroSCORE II shows strong discriminatory and good calibration power for predicting 30-day post-operative mortality across all cardiac surgery patients in our cohort. EuroSCORE II emerges as a superior risk stratification tool compared to logistic EuroSCORE, making it well-suited for application in PWH.

# Poster Presentations



16

## The Role of hnRNPK in the Infection Process of Host Cells by Influenza Virus

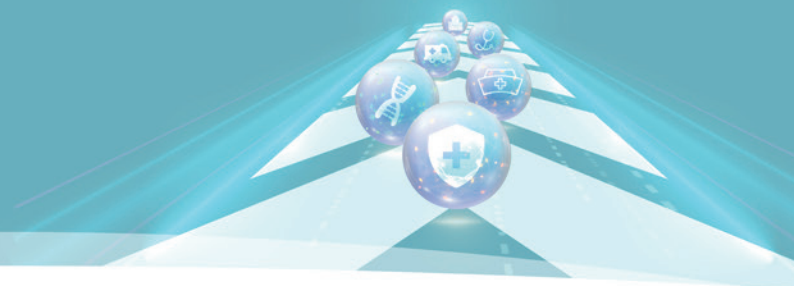
**Mr. Gailin Yang**<sup>1</sup>

<sup>1</sup>CUHK, China

This research proposal outlines a study investigating the role of heterogeneous nuclear ribonucleoprotein K (hnRNPK) in influenza A virus (IAV) infection of host cells. IAV, a negative-strand RNA virus responsible for significant morbidity and mortality worldwide, interacts with the host's innate immune response, including type I interferon (IFN) production. hnRNPK has been implicated in enhancing viral proliferation, the precise mechanisms remain unclear. This study hypothesizes that hnRNPK participates in the host's innate immune response and influences viral lifecycle. The aims are twofold: (1) to explore the role of hnRNPK in type I IFN production and IAV replication, and (2) to investigate the interaction between hnRNPK and viral proteins.

The research results suggests that IAV infection upregulates hnRNPK, and that hnRNPK promotes the nuclear entry of the viral NP protein via interaction with importin alpha 3, inhibits type I interferon (IRF3 and P65 phosphorylation) and promotes interaction between NS1 protein and other antiviral immune signaling proteins, and NP mRNA stability. Co-immunoprecipitation (Co-IP), Immunofluorescence microscope also confirms hnRNPK interaction with viral proteins NP and NS1, identifying specific interacting regions within these proteins. Future work will focus on constructing an AAV animal system to confirm the role of hnRNPK in innate immunity, identifying the precise binding sites on NP mRNA. The findings could lead to new therapeutic strategies targeting hnRNPK to enhance antiviral responses and control inflammation during influenza infections, potentially informing broad-spectrum antiviral therapies.

# Poster Presentations



18

## Applying Risk-Based Regulation: Insights from a Locally-Adapted Risk Assessment Framework for Health Professions

Dr. Carrie Ho-Kwan Yam<sup>1</sup>, Professor Eng-Kiong Yeoh<sup>1</sup>, Mr. Ethan Ming-Yin Ip<sup>1</sup>, Ms. Tsz-Yu Chow<sup>1</sup>, Dr. Loretta Yin-Chun Yam<sup>1</sup>, Professor Chi-Tim Hung<sup>1</sup>

<sup>1</sup>The Chinese University of Hong Kong, Hong Kong SAR

### Purpose:

Healthcare systems are increasingly multidisciplinary, with a wide range of professions contributing to patient care. In Hong Kong, these professions are subject to varying forms of oversight, including statutory regulation, accredited registers, employer based or voluntary regulation. Determining the appropriate level of oversight is important to ensure patient safety while maintaining a flexible and sustainable healthcare system. This study aimed to apply a risk-based assessment framework adapted to the Hong Kong context for allied health professions to generate insights and inform proportionate and effective regulatory approaches.

### Methodology:

A sequential mixed methods approach was adopted, comprising a scoping review with international benchmarking, key informant interviews and focus groups involving policymakers, healthcare providers, professionals, and patient representatives. These informed the development and application of a two-step risk assessment framework, incorporating primary criteria (nature of the profession, risk of harm, existing assurance mechanisms, and body of knowledge) and secondary criteria (feasibility, sustainability, and system impact). Three health professions, prosthetists and orthotists, medical physicists, and dispensers, were assessed through structured submissions of evidence for assessment and expert panel review.

### Results:

The assessment demonstrated variation in risk profiles. Prosthetists' and orthotists', and medical physicists' practices were specialised, and associated with higher levels of professional autonomy with potential implications for patient safety, indicating the need for stronger assurance. Dispensers were found to practise largely within structured environments with existing supervision, indicating that alternative forms of oversight may be appropriate. The framework enabled differentiation of regulatory approaches based on the level and nature of risk, rather than adopting a uniform model across professions.

### Conclusion:

A risk-based approach support proportionate oversight by aligning regulatory intensity with risk, while considering contextual factors such as work environment, supervision, and professional autonomy. A structured risk-based assessment approach can facilitate transparent and evidence-informed decision making in healthcare professional regulation, and contribute to a regulatory system that supports both patient safety and a dynamic healthcare workforce.

This study is funded by Health and Medical Research Fund of the Health Bureau of the Government of HKSAR through a commissioned research titled "Extended Study on Regulatory Framework for Healthcare Professions" (Ref.: Extended RFW-CUHK).

# Poster Presentations

19

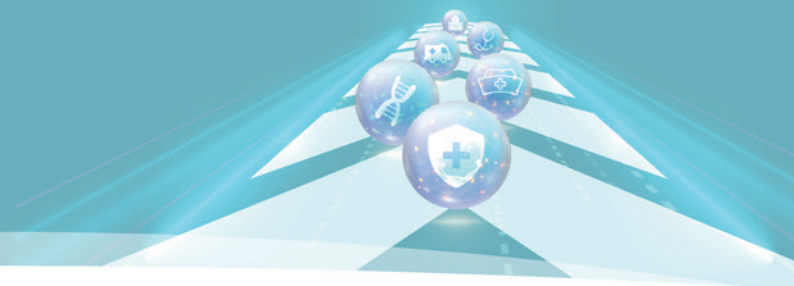
## Difference in Breadth and Durability of Cross-reactive Antibody Responses to SARS-CoV-2 Omicron Subvariant Infections

**Mr. Yuk Ching Sze**<sup>1</sup>, Prof. Nancy H.L. Leung<sup>1</sup>, Dr. Samuel M.S. Cheng<sup>1</sup>, Dr. Yiu Chung Lau<sup>1</sup>, Dr. Faith Ho<sup>1</sup>, Dr. Niki Y.M. Au<sup>1</sup>, Prof. Sook-san Wong<sup>1,2</sup>, Emer. Prof. Malik Peiris<sup>1,2,3</sup>, Prof. Benjamin J. Cowling<sup>1</sup>

<sup>1</sup>School of Public Health, The University of Hong Kong, HKSAR, China, <sup>2</sup>HKU-Pasteur Research Pole, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, HKSAR, China, <sup>3</sup>Centre for Immunology and Infection, Hong Kong Science and Technology Park, New Territories, HKSAR, China

There are limited data on the breadth and durability of cross-reactive antibody responses following SARS-CoV-2 infections among individuals infected in Omicron subvariant epidemics. We analyzed serological samples collected before and after individuals experienced laboratory-confirmed SARS-CoV-2 infections from Jan 2022 through Jan 2025. Direct and cross-reactive antibody responses to the receptor-binding domain (RBD) of four SARS-CoV-2 Omicron strains (BA.2, BA.5, XBB, JN.1) were measured by IgG ELISA tests. IgG ELISA assays were also done to measure antibodies against the C-terminal domain (N-CTD) on the SARS-CoV-2 nucleocapsid (N) protein and the non-structural ORF8 protein to assess magnitude and durability of infection-induced and spike-specific immune response respectively following SARS-CoV-2 infections. Power-law models were constructed to model antibody waning during the convalescent period. We included data on 1434 serological samples relating to 470 infections. All infections showed statistically significant homologous and heterologous boosting across different Omicron strains, indicating the potency and breadth of response. Infections in later epidemic waves boosted higher antibody levels against earlier Omicron strains, consistent with antigenic seniority. Homologous antibody responses against dominant circulating subvariants before December 2023 exhibited greater longevity than heterologous antibody responses against antigenically similar Omicron strains, but such pattern was not observed for infections occurring in the JN.1 predominant era. Our findings suggested that SARS-CoV-2 infections exhibited broad antibody responses against antigenically similar Omicron strains. Both homologous and heterologous anti-RBD IgG antibody levels remained high for at least one year, whereas anti-N-CTD and anti-ORF8 antibodies showed varied responses that differed by infection periods, which could be used to examine infection history and strain-specific responses.

# Poster Presentations



21

## Optimal Dilution Points for Reliable SARS-CoV-2 Antibody Titer Prediction: A Two-Dataset Validation

**Ms. Xinyi Li<sup>1</sup>**, Dr. Samuel Cheng<sup>1</sup>, Dr. Eunice Shiu<sup>1</sup>, Leo Tsang<sup>1</sup>, Prof. Malik Peiris<sup>1,2</sup>, Prof. Benjamin Cowling<sup>1</sup>, Prof. Nancy Leung<sup>1</sup>

<sup>1</sup>WHO Collaborating Centre for Infectious Disease Epidemiology and Control, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Pokfulam, Hong Kong Special Administrative Region, China, Hong Kong SAR, <sup>2</sup>Centre for Immunology & Infection, Hong Kong Science and Technology Park, New Territories, Hong Kong Special Administrative Region, China, Hong Kong SAR

### Purpose:

Antibody titer determination by enzyme-linked immunosorbent assay (ELISA) traditionally requires multiple serial dilutions, which is resource-intensive. We sought to identify the optimal number and choice of dilution points for accurate and efficient titer prediction.

### Methodology:

True titers were calculated by fitting a 5-parameter individual logistic model to the full dilution series. Predicted titers were interpolated from reduced-point combinations (2, 3, 4, or 5 dilution points per sample) using a shared-parameter logistic model, in which all parameters except the inflection point were shared across samples. Optimal dilution strategies were selected based on the lowest mean squared error (MSE). We evaluated the stability of optimal reduced dilution strategies in predicting geometric mean titers (GMTs) under two resource constraints: (1) the sample-capped scenario and (2) the assay-capped scenario. For the sample-capped scenario, 120 serum samples were randomly subsampled without replacement for 100 iterations. For the assay-capped scenario, four strategies were evaluated: 60 samples  $\times$  2 points, 40 samples  $\times$  3 points, 30 samples  $\times$  4 points, and 24 samples  $\times$  5 points, each totalling 120 wells used. For each strategy, 100 iterations were performed by randomly sampling the required number of samples without replacement from the full dataset. Mean predicted GMTs and corresponding 95% confidence intervals were then calculated across all iterations for each strategy.

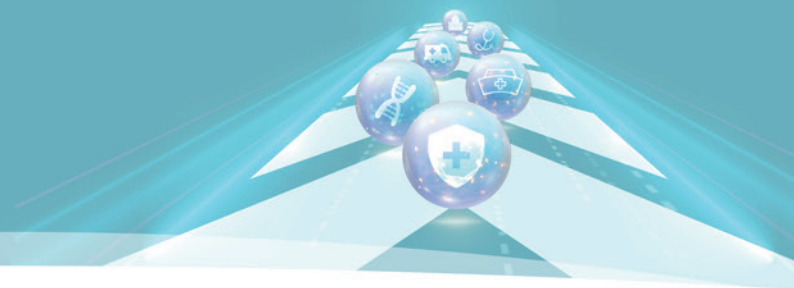
### Results:

We found that chosen two-dilution combinations (low and high) yielded accurate predictions with low mean squared error compared to the full dilution series. Accuracy could be improved by adding a third to fifth dilution point. When total assay capacity was limited, prioritizing a larger number of samples with fewer dilution points per sample produced more precise GMTs than testing fewer samples with more dilution points for each sample.

### Conclusion:

Two spread-out dilution points could yield accurate predictions with low MSE compared to the full dilution series. Accuracy could be improved by adding a third to fifth dilution point. When resources were constrained, testing fewer dilutions on more samples produced more reliable GMTs than testing more dilutions on fewer samples. This approach supports efficient, high-throughput serological testing in large-scale vaccine and infection studies.

# Poster Presentations



22

## Beverage Provision and Food Reward Practices in Hong Kong Primary Schools: A Cross-Sectional Survey

**Ms. KIT CHING TO<sup>1</sup>**, Ms. Porky YL CHEUNG<sup>1</sup>, Dr. Joanna MH Leung<sup>1</sup>, Dr. Kellie PS SO<sup>1</sup>

<sup>1</sup>Health Promotion Branch, Centre for Health Protection, Department of Health, Hong Kong SAR

### Purpose:

The increased intake of sugar-sweetened beverages (SSBs) is associated with childhood obesity, and adverse health outcomes such as type 2 diabetes, cardiovascular disease and dental caries. This study aimed to investigate beverage provision, particularly SSBs, and to examine the prevalence of food and drink rewards in Hong Kong primary schools.

### Methodology:

A cross-sectional survey was conducted between October and November 2024 using a self-administered questionnaire distributed to all 639 primary schools and special schools in Hong Kong. School principals or designated staff responsible for snack arrangements completed the survey. The questionnaire assessed tuck shop and vending machine availability, beverage provision, access to free potable water, food reward practices, and school policies on healthy drinking. Differences were analysed based on participation in the EatSmart School Accreditation Scheme (ESAS) of the Department of Health.

### Results:

A total of 486 schools responded (response rate: 76%). All schools reported providing free potable water. Over half (57%) operated tuck shops and/or vending machines, which commonly offered soy or plant-based milk (78%), fruit-flavoured tea (73%), and milk beverages (57%). Despite the availability of healthier options, 77% of these schools also provided caffeinated drinks, which are not recommended for children. Food rewards were common and widely used, with 65% of schools reporting such practices during the 2023/24 school year. The most frequently used reward items were candies/chocolates (44%), biscuits (41%), and beverages (27%). Although 92% of schools had healthy eating guidelines (including healthy drinks), only 34% explicitly discouraged the use of food as rewards. ESAS Schools were significantly more likely to adopt healthy eating guidelines, engage in health promoting activities, and avoid using food rewards compared with non-ESAS schools (all  $p < 0.05$ ).

### Conclusion:

While most Hong Kong primary schools provide free potable water and have established healthy eating guidelines, the availability of caffeinated beverages and the use of food rewards remain prevalent. Participation in the ESAS was associated with healthier practices. To foster healthier dietary habits among students, schools should implement comprehensive dietary guidelines to eliminate caffeinated and sugary beverages, encourage non-food alternatives for rewards, and be encouraged to participate in the ESAS.

# Poster Presentations



24

## Creating a Universal Admission Checklist to Enhance Team Communication and Foster Safety Culture in Ward

**Ms. Kai Tung Yim<sup>1</sup>**

<sup>1</sup>Hospital Authority, Hong Kong SAR

### Background:

Incomplete admission data entry is a recognised risk to clinical decision-making and patient safety. At the rehabilitation ward of Kowloon Hospital, which receives patient of mixed specialties transferred from Queen Elizabeth Hospital, persistent documentation gaps were observed during routine admissions. A baseline audit of 60 consecutive cases confirmed a missing rate of 56.7%, providing the momentum for a structured quality improvement initiative.

### Objectives:

Although the project title frames the broader goal of fostering safety culture in the ward, the specific objective was to investigate the frequency of incomplete admission data entry and to evaluate whether a Universal Admission Checklist and structured communication workshops were associated with improvements in documentation completeness, admission process risk, and staff perceptions of teamwork climate and safety climate.

### Methods:

Failure mode and effect analysis (FMEA) was conducted with 19 ward staff across 50 checklist items, identifying absence of a systematic prompt as the dominant structural risk in 94% of items. Two interventions were implemented across two PDSA cycles over nine weeks: a Universal Admission Checklist grouping items by task processes, and four Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS)-based communication workshops. Outcomes were measured through weekly missing rate audits, FMEA RPN re-scoring, and the Safety Attitudes Questionnaire (SAQ).

### Results:

The missing rate decreased from 56.7% to 28.5% after a 9-week intervention. Number of high-risk FMEA items reduced from 14 to 2 (85.7%). SAQ improved significantly in Teamwork Climate (53.33 to 64.58,  $p = 0.000124$ ) and Safety Climate (50.74 to 60.36,  $p = 0.00247$ ); the other four domains showed no significant change.

### Conclusions:

The interventions improved documentation completeness and reduced process risk, with targeted SAQ improvements as supporting evidence. Developing safety culture remains a longer-term aim beyond this nine-week initiative.

# Poster Presentations



25

## Prevalence and Predictors of Osteosarcopenic Obesity Among Community-dwelling Older Adults in Hong Kong

**Ms. ZHISHAN JIANG**<sup>1</sup>, Mr. Jason Chi-Shun LEUNG<sup>2</sup>, Ms. Ting ZHANG<sup>3</sup>, Prof. Timothy Chi-Yui KWOK<sup>2,3</sup>, Prof. Eric Kam-Pui LEE<sup>1</sup>, Prof. Gary Ka-Ki CHUNG<sup>1</sup>

<sup>1</sup>JC School of Public Health and Primary Care, the Chinese University of Hong Kong, Hong Kong SAR, <sup>2</sup>JC Centre for Osteoporosis Care and Control, The Chinese University of Hong Kong, Hong Kong SAR,

<sup>3</sup>Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong SAR

### Purpose:

This study aimed to assess the prevalence and predictors of osteosarcopenic obesity (OSO) among community-dwelling older adults in Hong Kong (HK).

### Methodology:

This cross-sectional study used data from the fourth follow-up of the Mr.OS and Ms.OS (HK) study, conducted among community-dwelling adults aged  $\geq 65$  years in HK between November 2015 and September 2017. A total of 1,095 participants (53% female, mean age  $83 \pm 4$  years) were included in the analysis. Body composition and bone health were assessed using dual-energy X-ray absorptiometry, while muscle strength was evaluated by handgrip strength and 5-time chair stand test. OSO was defined as the coexistence of obesity (i.e., high percentage body fat), sarcopenia (i.e., low appendicular skeletal muscle index and muscle strength), and osteopenia/osteoporosis (i.e., low T-score). Multivariable binary and ordinal logistic regression analyses were conducted to identify potential socio-demographic, lifestyle, and disease-related predictors of OSO occurrence and the number of coexisting conditions, respectively.

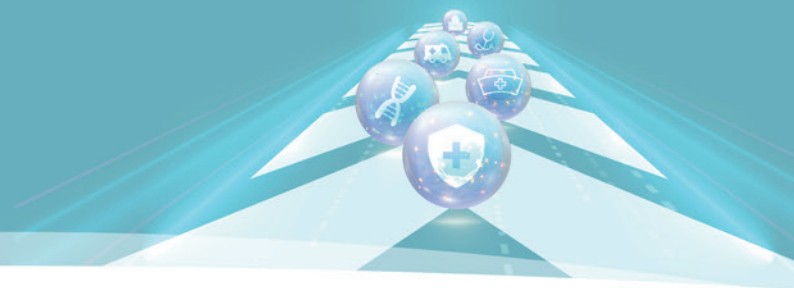
### Results:

The OSO prevalence was 31.8%. Moreover, 54.1% of participants had two of the three conditions (obesity, sarcopenia, and osteopenia/osteoporosis), 13.4% had one, and 0.7% had none. In multivariable binary logistic regression, risk factors for OSO included older age (aOR=1.61 for those aged  $\geq 85$  years,  $p=0.009$ ), male gender (aOR=1.65,  $p=0.028$ ), insufficient physical activity (aOR=1.49,  $p=0.023$ ), and lower maximal lifetime income (Q1 vs. Q3: aOR=1.74,  $p=0.038$ ). Regarding multivariable ordinal logistic regression, older age (aOR=1.64,  $p<0.001$ ) and insufficient physical activity (aOR=1.34,  $p=0.030$ ) were associated with an increased number of coexisting OSO conditions.

### Conclusion:

This is the first study to report a considerable OSO prevalence in a sample of community-dwelling older adults in HK, with a mean age of over 80 years. Age and physical activity were significant predictors of both OSO occurrence and the number of coexisting conditions, whereas gender and maximal lifetime income were associated with OSO occurrence only. These findings highlight the importance of promoting physical activity among older adults, and urge targeted interventions for the oldest-old, male, and socioeconomically disadvantaged groups. Future longitudinal studies are warranted to investigate the determinants and consequences of OSO, thereby facilitating the development of effective prevention and intervention strategies for this condition.

# Poster Presentations



26

## A Sporadic Human Case of Avian Influenza A (H9N2) Associated with a Live Poultry Stall in a Wet Market in Hong Kong

Dr. Cynthis LAM<sup>1</sup>, Dr. Cecilia CHOI<sup>1</sup>, Dr. Tonny NG<sup>1</sup>, Dr. Albert AU<sup>1</sup>

<sup>1</sup>Communicable Disease Branch, Centre for Health Protection, Department of Health, Hong Kong SAR

### Purpose:

To describe the epidemiological investigation, virological characteristics, and public health response for a locally acquired human case of avian influenza A(H9N2) in June 2026, highlighting a multisectoral One Health approach in identifying exposure sources and guiding control measures.

### Methodology:

Upon notification of the confirmed novel influenza A (H9N2) infection affecting a 2-year-old boy, the Centre for Health Protection (CHP) conducted a joint comprehensive investigation with the Agriculture, Fisheries and Conservation Department and the Food and Environmental Hygiene Department. The investigation included structured interviews, contact tracing, medical surveillance, and environmental sampling at the patient's residence, a live poultry market (LPM) stall visited by the patient and an upstream supplier farm. Virological analyses utilized reverse transcription-polymerase chain reaction and whole-genome sequencing (WGS) for genetic characterization.

### Results:

The patient presented with fever and mild diarrhoea. The clinical course was self-limiting, and no secondary cases were identified among 11 close contacts put under medical surveillance. An environmental swab collected from a dropping tray at the LPM stall tested positive for H9N2. Upstream tracing linked the stall to a local supplier farm, where a live chicken sample had tested positive for H9N2 around the period when the boy visited the LPM stall. WGS confirmed the human isolate belonged to clade B4.7.3 without recognized mutations associated with mammalian adaptation. The human and farm isolates shared approximately 96% nucleotide sequence identity. Post disinfection environmental sampling at both the LPM stall and the farm confirmed viral clearance. Under enhanced surveillance, 150 subsequent poultry samples collected from the farm yielded no positive results.

### Conclusion:

Epidemiological and virological evidence indicates the patient likely acquired the infection through contact with a contaminated environment at the LPM stall. The absence of mammalian adaptation mutations and secondary cases suggests a low risk of sustained human-to-human transmission. Nevertheless, this case underscores the ongoing threat of zoonotic spillover and highlights the importance of integrated cross-sector surveillance, stringent environmental hygiene, and targeted health education on hand hygiene, particularly for young children. To mitigate future risks, we propose implementing an interdepartmental rapid-alert protocol to trigger enhanced environmental cleansing at retail outlets following upstream viral detections.

# Poster Presentations

27

## Prescribing Safety and Healthcare Costs in Type 2 Diabetes: A Territory-Wide Cohort Study of 4 Antidiabetic Contraindication Guidelines in Hong Kong (2013-2023)

**Ms. Ranrui Wu<sup>1</sup>**, Professor Desmond Y. H. YAP<sup>2</sup>, Professor Esther W.Y. CHAN<sup>3</sup>, Dr. Franco WT Cheng<sup>4</sup>, Professor David Makram Bishai<sup>1</sup>

<sup>1</sup>Division of Health Economics Policy and Management, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, <sup>2</sup>Department of Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, <sup>3</sup>Centre for Safe Medication Practice and Research, Department of Pharmacology and Pharmacy, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, <sup>4</sup>Department of Pharmacology and Pharmacy, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR

### Purpose:

To quantify prescriber adherence to 4 antidiabetic contraindication guidelines in Hong Kong's public health system over 11 years and to estimate associated cost differences using an active-comparator design.

### Methodology:

A retrospective cohort study used Clinical Data Analysis and Reporting System (CDARS) data from the Hong Kong Hospital Authority (2013-2023), including type 2 diabetes (T2D) patients aged  $\geq 35$  years. Four guidelines were assessed: metformin in severe renal impairment (Guideline 1a; estimated glomerular filtration rate [eGFR]  $< 30$  mL/min/1.73 m<sup>2</sup>), metformin in acute decompensated heart failure (Guideline 1b), metformin in acute kidney injury (AKI) (Guideline 1c), and thiazolidinediones (TZDs) in heart failure (Guideline 2). Annual adherence was modelled by generalised estimating equations (GEE). Cost associations used an active-comparator design with inverse probability of treatment weighting (IPTW) and covariate balance verified by standardised mean differences.

### Results:

A total of 2,779,081 patient-years were analysed. The 4 guidelines followed divergent trajectories determined by contraindication trigger type. Adherence to the laboratory-triggered renal guideline improved continuously (adjusted odds ratio [AOR] 2023 vs. 2013: 6.23, 95% confidence interval [CI] 4.92-7.89;  $P < 0.001$ ); age carried no independent effect. For the event-triggered guidelines, no durable improvement occurred: Guideline 1b showed no net adjusted change (AOR 0.94, 95% CI 0.75-1.18;  $P = 0.574$ ) and Guideline 1c worsened without recovery (AOR 0.66, 95% CI 0.46-0.96;  $P < 0.05$ ). Guideline 2 maintained near-universal adherence (97.8%) with a significant adjusted decline. Advancing age predicted adherence for the event-triggered guidelines (AOR per 10 years: 1.22, 1.12, and 1.38 for Guidelines 1b, 1c, and 2); male sex consistently attenuated this benefit. All 4 IPTW analyses achieved covariate balance (standardised mean difference  $< 0.10$ ). Adherent patients incurred higher health system costs across every guideline (range: +HK\$20,988 to +HK\$48,780; all  $P \leq 0.037$ ), with inpatient expenditure accounting for the majority of each difference.

### Conclusion:

Adherence was governed by contraindication trigger type. The laboratory-triggered renal guideline improved substantially, supported by enhanced eGFR reporting and formulary expansion with sodium-glucose cotransporter-2 (SGLT2) inhibitors; event-triggered guidelines did not durably improve. Cost differences reflected population severity rather than prescribing-attributable savings. Clinical decision support that surfaces acute, cross-setting diagnoses as reliably as laboratory values is the priority intervention.

# Poster Presentations



29

## Investigation of an Injury Incident Caused by Exposure to UV-C in a Public Dining Area

**Dr. Ka-wing Gary Ng<sup>1</sup>**, Mr. Ka-wo LAM<sup>1</sup>, Dr. See-lai Janet KWAN<sup>1</sup>, Dr. Tonny NG<sup>1</sup>, Dr. Ka-wing Albert AU<sup>1</sup>

<sup>1</sup>Communicable Disease Branch, Centre for Health Protection, Department of Health, Hong Kong SAR

### Background:

The Centre for Health Protection investigated two clusters of eye and skin symptoms among diners at a local food centre. The epidemiological investigation identified unintended exposure to UV-C radiation from an improperly installed device in the dining area.

### Methods:

We conducted structured telephone interviews with affected patrons and the venue manager to obtain exposure and symptom histories. We defined a case as those who developed eye or skin symptoms within 24 hours of dining at the venue. We carried out multidisciplinary environmental assessments in collaboration with the Electrical and Mechanical Services Department and the Food and Environmental Hygiene Department. UV-C exposure was measured by a calibrated UV-C meter (wavelength range: 220nm - 275nm; intensity range: 1  $\mu\text{W}/\text{cm}^2$  - 9999  $\mu\text{W}/\text{cm}^2$ ).

### Results:

We identified nine cases in the two clusters (4/14 and 5/7 patrons, respectively). Symptoms included eye pain (n=4), lacrimation (n=4), blurred vision (n=6), eye dryness (n=1), and skin erythema with pain (n=9). Only exposed body areas were affected. Symptom onset occurred 3.75 to 15 hours post-exposure (median: 9.5 hours). Food poisoning and chemical exposure was essentially ruled out. Both clusters had dined at the same table on separate occasions. A field investigation identified a wall-mounted device, intended for sterilization purposes but mistakenly installed for fly control, directly above the implicated table. Measured UV-C irradiance levels at the dining table ranged from 2 to 25  $\mu\text{W}/\text{cm}^2$  at distances of 2.5 and 1.3 metres from the UV device respectively, exceeding UV-C exposure limits. The device was immediately removed. Subsequent inspections of other locations serviced by the same contractor identified 3 additional improperly installed UV devices, all promptly removed.

### Conclusion:

This incident highlights how an improperly installed UV-C device in a public dining area can cause ocular and cutaneous injury. Proactive screening of other similar devices installed by the same contractor led to identification and removal of additional hazardous installations, preventing further public exposures.

# Poster Presentations

30

## Gender Differences in the Longitudinal Associations Between Internet Gaming Disorder Symptoms and Internalizing and Externalizing Behaviors Among Adolescents in Hong Kong

**Ms. Peiqi Song<sup>1</sup>**, Dr. Qian Li<sup>1</sup>, Dr. Xue Yang<sup>1</sup>

<sup>1</sup>The Chinese University of Hong Kong, Shatin, Hong Kong SAR

### Introduction:

Internet Gaming Disorder (IGD) has emerged as an important public health concern among adolescents. IGD frequently co-occurs with internalizing behaviors (IBs), including depressive symptoms and suicidal ideation, and externalizing behaviors (EBs) like problem behaviors. However, few studies have explored their longitudinal relationships simultaneously across genders. This study aimed to examine the bidirectional relationships among these variables among Hong Kong adolescents by gender.

### Methods:

A one-year two-wave longitudinal study was conducted among Hong Kong adolescents. A multi-group cross-lagged panel model (CLPM) was used to examine autoregressive and cross-lagged associations among IGD symptoms, depressive symptoms, suicidal ideation, and EBs across genders.

### Results:

A total of 7,494 adolescents were included in analyses (males: mean (SD) age = 14.31 (1.39) years; females: mean (SD) age = 14.31 (1.36) years; 46.63% male). The multi-group CLPM demonstrated good model fit (RMSEA < 0.06, SRMR < 0.08, CFI > 0.95, TLI > 0.90). Depressive symptoms were associated with later suicidal ideation among males ( $\beta = 0.15$ ,  $p < .001$ ) and females ( $\beta = 0.16$ ,  $p < .001$ ), with later EBs among males ( $\beta = 0.12$ ,  $p < .001$ ) and females ( $\beta = 0.10$ ,  $p < .001$ ), and with later IGD symptoms among males ( $\beta = 0.07$ ,  $p < .001$ ; Wald  $\chi^2 = 4.01$ ,  $p = .045$ ). Suicidal ideation was associated with later depressive symptoms among both males ( $\beta = 0.04$ ,  $p < .05$ ) and females ( $\beta = 0.05$ ,  $p < .05$ ). No significant longitudinal associations were observed from IGD symptoms to depressive symptoms, suicidal ideation, or EBs after controlling for autoregressive effects and covariance. EBs demonstrated stronger temporal stability among females than males ( $\beta = 0.32$  vs.  $0.18$ ; Wald  $\chi^2 = 9.41$ ,  $p = .002$ ).

### Conclusions:

The findings suggest that the longitudinal associations among these constructs were primarily explained by temporal stability, with limited cross-lagged effects after controlling for shared variance across variables. Depressive symptoms emerged as a central marker of broad psychological and behavioral problems. Prevention strategies may benefit from addressing emotional and behavioral difficulties rather than only focusing on IGD-related problems.

**Keywords:** Internet gaming disorder, Cross-lagged panel model, Internalizing behaviors, Externalizing behaviors, Adolescent

# Poster Presentations

31

## Within-Season Waning of Influenza Vaccine Effectiveness Against Influenza-Associated Hospitalization in Children in Hong Kong, 2015–2025: A Test-Negative Study

**Ms. Xuan Yu<sup>1</sup>**, Dr. So-Lun Lee<sup>2</sup>, Dr. Caitriona Murphy<sup>1</sup>, Prof. Benjamin Cowling<sup>1</sup>

<sup>1</sup>School of Public Health, The University of Hong Kong, Hong Kong SAR, <sup>2</sup>Department of Paediatrics and Adolescent Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR

### Purpose:

Influenza vaccine protection is generally thought to last less than one year; however, within-season decline in vaccine effectiveness (VE) varies by subtype, and the effect of prior-season vaccination on VE remains poorly understood. We aimed to characterise within-season VE waning against influenza-associated hospitalisation and assess the effect of prior-season vaccination history, leveraging year-round influenza activity in Hong Kong.

### Methodology:

In this test-negative study, children aged 1–17 years hospitalised with acute respiratory illness across three Hong Kong public hospitals (October 2015–September 2025) were enrolled. Influenza was confirmed by RT-PCR. VE was estimated by logistic regression adjusted for age, sex, hospital, and calendar time, with waning modelled using natural cubic splines and conditional logistic regression, stratified by prior-season vaccination history.

### Results:

Among the 33,991 children enrolled, 5,229 (15.4%) tested influenza-positive and 28,762 (84.6%) tested influenza-negative; 1,150 (22.0%) cases and 10,774 (37.5%) controls had been vaccinated. Influenza-related admissions occurred year-round, peaking December–March in most years. Overall VE was 58.9% (95% CI: 55.6–62.0), stable from October–January (66.1%) to February–May (64.9%), but declining substantially in June–September (43.0%). VE declined from 72.8% within 0.5–2 months of vaccination to 64.1% (2–4 months), 58.7% (4–6 months), and 47.0% (6–12 months), with consistent waning patterns across A(H1N1), A(H3N2), and B. Among children with prior-season vaccination, VE declined from 54.2% within 0.5–2 months of vaccination to 34.6% at 6–12 months; among those without prior-season vaccination, waning was minimal, with VE remaining above 60% beyond 6 months of vaccination.

### Conclusion:

Influenza VE waned significantly across all subtypes within the year following vaccination, with A(H3N2) declining most rapidly. Prior-season vaccination was associated with substantially reduced VE, suggesting repeated vaccination may diminish protection. These findings confirm the importance of annual vaccination while indicating the need for strategies to mitigate repeated vaccination effects and provide more durable protection in regions with persistent influenza activity.

# Poster Presentations

32

## Front-of-Package Added-Sugar Labels, a Simulated Price Cue, and Beverage Choices Among Adults in Hong Kong: A Randomised Controlled Trial

**Ms. Qianying Yue<sup>1</sup>**, Phd Chong Ka-chun<sup>1</sup>

<sup>1</sup>The Chinese University of Hong Kong, Hong Kong, Hong Kong SAR

### Purpose:

To evaluate whether front-of-package (FOP) added-sugar labels and a simulated tiered price-increase cue reduce sugar-sweetened beverage (SSB) selection among adults in Hong Kong.

### Methodology:

A single-session online RCT with a  $7 \times 2$  factorial design was conducted from April to May 2026. Adults aged 18 years or older were recruited through an online panel with age-group and sex quotas approximating the Hong Kong population. Participants were randomly assigned to 1 of 7 FOP label conditions—no label (control), Hong Kong low/no-sugar positive label, traffic-light label, black-octagon warning, text warning, text-and-graphic warning, or teaspoon label—crossed with regular prices or a simulated tiered price cue (no increase for low-sugar, 10% for medium-sugar, and 20% for high-sugar beverages, adapted from the United Kingdom Soft Drinks Industry Levy). Each participant selected 1 beverage from 15 real branded products. The primary outcome was SSB selection. Adjusted risk differences (RDs) were estimated by logistic regression with marginal standardisation. Caregivers of children aged 2–12 years completed an additional child-choice task.

### Results:

Among 2834 participants (mean age 49.9 years; 55.4% female), 37.4% of the control group selected an SSB. Any sugar label versus no label did not reduce SSB selection (adjusted RD,  $-1.84$  percentage points; 95% confidence interval [CI],  $-6.90$  to  $3.22$ ;  $P = 0.48$ ). No individual label comparison reached significance after Dunnett adjustment (all  $P \geq 0.53$ ). The price cue was also null (adjusted RD,  $-1.54$  percentage points; 95% CI,  $-5.03$  to  $1.94$ ;  $P = 0.39$ ). Among 538 caregiver–child dyads, SSB selection was similar for self-choice versus child-choice (39.6% versus 38.5%;  $P = 0.74$ ), but milk-category selection increased markedly (paired difference,  $26.58$  percentage points;  $P < 0.001$ ), with higher child-choice energy ( $+30.1$  kcal/package;  $P < 0.001$ ) and total-sugar density ( $+1.34$  g/100 mL;  $P < 0.001$ ).

### Conclusion:

FOP added-sugar labels and a simulated price cue did not detectably reduce adult SSB selection in this Hong Kong online choice setting. Caregivers changed beverage categories when choosing for children without reducing SSB selection, underscoring the need for community nutrition strategies that address broader perceptions of child-appropriate beverages.

# Poster Presentations

33

## Relative Preferences for Sugar Warning Labels, Icon Labels, and Price in Beverage Choice Among Adults in Hong Kong: A Discrete Choice Experiment

**Ms. Qianying Yue<sup>1</sup>**, PhD Chong Ka Chun<sup>1</sup>

<sup>1</sup>The Chinese University of Hong Kong, Hong Kong, Hong Kong SAR

### Purpose:

To quantify the relative importance of front-of-package (FOP) sugar warning labels, icon-based sugar labels, and price in shaping beverage choice among adults in Hong Kong.

### Methodology:

A cross-sectional, web-based discrete choice experiment (DCE) was conducted among 536 adults in Hong Kong, recruited through an online panel with age and sex quotas approximating the local population distribution. Each participant completed 12 choice tasks from a D-efficient fractional factorial design generated using Ngene software, selecting from 5 beverage alternatives (soft drink, sweetened tea, sweetened coffee, juice, and energy drink) and 1 opt-out option. Beverage alternatives varied by 4 attributes: price (3 levels), sugar content (low, medium, high), icon label (traffic-light versus teaspoon), and warning label (none, text warning, graphic warning). Warning labels were applied only to high-sugar beverages. The primary analysis used a design-consistent combination-variable conditional logit model in which sugar content and warning-label status were jointly parameterised as 5 feasible profiles. Relative importance, predicted probabilities, and subgroup heterogeneity were examined.

### Results:

The sugar-warning profile was the most influential attribute (relative importance 63.2%), followed by price (20.8%) and icon label (16.1%). Compared with high-sugar beverages without warning, high-sugar beverages with a text warning (odds ratio [OR] = 0.875,  $P = 0.047$ ) and a graphic warning (OR = 0.775,  $P < 0.001$ ) were less likely to be chosen. Low-sugar beverages were preferred over high-sugar beverages without warning (OR = 1.187,  $P < 0.001$ ). Higher price was associated with lower choice probability (OR = 0.976,  $P < 0.001$ ). The teaspoon icon was associated with lower selection than the traffic-light icon (OR = 0.895,  $P < 0.001$ ). In subgroup analyses, heterogeneity was more evident for purchase propensity and price sensitivity than for warning-label responsiveness; female respondents were more price-sensitive and less likely to choose high-sugar beverages.

### Conclusion:

Both text and graphic warning labels were associated with reduced preference for high-sugar beverages. Warning labels and pricing measures may serve as complementary strategies for reducing the attractiveness of high-sugar beverages in Hong Kong.

# Poster Presentations

34

## Integration of Dentistry and Oral & Maxillofacial Surgery Service at Public Healthcare System in Hong Kong: A System-Level Change Management Case Study

**Dr. Sheung Ming Chow<sup>1</sup>**, Dr. Wai Kuen Ching<sup>2</sup>, Dr. Alice Chan<sup>1</sup>

<sup>1</sup>Hospital Authority, Hong Kong SAR, <sup>2</sup>-, Hong Kong SAR

### Background:

Prior to 2024, hospital-based Dentistry and Oral & Maxillofacial Surgery (OMS) services in Hong Kong public hospitals were delivered separately by the Department of Health (DH) Hospital Dental Service (HDS) at seven hospitals and the Hospital Authority (HA) Dentistry & OMS service at six hospitals. Beyond the mandate of the 2024 Policy Address to integrate selected DH clinical services into HA, integration was also relevant to wider system problems, including fragmented service management, divergent service development priorities, and significant dental workforce shortages. The issues underlying the large-scale inter-organisational transfer of staff, services, facilities, and patients of its kind span risks of workforce, operations, finance, governance, clinical safety, and stakeholder relations.

### Objective:

To implement organisational integration of DH HDS into HA's Dentistry & OMS service while maintaining service continuity, and to evaluate early outcomes to inform subsequent clinical integration.

### Methodology:

From early 2024 to February 2026, a structured change programme was guided by Kotter's 8-Step Change Model, supported by various management tools including SWOT analysis, Power-Interest Grid stakeholder mapping, and Herzberg's Two-Factor Theory. Priority workstreams addressed manpower, including rank-to-rank transfer offers with broadly comparable remuneration packages and tailored one-off arrangements for individual concerns, open recruitment, and temporary secondments. Non-manpower workstreams included transfer of assets, contracts, medical records, IT functions, licensing, occupational safety and health, budget, and service organisation. Senior managements were involved to resolve impasses arising from DH-HA system differences. Evaluation was structured using the Donabedian framework, with service continuity assessed by clinic attendances.

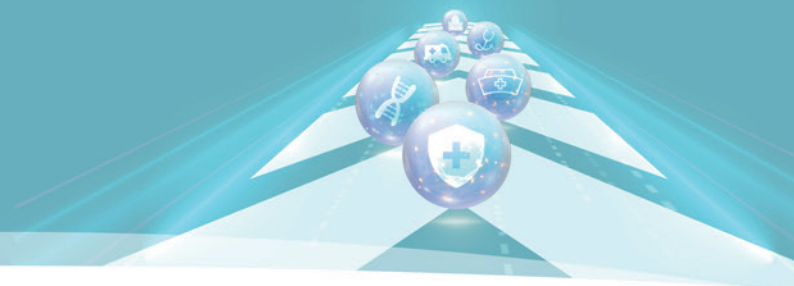
### Results:

HA Board approval was obtained on 27 March 2025, followed by a joint announcement on 15 December 2025 and service integration on 6 February 2026. Integration was implemented without major reported adverse events. Monthly attendances at all OMS & Dental clinics were maintained. Organisational and functional integration were achieved, while cluster-based service organisation and clinical coordination continue to be developed.

### Conclusion:

HDS integration into HA was delivered on schedule with preserved service throughput. Key success factors included stakeholder power sensitivity, tailored staff motivation strategies, and senior leadership intervention. Further work should focus on clinical integration, service organisation, workforce sustainability, and outcome evaluation.

# Poster Presentations



35

## T-2 toxins, HT-2 toxins and 4,15-diacetoxyscirpenol in Food

Ms. Iris FM Cheung<sup>1</sup>, Ms. Carole SK TAM<sup>1</sup>, Mr. Terence YY CHEUNG<sup>1</sup>, **Dr. Kin Hang Kung<sup>1</sup>**

<sup>1</sup>Centre for Food Safety, Food and Environmental Hygiene Department, Hong Kong SAR

### Purpose:

T-2, HT-2, and 4,15-diacetoxyscirpenol (DAS) are toxic fungal secondary metabolites that are produced by the *Fusarium* species which grow and invade crops under cool, moist conditions. These mycotoxins are commonly found in cereals and their derived products. Although not classified as a carcinogen for humans, animal studies suggested these mycotoxins could cause immunotoxic and haematotoxic effects following oral exposure. In recent years, the Joint Food and Agriculture Organization/World Health Organization Expert Committee on Food Additives (JECFA) established a Group tolerable daily intake (TDI) of 25 nanograms/kilograms body weight (ng/kg bw) for T-2, HT-2 and DAS, alone or in combination.

This study aims to examine the levels of these mycotoxins in selected food items available at local markets, estimate the total dietary exposure for local adult and younger populations, and assess the associated potential health risks.

### Methodology:

A total of 327 samples (including cereal grains, breakfast cereal, bakery and pastry items and vegetable oils etc.) were collected from local retailers in 2023 for analysis of T-2, HT-2 and DAS by the Food Research Laboratory (FRL) of the Centre for Food Safety (CFS).

### Results:

The sum of T-2, HT-2 and DAS ranged from not detected to 23.718 micrograms/kg. Regarding dietary exposure, the upper bound estimates for adults were 0.8455 ng/kg bw/day (3.38% of Group TDI) for average consumers and 1.2806 ng/kg bw/day (5.12% of Group TDI) for high consumers. For the younger population, the exposure estimates were 1.4703 ng/kg bw/day (5.88% of Group TDI) for average consumers and 2.4047 ng/kg bw/day (9.62% of Group TDI) for high consumers (90th percentile).

### Conclusion:

The estimated dietary exposures to the sum of T-2, HT-2, and DAS for both average and high consumers in the local adult and younger populations remain well below the group TDI established by JECFA and thus unlikely to pose health risks.

The public is recommended to maintain a balanced and varied diet, purchase products from reliable sources, and store them in a cool, dry place to prevent fungal growth. The food trade should also implement proper storage practices to prevent mold growth on food commodities.

# Poster Presentations



36

## Occupational Exposure and Antimicrobial Resistance Burden Assessments: A Metagenomics Investigation of Poultry Market Worker

**Ms. Congying Song**<sup>1</sup>

<sup>1</sup>The Chinese University of Hong Kong, Hong Kong SAR

### Background:

Antimicrobial resistance (AMR) is a critical global health challenge, leading to increased morbidity, mortality, and healthcare expenditure worldwide. The impact is particularly severe in low- and middle-income countries (LMICs) such as Indonesia, where the poultry industry is a primary protein source and a potential hotspot for the transmission of multidrug-resistant bacteria. Occupational exposure in poultry markets may increase workers' risk of acquiring and transmitting resistant pathogens.

### Objectives:

This study aims to identify and compare the diversity and abundance of AMR genes, including the carbapenemase gene carriage, in faecal samples of poultry market workers and non-workers using metagenomic next-generation sequencing (mNGS). Additionally, we explored the influence of job roles and personal protective equipment (PPE) usage on AMR gene profiles among workers.

### Methods:

A cross-sectional study recruited 280 participants from three poultry markets in Indonesia. Baseline demographic and occupational exposure data were collected via structured questionnaires. Stool samples were analyzed using mNGS.

### Result:

No statistically significant differences between poultry workers and non-workers were observed in overall AMR gene diversity or carbapenemase gene carriage. However, poultry workers exhibited a higher abundance of chloramphenicol-resistant genes. High Polymyxin-resistant gene abundance was observed in non-workers.

### Conclusion:

This study provides a comprehensive metagenomic assessment of occupational AMR risk in Indonesian poultry markets. Findings highlight the complexity of AMR transmission pathways and underscore the need for tailored interventions and continued surveillance in LMICs to mitigate occupational and community-wide AMR risks.

# Poster Presentations

37

## Association between Emergency Department Admission and Medication Communication Experience Among Hospitalised Patients: Findings from Hong Kong's Inpatient Experience Survey

**Prof. Eliza Lai-Yi Wong<sup>1</sup>**, Mr. Jonathan Chun-Hei Ma<sup>1</sup>, Ms. Annie Wai-Ling Cheung<sup>1</sup>, Professor Eng-Kiong Yeoh<sup>1</sup>

<sup>1</sup>The Chinese University of Hong Kong, Hong Kong SAR

### Purpose:

The Accident and Emergency (A&E) department is a critical transition point in the patient journey, where high patient volumes and complex clinical needs can challenge effective communication. Communication regarding medications is particularly important for ensuring continuity of care between care settings. This study examined the association between inpatient admission through A&E and patients' experiences of medication-related communication.

### Methodology:

Data were collected from two rounds of the territory-wide Inpatient Experience Survey conducted in 2019 and 2023. Respondents were randomly selected from patients discharged from public hospitals under the Hong Kong Hospital Authority. Patient experiences were assessed using the locally validated Hong Kong Inpatient Experience Questionnaire (HKIEQ), which measures experiences across different stages of the inpatient journey. This study focused on medication-related communication, assessed using four items relating to: 1) explanations on medication use, 2) information on medication effects, 3) information on potential side effects, and 4) advice on warning signs requiring medical attention. Responses were rated on four-point Likert scales and converted to scores ranging from 0 to 10, with higher scores indicating a better patient experience. An overall medication communication score was calculated by averaging the four items. A multiple regression model was performed to examine the association between admission source and medication communication experience.

### Results:

A total of 19,728 responses were collected. After excluding 1,098 respondents who were not prescribed medication at discharge, 18,630 respondents were included in the analysis. Of these, 11,481 (61.6%) were admitted through the A&E department. Compared with patients admitted through other sources, those admitted through A&E reported less positive experiences of medication-related communication, with a mean score of 7.88 (SD=2.69) versus 8.03 (SD=2.94) respectively. After adjustment for potential confounders, admission through A&E remained significantly associated with a lower medication communication score ( $\beta = -0.172$ ,  $p < 0.001$ ).

### Conclusion:

Patients admitted through A&E reported less favourable experiences of medication-related communication. The findings suggest potential communication challenges during transitions from A&E to inpatient care, which may affect the continuity of medication-related information after discharge. Further studies are warranted to develop targeted strategies to strengthen communication transitions between A&E and inpatient settings.

# Poster Presentations



39

## Age-Standardized Comorbidity Prevalence across Total, Diabetic, and Hypertensive Populations in Hong Kong: A District Comparison

Dr. Jingjing Zhou<sup>1</sup>, **Ms. Zhenyuan Liu<sup>1</sup>**, Mr. Yuchen Cai<sup>1</sup>, Ms. Qiaohui Wu<sup>1</sup>, Prof. David Bishai<sup>1</sup>

<sup>1</sup>School of Public Health, The University of Hong Kong, Hong Kong SAR

### Purpose:

To estimate the age-standardized prevalence rates (ASPR) of hypertension (HTN), Type 2 diabetes mellitus (T2DM), and their complications across Hong Kong's eighteen districts, evaluate inter-district disparities, and rank districts by disease burden to inform place-based health planning.

### Methodology:

We analyzed chronic disease prevalence among adults aged  $\geq 35$  years using Hong Kong Hospital Authority (HA) electronic health records. Diseases were identified from a multi-source database using ICD-9 and ICPC codes and disease flags, with sample weights based on HA attendance. Territory-wide, population-based data covering all eighteen districts from 2014 to 2023 were used for time-trend analysis. ASPRs were calculated per district for the total, HTN, and T2DM populations, standardized to the WHO World Standard Population. Inter-district disparities were assessed using Cochran's Q test ( $P < 0.05$ ), and districts were ranked by ASPR to identify high- and low-burden areas.

### Results:

A total of 1,756,521 patients (52.71% female) contributed 9,906,729 patient-years from 2014 to 2023. Substantial inter-district variation and increasing trends were observed. In 2023, the total-population weighted ASPR for HTN varied by 27.3%, from 46,701 (95% CI: 45,691-47,711) per 100,000 in Tsuen Wan to 59,445 (58,759-60,130) in Yuen Long; T2DM ranged from 20,464 (Tsuen Wan, 95% CI: 19,803-21,124) to 28,275 (Yuen Long, 95% CI: 27,792-28,758) per 100,000. All diseases showed significant district disparities across the total, HTN, and T2DM cohorts (all  $P < 0.05$ ). Cochran's Q test demonstrated statistically significant disparities across districts and showed no convergence through the period.

### Conclusion:

Significant geographic disparities in HTN, T2DM, and their complications exist across Hong Kong's eighteen districts, highlighting the need for district-specific public health strategies, equitable primary care resource allocation, and targeted chronic disease prevention and management programs in high-burden areas.

### Keywords:

Age-Standardized Prevalence Rate, complications, diabetes, hypertension, district disparities, Cochran's Q test

# Poster Presentations

41

## Estimating the severity and impact of influenza in the post-COVID-19 pandemic period in Hong Kong using Bayesian evidence synthesis

**Dr. Yuen Ting Jessica Wong<sup>1</sup>**, Mr. Justin K. Cheung<sup>1</sup>, Dr. Dennis K.M. Ip<sup>1</sup>, Prof. Peng Wu<sup>1</sup>, Prof. Benjamin J. Cowling<sup>1</sup>

<sup>1</sup>WHO Collaborating Centre for Infectious Disease Epidemiology and Control, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong Special Administrative Region, China

### Background:

Human influenza viruses cause substantial morbidity and mortality burden in Hong Kong and worldwide every year. Previous studies have employed statistical methods to estimate the disease burden and severity associated with influenza virus infections. However, studies on post-pandemic disease burden have been limited. We investigated whether the COVID-19 pandemic has affected the severity and disease burden associated with influenza.

### Methods:

We applied linear regression models to mortality and hospitalization rates in Hong Kong from 1998 through 2024 in a Bayesian framework. Influenza-associated excess mortality rates were estimated as the difference between the predicted mortality rates based on the observed covariates and the predicted baseline mortality rates in the absence of reported influenza activity, and similarly for excess hospitalization rates. The ratios of excess respiratory mortality to hospitalization among  $\geq 65$  years have also been estimated to measure the severity of influenza virus infections among older adults in Hong Kong.

### Results:

Our study estimated that influenza was associated with an excess respiratory mortality rate of 7.3 (95% CrI: 6.4, 8.1) and hospitalization rate of 200 (95% CrI: 190, 210) per 100,000 person-years before the pandemic. The same rates were reduced to 3.5 (95% CrI: 3.0, 4.0) and 85 (95% CrI: 79, 91) per 100,000 person-years during the post-pandemic period. The disease burden estimates were highest when associated with influenza A(H3N2) and influenza A(H1N1) respectively before and after the pandemic, particularly among  $\geq 80$  years. While estimates of excess respiratory mortality increased with age, excess respiratory hospitalization exhibited a U-shaped trend. The ratio of excess respiratory death to hospitalization among  $\geq 65$  years was highest when associated with influenza A(H1N1) across both study periods.

### Conclusions:

Influenza continues to be associated with considerable disease burden and severity in Hong Kong after the pandemic, particularly among young children and older adults. These results may help inform public health measures and pandemic preparedness during post-pandemic influenza seasons.

# Poster Presentations



42

## The effectiveness of school measures and closure in mitigating the spread of influenza and COVID-19, and implications for the next influenza pandemic

Dr. Jessica Y. Wong<sup>1</sup>, **Mr. Justin Cheung**<sup>1</sup>, Dr. Yanmin Xie<sup>1</sup>, Mr. Mingwei Li<sup>1</sup>, Dr. Dongxuan Chen<sup>1</sup>, Dr. Caitriona Murphy<sup>1</sup>, Dr. Min W. Fong<sup>1</sup>, Ms. Chloe Lee<sup>1</sup>, Prof. Benjamin J. Cowling<sup>1</sup>

<sup>1</sup>WHO Collaborating Centre for Infectious Disease Epidemiology and Control, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong Special Administrative Region, China

### Background:

Schools are generally associated with higher risks of influenza transmission. As the COVID-19 pandemic progressed, schools reopened with school measures implemented to support a safe and healthy learning environment. Despite a clear rationale for school closure, evidence from the current literature is inconclusive. Similarly, evidence on school measures was limited since they were rarely adopted before the COVID-19 pandemic. We aimed to review the available evidence on school closure and measures.

### Methods:

We conducted separate systematic reviews to evaluate the available evidence on the effectiveness of school closure or reopening and school measures in reducing the influenza and SARS-CoV-2 transmission in the community. For school closure, we have used our previous review as a starting point and searched for additional literature. Relevant articles from PubMed, Embase, MEDLINE and CENTRAL published between 1 January 2020 and 5 March 2026 were screened. We only considered observational studies and studies based on natural experiments, and excluded simulation studies in our reviews since data in these studies were hypothetical and derived based on assumptions that could be challenging to validate.

### Results:

Most of the included articles assessed the impact of school closure or school measures on SARS-CoV-2 transmission. Current evidence demonstrated that implementing school closures shortly after the outbreak was associated with a smaller effective reproduction number ( $R_t$ ). A higher reduction was observed when it was implemented in combination with other interventions, and similarly for other outcomes such as mortality rates and case incidence. In contrast,  $R_t$  increased when schools partially reopened, and further increases were identified when social distancing measures were lifted and schools fully reopened. Physical distancing measures and face masks were commonly adopted in schools. However, our review found limited empirical data on the effectiveness of school measures in reducing transmission.

### Conclusions:

Our review highlights the importance of timely and concurrent implementation of non-pharmaceutical measures in reducing the transmission of seasonal influenza viruses and SARS-CoV-2 in the community. Addressing knowledge gaps originating from a dearth of data on the effectiveness of school measures remains a priority to optimize the impact of non-pharmaceutical measures on curbing transmission when schools remain open.

# Poster Presentations

43

## A Decade of “Catching it Early”: Colorectal Cancer Screening Programme (CRCSP)

Dr. Yung Kiu Rachel Chen<sup>1</sup>, **Dr. Ka Chun Cheng<sup>1</sup>**, Dr. Geeta Sharma<sup>1</sup>, Dr. Anne Chee<sup>1</sup>

<sup>1</sup>Non-Communicable Disease Branch, Department of Health, Hong Kong SAR, China

### Background:

Colorectal cancer (CRC) is one of the commonest and deadliest cancer in Hong Kong. Piloted in 2016, regularised in 2018, and fully implemented in 2020, the CRCSP provides regular government-subsidised screening to asymptomatic average-risk Hong Kong residents aged 50-75 for early detection and treatment to reduce CRC incidence, improve survival rates, and reduce disease burden.

### Screening Flow:

Participants are assessed by an enrolled Primary Care Doctor (PCD) at the First Consultation and receive two fecal immunochemical test (FIT) tubes to collect specimen at home. If the FIT result is positive, a Second Consultation will be arranged for referral to an enrolled Colonoscopy Specialist (CS) to receive subsidised colonoscopy examination. If the FIT result is negative, the participant should attend rescreening biennially.

### Key strengths:

An Evaluation Study confirmed that CRCSP reduces CRC incidence, is cost-effective, improves equitable screening service utilisation, without increasing overall healthcare manpower demand.

Service network: Supported by >1,200 PCDs, around 260 CSs, and >60 Specimen Collection Points.

“Stage migration”: Around 52% of CRC cases diagnosed through CRCSP belonged to earlier stages (Stage II or below), compared to 35% in the general population.

Major outcome statistics: Among the >610,000 CRCSP participants, around 50,000 adenoma cases and around 4,000 CRC cases were diagnosed. Median waiting time from referral to colonoscopy was 17 days.

Decreasing incidence and mortality: Over the past decade, the age-standardised incidence rate (ASIR) and mortality rate (ASMR) of CRC of both sexes decreased. The average annual percentage change (AAPC) for ASIR of CRC in male and female were -1.9% and -1.8% respectively (2014-2023), while that for ASMR were -1.2% and -1.5% respectively (2015-2024).

### Conclusion:

The CRCSP has proven highly effective in combating CRC by establishing a convenient and affordable screening pathway backed by an accessible network of healthcare professionals. “Catching it early” is no longer a slogan but a reality with tangible output.

We would like to thank the public and healthcare professionals for their proactive participation, enabling prevention, early detection and treatment of CRC. The success benefits individuals and provides relief for healthcare services alleviating social and economic burdens in the long run.

# Poster Presentations

45

## Epidemiology of pediatric hospitalizations associated with influenza A, B and C in Hong Kong

**Ms. Yanlin Cao**<sup>1</sup>, Mike Kwan<sup>2</sup>, Dr. Caitriona Murphy<sup>1</sup>, Eunice Chan<sup>3</sup>, Joshua Wong<sup>2</sup>, Malik Peiris<sup>1,4</sup>, Peng Wu<sup>1</sup>, Benjamin Cowling<sup>1</sup>, So-Lun Lee<sup>3</sup>

<sup>1</sup>World Health Organization Collaborating Centre for Infectious Disease Epidemiology and Control, School of Public Health, The University of Hong Kong, Hong Kong, Hong Kong Special Administrative Region, China, <sup>2</sup>Department of Paediatrics and Adolescent Medicine, Princess Margaret Hospital, Hong Kong, Hong Kong Special Administrative Region, China, <sup>3</sup>Department of Paediatrics and Adolescent Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong, Hong Kong Special Administrative Region, China, <sup>4</sup>Centre for Immunology & Infection, Hong Kong Science and Technology Park, New Territories, Hong Kong, Hong Kong Special Administrative Region, China

### Purpose:

To characterize the epidemiology and hospitalization burden of pediatric influenza C virus infections in Hong Kong, assess co-detections with other respiratory pathogens, and explore the effectiveness of seasonal influenza vaccination against influenza C-associated hospitalizations in comparison with influenza A and B.

### Methods:

We analyzed laboratory-confirmed pediatric influenza hospitalizations in Hong Kong from October 2015 to March 2025. Respiratory specimens were tested by multiplex RT-PCR for influenza A, B, and C viruses and other respiratory pathogens. We described the seasonality, age distribution, co-detections, hospitalization burden, and explored effectiveness of seasonal influenza vaccines against influenza C associated hospital admissions in comparison with seasonal influenza A and B viruses using the test-negative analysis.

### Results:

Of a total of 39,146 admissions, 356 (0.9%) tested positive for influenza C, and 4,554 (11.6%) and 1,600 (4.1%) for influenza A and B, respectively. A high proportion of ICV cases (64.3%) had at least one co-detected respiratory pathogen, compared with influenza A (18.4%) and influenza B (15.3%). Seasonal influenza vaccination was not effective against influenza C hospitalization (vaccine effectiveness: -6.2%, 95% confidence interval: -44.6%-22.0%) but effective for influenza A (58.2%, 54.3%-61.8%) and influenza B (68.7%, 63.0%-73.5%).

**Conclusions:** Our study provided important epidemiologic information on influenza C infections in pediatric patients. The estimated null protection against influenza C from seasonal influenza vaccination implied the potential immunological relationship between seasonal influenza viruses and underscored the importance of continuous surveillance on influenza viruses.

# Poster Presentations

47

## Policy Barriers and Synergistic Pathways for TCM Products Integration in the Guangdong-Hong Kong-Macao Greater Bay Area

**Dr. Li Liang<sup>1</sup>**, Prof. Chi Tim Hung<sup>1</sup>

<sup>1</sup>JC School of Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR

### Purpose:

In this study, we aimed to identify policy barriers and potential synergies for regulatory integration of Traditional Chinese Medicine (TCM) products (raw herbs, herbal extract granules, proprietary Chinese medicines, and hospital preparations), across the Guangdong Hong Kong Macao Greater Bay Area (GBA), from a public health perspective, in order to provide evidence-based policy recommendations and thus to improve TCM product availability for patient care.

### Methodology:

A sequential study of mixed-methods design was used. First, a comparative document analysis was conducted on the regulatory frameworks of TCM products in the three jurisdictions. Second, seven key stakeholders were interviewed through a semi-structured approach. Third, a questionnaire survey was conducted on 200 TCM practitioners (Guangdong n=70, Hong Kong n=100, Macao n=30). Thematic analysis was conducted for qualitative interviews; descriptive statistics and Fisher-Freeman tests were used for quantitative analysis.

### Results:

Document analysis showed three separate registration systems of TCM products with no mutual recognition. Interviews identified regulatory divergence as the biggest barrier. The survey affirmed the largest constraint as "different registration laws/standards" (67.5%). More than 85% supported unified safety standards for high-risk herbs. Although 56% of Hong Kong practitioners knew that single herbal extract granules do not require registration, 90% of them agreed allowing Mainland-standard granules into Hong Kong. Support for a hospital preparation mutual recognition list exceeded 90%. Quality control (42.5%) and safety evidence (37%) were perceived as the most important criteria for gaining trust of the public.

### Conclusion:

The major barrier to integration is regulatory divergence. Practitioners strongly support practical actions, such as a mutual recognition list for proprietary Chinese medicines, simplified filing for single herbal extract granules in Hong Kong, unified safety standards for high-risk herbs, and a simplified cross-border structure for hospital preparations so that more products can be available to treat patients.

# Poster Presentations

49

## Impact of a Ventilation Retrofitting Programme on Respiratory Virus Transmission in a Residential Care Home for the Elderly

**Dr. Min Whui Fong**<sup>1</sup>, Mr. Han Xiao<sup>2</sup>, Dr Samuel M.S. Cheng<sup>1</sup>, Dr. Wei Jia<sup>2</sup>, Dr. Eunice Y.C. Shiu<sup>1</sup>, Prof. Dennis K.M. Ip<sup>1</sup>, Prof. Yuguo Li<sup>2</sup>, Prof. Benjamin J. Cowling<sup>1</sup>

<sup>1</sup>WHO Collaborating Centre for Infectious Disease Epidemiology and Control, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, <sup>2</sup>Department of Mechanical Engineering, Faculty of Engineering, The University of Hong Kong, Hong Kong SAR

### Purpose:

Increasing ventilation may reduce respiratory virus transmission via dilution of contagious particles in the air, but empirical evidence remains limited. Taking advantage of a natural experiment, we assessed the impact of retrofitting the existing HVAC system on influenza and SARS-CoV-2 incidence and related outcomes in an elderly home in Hong Kong.

### Methods:

This observational study was conducted at a 300-bed home in Hong Kong from January 2024-December 2025. All residents residing at the facility during the study period were followed (n=357). Ventilation parameters (CO<sub>2</sub> concentration and particulate matter [PM]) were monitored using custom-built sensor units installed throughout the facility. Clinical data collected included cause-specific hospitalizations, antiviral usage, and upper respiratory tract infection outbreaks. Nasal swabs were systematically collected from a subset of residents for laboratory-confirmed infections via PCR tests. Outcomes during the pre- and post-retrofitting periods (January-June 2024 versus January-June 2025) were compared.

### Results:

Post-retrofitting, PM<sub>2.5</sub> concentration in wards decreased by 40-55% (P95 -5µg/m<sup>3</sup>, 95% CI -6.16 to -3.67). CO<sub>2</sub> concentration showed a marginal increase within acceptable ranges (P95 +28 ppm, 95% CI 10-46 ppm). Ventilation performance substantially improved in common areas, bathrooms, and some wards, but not in corridors. The incidence of infections was significantly lower post-retrofitting, with adjusted incidence rate ratios (IRR) 0.24 (95% CI 0.13-0.44) for influenza and 0.62 (95% CI 0.44-0.87) for SARS-CoV-2. Influenza hospitalisations showed significant decline post-retrofitting (IRR 0.27, 95% CI 0.11-0.63). Hospitalisation rates were also lower for SARS-CoV-2 (IRR 0.75, 95% CI 0.42-1.33), other respiratory (IRR 0.92, 95% CI 0.58-1.46), and non-respiratory causes (IRR 0.78, 95% CI 0.6-1.02).

### Conclusion:

A ventilation retrofitting programme in an elderly home was associated with improved steady-state filtration efficiency, ventilation performance, and lower incidence rates for influenza and SARS-CoV-2. These findings support the potential for ventilation upgrades to reduce respiratory virus transmission in institutional settings.

# Poster Presentations

50

## Disparity in the evidence for the effectiveness of PHSMs during influenza and COVID-19 pandemics

Dr. Wey Wen Lim<sup>1</sup>, **Ms. Jiatong Sun<sup>1</sup>**, Dr. Vivien WM Tsui<sup>2</sup>, Dr. Adrian Lam<sup>1</sup>, Dr. Qiaoling Tu<sup>1</sup>, Dr. Caitriona Murphy<sup>1</sup>, Dr. Jessica Y Wong<sup>1</sup>, Dr. Dongxuan Chen<sup>1</sup>, Dr. Yanmy Xie<sup>1</sup>, Dr. Mingwei Li<sup>1</sup>, Dr. Hualei Xin<sup>1</sup>, Dr. Huizhi Gao<sup>1</sup>, Dr. Min Whui Fong<sup>1</sup>, Dr. Eunice YC Shiu<sup>1</sup>, Prof. Benjamin J Cowling<sup>1</sup>

<sup>1</sup>WHO Collaborating Centre for Infectious Disease Epidemiology and Control, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong Special Administrative Region, China, <sup>2</sup>School of Clinical Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong Special Administrative Region, China

### Background:

Public health and social measures (PHSMs) are important for preventing and mitigating epidemics and pandemics caused by respiratory viruses such as influenza and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), particularly when effective treatments and vaccines are unavailable for an emerging pathogen. Various PHSMs were implemented during the COVID-19 pandemic globally to reduce SARS-CoV-2 transmission. However, the effectiveness of these measures varied across jurisdictions, and the socioeconomic impact of prolonged implementation of some of these measures varied across settings. This highlighted the need to assess the availability of evidence for PHSM effectiveness in diverse resource and sociocultural settings, as the current body of literature on PHSM effectiveness were generated from high-income nations within well-resourced settings. This study aimed to describe the socioeconomic contexts where currently available evidence of PHSM effectiveness was generated.

### Methods:

We systematically searched MEDLINE, PubMed, EMBASE, and the Cochrane Library for published studies evaluating the effectiveness of one or more PHSMs against influenza or COVID-19. Studies were categorized by PHSM type, and study locations were classified according to the World Bank income classification.

### Results:

We identified 415 studies evaluating the effectiveness of one or more PHSMs in controlling influenza (145 studies, 34.9%) and COVID-19 (266 studies, 64.1%) epidemics and pandemics. Overall, most studies (230 studies, 55.4%) were conducted in high-income countries. Among individual countries, the United States contributed the largest number of studies ( $n = 92$ ), followed by China ( $n = 25$ ) and the United Kingdom ( $n = 24$ ). Evidence from upper-middle-income countries (35 studies) primarily focused on school closures, quarantine, travel restrictions, isolation, mass testing, and stay-at-home measures. In contrast, evidence from lower-middle-income (19 studies) and low-income countries (4 studies) remained limited, with school closures being the most studied PHSM. Although evidence from resource-limited settings was scarce, many multi-country studies on community-wide and travel-related measures (102 studies) included observations from these regions.

### Conclusion:

Most evidence on PHSM effectiveness originated from high-income settings, where infrastructure and technology may mitigate their unintended consequences. Further evaluation of PHSM effectiveness and cost-effectiveness in resource-limited settings is needed to balance immediate health benefits with longer-term socioeconomic impacts.

# Poster Presentations

51

## Changes in the Population-Level Burden of Symptomatic SARS-CoV-2 Episodes Across the Omicron Era Among Older Adults in Hong Kong, 2022-2025

**Mr. Xuanrui Zhang<sup>1</sup>**, Dr. Yiu Chung Lau<sup>1</sup>, Dr. Samuel Cheng<sup>1</sup>, Ms. Yuyun Chen<sup>1</sup>, Prof. Dennis Ip<sup>1</sup>, Prof. Malik Peiris<sup>1,2,3</sup>, Prof. Nancy Leung<sup>1</sup>, Prof. Benjamin Cowling<sup>1</sup>

<sup>1</sup>WHO Collaborating Centre for Infectious Disease Epidemiology and Control, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Pokfulam, Hong Kong SAR, <sup>2</sup>HKU-Pasteur Research Pole, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, <sup>3</sup>Centre for Immunology & Infection, Hong Kong Science and Technology Park, New Territories, Hong Kong SAR

### Purpose:

Studies of COVID-19 burden have focused on hospitalization and mortality, whereas symptom-profile studies do not quantify population-level infection burden. We compared population-level occurrence, severity, duration, and functional consequences of symptomatic SARS-CoV-2 infections across Omicron epidemic waves in Hong Kong.

### Methods:

We followed community-dwelling older adults from Jan 1, 2022, to Nov 1, 2025, with weekly symptom surveillance during Waves 5–10; earlier waves were small and pre-Omicron, with less than 1% population seropositivity by the end of Wave 4. Only symptomatic episodes confirmed by RAT or PCR were included, with 90-day re-entry after each episode. Outcomes were symptomatic infection incidence; infections with at least one severe symptom; symptomatic episode days; illness-related activity loss equivalent days (duration × proportion of usual activity lost); and illness-related days in bed. Poisson models with person-time offsets were weighted to the Hong Kong population using corresponding sex and age group distributions for each semiannual follow-up period.

### Results:

Among 1205 participants aged 69–87 years at enrolment, 906 symptomatic episodes occurred over 3863.5 person-years. Compared with Wave 5, symptomatic infection incidence declined through Waves 6–10: rate ratios were 0.79 (95% CI 0.63–0.98), 0.69 (0.53–0.89), 0.54 (0.40–0.72), 0.26 (0.17–0.39), and 0.22 (0.15–0.31), respectively. Severe-symptom episode rates did not differ by wave. Symptomatic episode-day burden was lower in Waves 8–10, and activity-loss and bed-day burdens in Waves 9–10. A 10% replacement of BA.2 with BA.5 was associated with higher infection incidence (1.03, 1.01–1.06) and activity-loss burden (1.05, 1.00–1.10). Replacement with XBB, JN.1, KP.2, or NB.1.8.1 was associated with lower incidence; KP.2 and NB.1.8.1 were also associated with lower episode-day and functional burdens. XDV was associated with a higher severe symptom episode ratio (1.28, 1.11–1.47). Prior infection within 91–180 days conferred 69% protection against symptomatic infection (95% CI 52–80); recent vaccination alone was not significantly associated with burden reduction.

### Conclusion:

Symptomatic infection incidence declined more consistently than severe symptom, episode-day, or functional burdens. Replacement of BA.2 by KP.2 or NB.1.8.1 was associated with lower infection and functional burden, whereas BA.5 or XDV replacement was associated with higher burden in specific dimensions. Recent prior infection remained associated with lower burden.

# Poster Presentations



52

## Unraveling the impact of non-pharmaceutical interventions on the pathogen mutation dynamics: a multi-scale modeling study

**Mr. Jiaqi Chen<sup>1</sup>**, Mr. Dong Wang<sup>2</sup>, Prof. Peng Wu<sup>1</sup>, Prof. Benjamin J Cowling<sup>1</sup>, Prof. Sheikh Taslim Ali<sup>1</sup>

<sup>1</sup>WHO Collaborating Centre for Infectious Disease Epidemiology and Control, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, China., Hong Kong, China,

<sup>2</sup>Westlake University, Hangzhou, China

### Background & aims of study:

Human behavior significantly influences the evolutionary trajectory of pathogens. During pandemics, the global implementation of non-pharmaceutical interventions (NPIs) has impacted the mutation direction of SARS-CoV-2. However, previous studies often overlooked the influence of these large-scale interventions on pathogen mutations under such cross-scaled characteristics. We aimed to explore the impacts of NPIs on SARS-CoV-2 mutation, and to assess its potential mechanism in modulating pathogen mutation dynamics.

### Methods and Results:

We developed a cross-scale semi-mechanistic hierarchical Bayesian model using SARS-CoV-2 as a case study. This model revealed the impact of NPIs on pathogen evolution by leveraging a comprehensive dataset comprising millions of records, including Human behavior, serological, genetic, and syndromic surveillance data. In the large scale dynamics, our model integrated with a semi-mechanistic Bayesian hierarchical model, while a discrete viral kinetics (mechanistic) model is employed to assimilate microevolution of pathogens. We assessed 20 NPIs during Europe's second COVID-19 wave, identifying strict mask mandates, school closures, and bar shutdowns as key to effective control. Mutations such as D614G, N570Y, P681H, and A570D were found to significantly influence SARS-CoV-2 evolution. We identified a counterintuitive phenomenon: Specifically, below a country-specific threshold,, NPIs suppress the mutation of SARS-CoV-2, however, once this threshold is exceeded, NPIs promote the mutation of SARS-CoV-2. In the UK, for example, a 30% reduction in infections, or reducing NPIs by over 50% without increasing infections, would have lowered the probability of Variant of Concern (VOC) emergence during Europe's second wave by more than 12%. Therefore, NPIs found to be a significant driver for the evolutionary mutations, such as the emergence of SARS-CoV-2 Variants of Concern (VOCs).

### Implications:

We could develop a novel cross-scale framework that provides a new methodological approach to better understand the coupling mechanisms and interactions across different scales of epidemic transmission. The findings offer actionable insights for optimizing NPIs to minimize both transmission and the evolutionary risk of new variants. The framework enables early risk assessment of variant emergence and supports the design of adaptive intervention strategies that account for pathogen evolution under policy pressure.

# Poster Presentations

54

## Is clinical governance embedded in healthcare systems? a scoping review of global implementation and outcomes

**Ms. Lisha Huang<sup>1</sup>**, Mr. Shihao Zhou<sup>1</sup>, Professor Chi-Tim Hung<sup>1</sup>

<sup>1</sup>The Jockey Club School of Public Health and Primary Care, The Chinese University of Hong Kong, Sha Tin, Hong Kong SAR, China

### Purpose:

Clinical governance (CG) is a cornerstone mechanism for assuring quality and patient safety in healthcare systems. However, evidence on how CG is delivered and what it achieves remains limited. This review aimed to synthesize global findings on the implementation and outcomes of CG across diverse healthcare settings.

### Methodology:

A systematic search was conducted across six English databases, including ProQuest, PubMed, Embase, CINAHL, Scopus, and PsycINFO, from inception to April 2026, following Joanna Briggs Institute (JBI) methodology and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines. Grey literature was additionally searched through the National Health Service (NHS), the Australian Commission on Safety and Quality in Health Care (ACSQHC), and Google Scholar. Empirical studies reporting on the outcomes of CG implementation in healthcare settings, published in English, were eligible for inclusion.

### Results:

Among 8769 screened records, 47 empirical studies were included. Research focus shifted over time from staff knowledge and awareness of CG toward institutional implementation and its impact. CG assessment followed a parallel course: sporadic and confined to the United Kingdom between 2002 and 2012, internationally expanded and accompanied by a wave of self-developed instruments between 2013 and 2017, and dominated by the reuse of validated instrument from 2018 onward. However, overall CG levels remained low to moderate worldwide, with particularly low performance in long-term quality improvement. By institutional type, public hospitals demonstrated generally poorer CG performance than private hospitals. Regarding staff groups, managers rated CG higher than front-line staff. At the organizational level, hierarchical culture was negatively associated with CG levels.

### Conclusion:

Although widely adopted internationally, CG remains suboptimal and insufficiently embedded in healthcare systems. The reuse of a few validated instruments has enabled international comparison, but these require further cross-cultural validation and adaptation. Embedding CG in practice depends on a bottom-up climate shaped by a supportive organizational culture, within which long-term quality improvement can likewise be sustained only where staff are motivated and engaged. Future efforts should foster an equitable environment, strengthen partnership, and promote shared decision-making across the workforce, while developing pragmatic instruments that enable routine, dashboard-style monitoring of CG in daily practice.

# Poster Presentations

55

## Efficacy and Cost Analysis of a Combined (One-Step) Detergent-Disinfectant for Environmental Decontamination Around Methicillin-Resistant *Staphylococcus aureus* (MRSA) Patients

**Dr. Leo Lui<sup>1</sup>**, Ms. Lai-Chin Wong<sup>1</sup>, Ms. Yvette Wai-Man Lai<sup>1</sup>, Dr. Ka-Kin Fung<sup>1</sup>, Dr. Jonathan Leung-Chun Wong<sup>1</sup>, Dr. Alan Ka-Lun Wu<sup>1</sup>, Dr. Rodney Allan Lee<sup>1</sup>

<sup>1</sup>Hospital Authority, Hong Kong Special Administrative Region, China

### Purpose:

Contaminated environmental surfaces contribute to transmission of pathogens that cause healthcare-associated infections. The present study aimed to assess the efficacy and analyse the cost of a chlorine-based combined detergent-disinfectant applied for environmental decontamination around methicillin-resistant *Staphylococcus aureus* (MRSA) patients.

### Methodology:

The pragmatic controlled study was conducted in the inpatient wards (medical, surgical and orthopaedic) of Pamela Youde Nethersole Eastern Hospital, the Hong Kong Special Administrative Region of the People's Republic of China over 6 months. The surrounding areas of newly diagnosed MRSA patients were divided into 2 equal halves, each decontaminated either by the conventional two-step process (cleaning with detergent followed by disinfection with 1,000 ppm hypochlorite solution), or by a new one-step method using a combined detergent-disinfectant. High-touch areas of patient's surroundings were sampled to detect the presence of MRSA by culture and measure adenosine triphosphate (ATP) levels before and after decontamination, with a relative light unit above 250 defining failure. The decontamination technique was consistent with routine practice. Both decontamination and sampling were performed by the same staff member using standardised methods. The number of disposable wipes consumed and the duration of the decontamination process were recorded for cost analysis.

### Results:

Both the conventional and new methods significantly reduced MRSA detection rate from 68.7% to 12.7% and 15.3% respectively ( $p < 0.001$ ), and significantly reduced ATP failure rate from 78.2% to 2.7% and 4.5% respectively ( $p < 0.001$ ). Compared with the conventional method, the new method saved an average of 5.9 minutes of decontamination time and 10.2 pieces of disposable wipes per patient, resulting in a substantial cost saving of over 6 million Hong Kong dollars per year in total according to currently recommended infection control practices for MRSA patients in public hospitals in Hong Kong. The new method with fewer steps may also facilitate compliance by frontline staff to perform cleaning and disinfection in busy clinical ward environments.

### Conclusion:

The one-step cleaning-disinfection method using a combined detergent-disinfectant effectively decontaminated high-touch hospital surfaces of patient environment with reduced time, costs, and was simpler to follow. Its wider adoption in local inpatient settings can be considered to enhance environmental hygiene more cost-effectively.

## Poster Presentations

57

### Lifestyle Modification and Renal Fat Reduction for Early Chronic Kidney Disease Risk Mitigation in At-Risk Adults: A Prospective Cohort Study

Miss Violetta Chan<sup>1</sup>, Miss Suhani Methi<sup>1</sup>, Miss Christa Yee Ting Chan<sup>1</sup>, Miss Ka Ching Loh<sup>1</sup>, Miss Miu Chee Chung<sup>1</sup>, Miss Shannon Lai Yin Liu<sup>1</sup>, Miss Lan Zhi Cheng<sup>1</sup>, Mr. You Pang<sup>1</sup>, Dr. Chileka Chiyanika<sup>1</sup>

<sup>1</sup>The Hong Kong Polytechnic University, Hung Hom, Hong Kong SAR

#### Purpose:

To assess whether a 6-month dietitian-led lifestyle intervention changes MRI-derived renal fat compartments, abdominal fat depots, and kidney function markers in adults with metabolic dysfunction-associated steatotic liver disease (MASLD).

#### Methodology:

A longitudinal 6-month study was undertaken in Hong Kong. 81 adults with MASLD and metabolic risk underwent assessments of weight, BMI, glucose, lipids, creatinine, albumin, and eGFR. Multi-echo Dixon MRI quantified liver fat, subcutaneous (SAT), visceral (VAT), renal sinus fat (RSF), and renal parenchymal fat (RPF). Paired t-tests, Mann-Whitney U trajectory sub-analyses, and regressions were applied.

#### Results:

After 6 months, significant reductions were observed in body weight ( $81.49 \pm 20.31$  to  $76.79 \pm 16.44$  kg;  $p < 0.001$ ), BMI ( $p < 0.001$ ), fasting glucose ( $p = 0.001$ ), total cholesterol ( $p = 0.017$ ), triglycerides ( $p = 0.019$ ), liver PDFF ( $16.80 \pm 8.21\%$  to  $11.50 \pm 7.59\%$ ;  $p < 0.001$ ), SAT ( $16.58 \pm 5.36$  to  $14.79 \pm 5.25$  L;  $p < 0.001$ ) and RPF ( $1.57 \pm 0.44\%$  to  $1.36 \pm 0.48\%$ ;  $p = 0.004$ ). VAT remained unchanged ( $p = 0.793$ ), whereas RSF increased ( $16.15 \pm 8.07$  to  $20.08 \pm 8.55$  mL;  $p < 0.001$ ). Serum creatinine, serum albumin and eGFR did not change significantly, and changes in RSF, RPF, VAT or SAT did not predict eGFR trajectory. In exploratory stepwise models, baseline RSF was the strongest predictor of 6-month RSF ( $\beta = 0.53$ ,  $p < 0.001$ ), and hypertension status was independently associated with 6-month RSF and RPF. Participants whose RSF decreased had lower follow-up total cholesterol, LDL-cholesterol and liver PDFF than those whose RSF increased, whereas renal fat depots did not differ between participants who did and did not achieve  $\geq 5\%$  weight loss.

#### Conclusion:

A 6-month lifestyle programme improved metabolic profile, liver fat, SAT and RPF, but RSF increased, and conventional renal markers remained stable. These findings support compartment-specific short-term behaviour of intra-renal fat and suggest that follow-up renal fat burden may relate more closely to baseline RSF and hypertension status than to concurrent changes in global adiposity. Longer controlled studies are needed to clarify the biological significance of the RSF increase.

# Poster Presentations



58

## Artificial Intelligence Applications in End-of-Life and Palliative Care for People with Dementia: A Scoping Review Protocol

**Ms. Rachel Yui Ki Chu<sup>1</sup>**, Miss Wai Ching Vincy LEE<sup>2</sup>, Mr. Yu Chak Josh KAN<sup>4</sup>, Mr. Wang Yui Cyrus SZE<sup>6</sup>, Miss Nicole CHAN<sup>3</sup>, Miss Sum Yu Charlotte WONG<sup>7</sup>, Miss Xuan LIN<sup>5</sup>

<sup>1</sup>The University of Hong Kong, Hong Kong SAR, <sup>2</sup>Pui Chung Middle School, Hong Kong, <sup>3</sup>King George V School, Hong Kong, <sup>4</sup>La Salle College, Hong Kong, <sup>5</sup>St Paul's Convent School, Hong Kong, <sup>6</sup>Christian Alliance International School, Hong Kong, <sup>7</sup>South Island School, Hong Kong

### Purpose:

Integrating artificial intelligence (AI) into palliative and end-of-life (EOL) care for people with dementia offers significant potential for predictive clinical decision-support, symptom monitoring, and resource allocation. However, clinical adoption remains constrained by operational, ethical, and organisational challenges. This protocol establishes the framework for a scoping review to map AI modalities utilised in dementia EOL care and systematically categorise reported implementation determinants across patients, informal caregivers, and multidisciplinary healthcare professionals.

### Methodology:

This scoping review follows the Joanna Briggs Institute methodology and PRISMA-ScR guidelines. Searches will be conducted in MEDLINE, Embase, CINAHL, Scopus, PsycINFO, IEEE Xplore, and Web of Science, supplemented by grey literature and citation tracking. Eligible studies involve people with dementia at any stage (including caregivers and healthcare professionals) and any AI application relevant to EOL or palliative care, in any setting or country. For each included study, we will extract study characteristics, AI technology type, care setting, and target users, alongside the specific barriers and facilitators reported for using these tools in real practice, organised at the individual (knowledge, skills, trust), interpersonal (family and team dynamics), and system (workflow, resources, policy) levels.

### Anticipated Policy and Practice Implications:

This synthesis moves beyond algorithm technical accuracy to evaluate operational feasibility within real-world clinical workflows. The findings will provide healthcare administrators and clinical leaders with evidence-based parameters to establish institutional governance frameworks, design targeted workforce training programs, and optimise clinical decision-support tools for complex dementia care pathways.

### Conclusion:

By consolidating evidence on system-level implementation determinants, this review will offer actionable guidance for health systems and public sector decision-makers seeking to safely and equitably integrate emerging AI technologies into palliative care infrastructure.

# Poster Presentations

61

## Integrating International Standards with Local Regulations: A Two-Year Evaluation of an Internal Quality Audit System in a Chinese Healthcare Group

**Prof. Alastair Mah**<sup>1</sup>, Dr. Yan Liu<sup>2</sup>, Dr Wei Qian<sup>2</sup>, Ms. Xiaoyan Shen<sup>2</sup>

<sup>1</sup>New Frontier Group, China, <sup>2</sup>United Family Healthcare, China

### Purpose:

Multi-site healthcare organizations often face challenges in maintaining consistent quality governance when international accreditation frameworks coexist with local regulatory requirements. This study evaluated a longitudinal internal quality audit system implemented across a multi-site private healthcare group in China, integrating international standards with domestic compliance requirements to strengthen patient safety, risk management, and organizational readiness.

### Methodology:

A longitudinal case study was conducted over a two-year period from 2024 to 2025 across nine hospitals within a private healthcare group in China. The audit system used a “dual-dimensional coupling” approach, mapping Joint Commission International hospital accreditation standards to China’s Core Medical Quality and Safety Systems. Audits combined off-site document review with on-site tracer methodology and multidisciplinary internal surveyor teams. Findings were categorized using a structured risk matrix based on severity and frequency. Primary outcomes included changes in audit findings per hospital. Secondary outcomes included inpatient medication error rates and post-audit management survey responses. Statistical analyses included independent-samples testing and chi-square testing where appropriate.

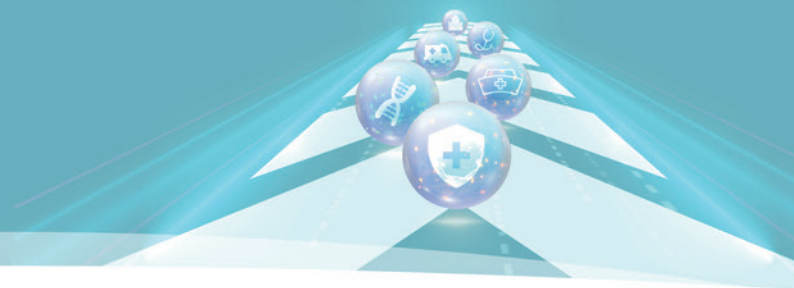
### Results:

The mean number of audit findings per participating hospital decreased by 26.65%, from 33.4 findings per hospital in 2024 to 24.5 in 2025. Medication Management and Use showed the largest improvement, with findings decreasing by 57.9%, from 19 to 8. Correspondingly, the inpatient medication error rate decreased from 0.123% in 2024 to 0.062% in 2025, representing a 49.6% reduction, which was statistically significant  $\chi^2 = 7.15$ ,  $p = 0.0075$ . By 2025, the system achieved zero findings in the “Immediate Threat to Life” category. Management experience scores increased from 8.97 to 9.36, and support for biennial audits rose from 18.75% to 35.71%, suggesting growing acceptance of continuous readiness. Inter-team scoring convergence also improved, with the maximum standard-proficiency gap narrowing from 0.50 to 0.14 points.

### Conclusion:

An integrated, multidisciplinary internal audit system can support risk mitigation, clinical quality improvement, and cultural transition from reactive compliance to continuous readiness. This model offers a scalable and resource-efficient governance approach for multi-site healthcare organizations operating under complex regulatory environments.

# Poster Presentations



62

## TRUST: A checklist framework to verify GenAI-created images for public health communication

Mr. Jayden Chan<sup>1,2</sup>, Mr. Marcus H. Y. Cheung<sup>1,3</sup>, Mr. Michael Q. Y. Li<sup>1,4</sup>, Miss Cynthia Wang<sup>1,5</sup>, Miss Linda S. L. Wang<sup>1,6</sup>, Dr. Danqing Yin<sup>1</sup>, Dr. C. H. Eden Ti<sup>1</sup>, **Prof. Joshua Ho<sup>1</sup>**

<sup>1</sup>School of Biomedical Sciences, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, <sup>2</sup>Canadian International School of Hong Kong, Hong Kong SAR, <sup>3</sup>King's College, Hong Kong SAR, <sup>4</sup>N.T Heung Yee Kuk Yuen Long District Secondary School, Hong Kong SAR, <sup>5</sup>Independent School Foundation Academy, Hong Kong SAR, <sup>6</sup>Shun Tak Fraternal Association Leung Kau Kui College, Hong Kong SAR

Generative artificial intelligence (GenAI) may become increasingly used to produce public health materials, including graphics, illustrations and posters. While most existing guidelines recommend disclosure and documentation of GenAI use, there is no specific guideline on how to verify GenAI images. As a result, trustworthiness of the GenAI image depends strongly on the human overseers, leading to inconsistent and incomplete verification of GenAI images. This may lead to incorrect public health messaging. We reason that human verification can be enhanced by the use of a simple standardised checklist which specifies key elements that must be reviewed in a GenAI-created image. Here we introduce a simple checklist, namely TRUST, which requires the human verifier to check Trustworthiness, Rights, Unintended consequence, Safety, and Target audience. Each checklist item covers a distinctive aspect for careful verification. Our team has developed a protocol for a randomised controlled trial (RCT) to test the TRUST checklist on public health promotional materials. We believe the TRUST framework can support the responsible use of GenAI in public health promotion.

# Poster Presentations



63

Uptake and perceptions related to pneumococcal vaccination were different between people aged 50-59 years, 60-64 years and 65 years or above in Hong Kong, China

**Mr. Fuk-yuen Yu<sup>1</sup>**, Prof. Thomas Yuen Tung Lam<sup>2</sup>, Miss Ka Hei Chan<sup>1</sup>, Miss Danhua Ye<sup>1</sup>, Prof. Phoenix Kit-han Mo<sup>1</sup>, Prof. Zixin Wang<sup>1</sup>

<sup>1</sup>Centre for Health Behaviours Research, JC School of Public Health and Primary Care, The Chinese University of Hong Kong, Hong Kong SAR, <sup>2</sup>The Nethersole School of Nursing, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR

## Purpose:

Pneumococcal vaccination (PV) is effective in preventing pneumococcal diseases. Health authorities in various countries are shifting their age benchmarks for PV recommendation from  $\geq 65$  years to  $\geq 50$  or 60 years. This study was to understand the uptake and perceptions related to PV among Hong Kong residents aged 50-59 years, 60-64 years and  $\geq 65$  years to inform service planning and health promotion.

## Methodology:

A random telephone survey was conducted between July and August, 2026. Eligible participants were community-living people aged  $\geq 50$  years and with a Hong Kong ID. Household fixed-line telephone numbers were randomly selected from the up-to-date telephone directories. Trained interviewers conducted the telephone survey.

## Results:

A total of 578 participants completed the survey, including 130 aged 50-59 years, 159 aged 60-64 years, and 289 aged  $\geq 65$  years. The PV uptake rate was significantly higher in participants aged  $\geq 65$  years (39.8%) comparing to those aged 50-59 years (6.9%) or 60-64 years (3.8%) (both  $p < 0.001$ ).

Across age groups, very few participants could provide appropriate response to knowledge related to PV, such as whether serotype 3 is the most common cause of invasive pneumococcal infections in Hong Kong (3.8-5.9%), whether the valence of a PV refers to the number of bacterial serotypes that prevented by the vaccine (11.4-22.6%), or whether more valences represented stronger protective effects (4.4-8.5%).

The proportion of participants without PV history in different age groups that intended to receive a fully-subsidized PV provided by the government was 41.3% (50-59 years), 49.7% (60-64 years), and 33.3% (65 years or above), respectively. The most preferable strategy to promote PV was to provide fully-subsidized PV for all residents in 50-59 years group, provide real-time answers to questions related to PV through telephone or WhatsApp in 60-64 years group, or provide more effective PV among residents in  $\geq 65$  years group.

## Conclusion:

The PV coverage was inadequate among people aged  $\geq 50$  years in Hong Kong, especially people aged 50-64 years that were not covered by the Vaccination Subsidy Scheme. Health promotion is warranted on enhancing knowledge of residents concerning PV with applying targeted strategies for each age group.

# Poster Presentations

64

## A Checklist-based Framework for Verifying LLM-generated Text for Medical Applications

**Mr. Colin H. Y. Chan**<sup>1,2</sup>, Mr. Eric Liu<sup>1,3</sup>, Mr. Adrian H.S. Siu<sup>1,4</sup>, Mr. Adrian Xie<sup>1,5</sup>, Mr. Tony Lui<sup>1</sup>, Dr. Danqing Yin<sup>1</sup>, Dr. Eden Ti<sup>1</sup>, Prof. Joshua Ho<sup>1</sup>

<sup>1</sup>School of Biomedical Sciences, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, <sup>2</sup>Diocesan Boys' School, Hong Kong SAR, <sup>3</sup>SKH Tsang Shiu Tim Secondary School, Hong Kong SAR, <sup>4</sup>STFA Leung Kau Kui College, Hong Kong SAR, <sup>5</sup>SKH Tsang Shiu Tim Secondary School, Hong Kong SAR

### Purpose:

To develop a checklist-based approach to support human verification of LLM-generated text for medical and healthcare applications.

### Background:

Large Language Models (LLMs) are increasingly used to generate texts for medical education, research and public health purposes, yet they are prone to hallucinations and overconfidence. Many international guidelines mandate disclosure and documentation of such LLM use. However, there are no specific standards to guide human verification of LLM-generated text.

### Methods:

Based on commonly occurring errors associated with LLMs, we propose a simple checklist-based algorithm to support human verification. The checklist, called SCAN, is used by human experts who would go through the text, sentence by sentence, to flag potential issues in four important categories: (1) Source (2) Consistency & Certainty (3) Ambiguity (4) Nouns & Numbers. The checklist is intended to encourage users to pause, assess, and systematically verify the content.

### Results:

The SCAN checklist may improve health literacy and promote safer engagement with LLM-generated medical information. If the checklist is deployed systematically, users may benefit from LLMs as an informational tool whilst recognising their limitations. By going through the four categories, experts may be less likely to accept harmful, misleading, or unsupported information.

### Conclusion:

Overall, SCAN offers a practical and memorable approach for supporting responsible use of LLMs in healthcare and strengthening confidence through critical evaluation.

# Poster Presentations



65

## Development of the STEP-CARE: A Standardized Community-Based Protocol to support Quality-Assured Diabetic Foot Risk Management

**Prof. Rick Yiu Cho KWAN**, Dr. Julia Sze Wing WONG, Prof. Qian XIAO, Dr. Winnie Wai In WONG, Ms. Kitty Yu Yeung LAU, Dr. Heston Kwok Wai KWONG

<sup>1</sup>Tung Wah College, Homantin, Hong Kong SAR, <sup>2</sup>Rotary Club of Admiralty, Wanchai, Hong Kong SAR,

<sup>3</sup>Diabetic Foot Community Care Program, Wanchai, Hong Kong SAR

### Purpose:

This study aims to develop an evidence-based community protocol (STEP-CARE) for diabetic foot risk management. The protocol is designed to establish a standardized, auditable framework replicable across diverse community settings, supporting consistent quality of care in primary care settings, while facilitating regular foot health monitoring within community spaces to reduce barriers to facility-based care.

### Methodology:

Guided by the Medical Research Council (MRC) framework, we first identified the evidence base through a literature review. The Consultation Assessment and Improvement Instrument for Nurses (CAIN) was adopted as the theoretical guide, which consists of seven elements: interviewing, examination and practical procedures, care planning and patient management, problem solving, behaviour and relationship with patients, health promotion/disease prevention, and record keeping. The protocol was constructed and localized by a multidisciplinary expert team, with explicit attention to clarity, feasibility, and compliance with existing community care standards, integrating recommendations from researchers and local community diabetes specialists.

### Results:

A 12-step protocol named STEP-CARE was constructed, organized into five core components: Screening & assessment (Steps 1–5: registration & consent, basic diabetes & risk history, neuropathy and vascular screening), Testing & imaging (Steps 6–8: foot inspection, pressure/gait testing, and photography), Education (Step 9, integrated throughout the intervention process), Plan & routing (Step 10) and Community Action & Recovery Evaluation (Steps 11–12 covering referrals and 3–6 months follow-up). This closed-loop protocol integrates risk stratification, patient education, and coordinated referral pathways with structured follow-up, empowered by digital technology. It provides community care providers a structured, measurable, and quality-assured workflow with built-in guidance for regular monitoring across multiple community venues, ultimately lowering reliance on formal clinical institutions.

### Conclusion:

The STEP-CARE protocol offers a practical, theory-driven tool that can serve as a key component of a quality assurance framework for community diabetic foot care. By standardizing screening, education, and referral processes, it enables safer practice and supports the delivery of high-quality primary care services. Its highly replicable design allows for seamless rollout across different community settings, sustaining accessible regular monitoring and foot health awareness outside formal clinical facilities. Future studies are planned to evaluate its effectiveness and implementation outcomes.

# Poster Presentations



66

## “Minimizing efforts to avoid errors”: The roles of culturally-salient work values in professional quality of life and psychological well-being among Hong Kong nurses caring for trauma-exposed patients

**Ms. Jiexi Yang**<sup>1</sup>, Victor C. W. Tam<sup>1</sup>, Haofeng Ling<sup>1</sup>, Stephanie T. Y. Lau<sup>1</sup>, Nelson C. Y. Yeung<sup>1</sup>

<sup>1</sup>The Chinese University of Hong Kong, Hong Kong SAR

### Purpose:

Frontline nurses often serve as the first contact point for trauma-exposed patients, making them vulnerable to poorer professional quality of life (ProQoL; positive/negative quality of being helping professionals) and psychological well-being. Western studies have found that work values (i.e., beliefs people exhibit in the workplace) can affect nurses' well-being. For example, psychological detachment (i.e., temporarily distancing oneself from work-related thoughts during off-hours) was associated with lower risks of burnout. However, how other Chinese culturally-salient work values (e.g., “minimizing job efforts could avoid errors”) are associated with nurses' well-being remains understudied. This study aimed to examine nurses' work values and their associations with ProQoL (i.e., compassion satisfaction [CS], burnout [BO], secondary traumatic stress [STS]), and psychological distress.

### Methodology:

A total of 777 Hong Kong nurses (81.9% female) who had been caring for trauma-exposed patients (e.g., survivors of accidents, abuse, life-threatening illnesses) were recruited through nursing associations to complete an online survey between December 2024 and July 2026.

### Results:

Logistic regression analyses showed that psychological detachment was associated with lower BO, STS, and psychological distress (ORs = 0.53 to 0.55,  $p < .001$ ), and higher CS (OR = 1.68,  $p < .05$ ). However, the other four culturally-salient work values (i.e., “excessive work engagement was unsustainable”, “minimizing job efforts could avoid errors”, “being paid the same regardless of efforts”, “being empathetic to every patient was emotionally-burdensome”) were associated with higher BO, STS, and psychological distress (ORs = 1.19 to 1.82,  $p < .05$  to  $p < .001$ ).

### Conclusion:

We revealed the links between work values and ProQoL/psychological well-being among frontline nurses working in high-stress environments. Some culturally-salient work values (e.g., “excessive engagement being unsustainable”, “minimizing effort to avoid errors”, “perceiving effort as futile”, “being empathetic as emotionally-burdensome”) could be detrimental to ProQoL/psychological well-being, whereas psychological detachment emerged as beneficial to ProQoL/psychological well-being. Interventions that challenge culturally-salient work values and foster psychological detachment through cognitive-behavioral strategies/organizational culture shifts could be integrated into wellness support programs to enhance frontline nurses' professional and psychological well-being.

# Poster Presentations



67

## Psychometric evaluation of the social connection measure among adults in Hong Kong

**Ms. Huan Wang<sup>1</sup>**, Ms. Chelsea Xiao-chen Yang<sup>1</sup>, Mr. Travis Tai-hang Shao<sup>1</sup>, Dr. Si-yue Yu<sup>1</sup>, Prof. Cindy Yue Tian<sup>1</sup>, Ms. Annie Wai-Ling Cheung<sup>1,2</sup>, Prof. Eliza Lai-Yi Wong<sup>1,2</sup>

<sup>1</sup>Jockey Club School of Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR, <sup>2</sup>Centre for Health Systems and Policy Research, Jockey Club School of Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR

### Purpose:

To evaluate the psychometric properties of a newly developed multidimensional social connection measure (SCM) for adults in Hong Kong.

### Methodology:

Data from 673 adults who completed a cross-sectional validation survey was analyzed. Participants were randomly allocated to an exploratory factor analysis (EFA) sample (n=336) and a confirmatory factor analysis (CFA) sample (n=337). The structural dimension was specified as a formative index and was not entered into conventional EFA and CFA. Construct validity of the reflective items was assessed using EFA and CFA. Convergent validity was assessed using prespecified Spearman rank correlations with external measures. Known-groups validity was examined using Wilcoxon rank-sum and Kruskal-Wallis tests, and internal consistency was assessed using Cronbach's alpha. Receiver operating characteristic (ROC) analysis was used to evaluate the thresholds of SCM. The total SCM score was calculated as the equally weighted mean of the structural index, function, and quality score.

### Results:

The SCM comprised one formative structural index and three reflective factors: function, positive relationship quality, and negative relationship quality. Spearman correlations with prespecified external measures were all statistically significant and in the hypothesized directions, ranging from  $p=-0.585$  to  $0.859$ . Known-groups analyses showed lower SCM total scores among participants with more severe loneliness, poorer family economic conditions, long-term health conditions, and recent life turning points. Cronbach's alpha ranged from  $0.892$  to  $0.945$  across the three reflective factors. ROC analysis confirmed a cut-off score of  $66.3$  to differentiate individuals with high and low social connection.

### Conclusion:

The SCM is a multidimensional instrument to measure social connection among adults in Hong Kong. This could support the early identification of adults with low social connection and inform targeted prevention and intervention strategies in community and healthcare settings.

# Poster Presentations



68

## Psycho-social factors influencing advance care planning among adults with physical and intellectual disabilities

Ms. Yee Ting Christa Chan<sup>2</sup>, Ms. Miu Chee Chung<sup>3</sup>, Mr. Juntao Anthony Mang<sup>2</sup>, Ms. Chi Kei Ng<sup>4</sup>, Ms. Claire Sumin Park<sup>2</sup>, Mr. Tsz King Lo<sup>1</sup>, Prof. Pui Hong Chung<sup>1</sup>

<sup>1</sup>School of Public Health, The University Of Hong Kong, Hong Kong SAR, <sup>2</sup>Hong Kong International School, Hong Kong SAR, <sup>3</sup>Heep Yunn School, Hong Kong SAR, <sup>4</sup>Ying Wa Girls' School, Hong Kong SAR

### Purpose

This review aimed to identify and synthesise psycho-social factors that facilitate or hinder Advance Care Planning (ACP) among adults with physical and intellectual disabilities.

### Methodology

A systematic search of PubMed was conducted for English journal articles published from 2010 to 2025. The search combined three concept blocks: (1) population (intellectual disability, spinal cord injury, cerebral palsy, multiple sclerosis, muscular dystrophy, and acquired brain injury); (2) topic (advance care planning, advance directives, and end of life planning); and (3) psycho social factors (communication, family involvement, trust, emotional readiness, staff training, and related terms). After screening 66 records and assessing 32 full texts, 22 studies met inclusion criteria. We extracted data on psycho social factors and conducted thematic synthesis.

### Results

The included studies comprised qualitative, quantitative, mixed methods, and review designs, covering intellectual disability, multiple sclerosis, muscular dystrophy, and other progressive neurological conditions. Six main themes were identified: (1) communication tools and formats (use of easy read materials, and creative, person centred resources); (2) trust and the therapeutic relationship (continuity of care and perceived respect); (3) family and carer involvement (structured family engagement and joint decision making); (4) staff training and confidence (building skills for sensitive conversations); (5) emotional readiness and coping (fear of death, anxiety and acceptance of illness); and (6) structural and cultural barriers (organisational avoidance of death, lack of time, unclear documentation systems, and policy gaps). Accessible communication approaches and family engagement were the most frequently reported facilitators, while staff reluctance and inadequate organisational support were the most commonly cited barriers. Evidence gaps included an over representation of intellectual disability and multiple sclerosis populations and a lack of implementation studies evaluating specific psycho social interventions.

### Conclusion

Psycho social factors, especially communication tools, family involvement, and staff training are important to ACP engagement for adults with physical and intellectual disabilities. Integrating these components into routine care pathways may improve ACP participation. Future research should use multi database searches and prospective designs to test the effectiveness of targeted psycho social interventions.

# Poster Presentations



69

## Association of Workplace Ventilation and Regular Dust-Mask Use with Pneumoconiosis: A Case-Control Study

**Mr. Jiajun Lyu<sup>1</sup>**, Dr. Feng Wang, Prof. Lap Ah Tse

<sup>1</sup>The Chinese University of Hong Kong, Hong Kong SAR

### Purpose:

To examine the independent and combined associations of workplace ventilation or dust-removal equipment and regular dust-mask use with pneumoconiosis.

### Methodology:

We conducted a case-control study involving 332 individuals with pneumoconiosis and 229 controls in Changsha and Wuhan, China. The availability of workplace ventilation or dust-removal equipment and regular dust-mask use was assessed using a standardized questionnaire. Participants were classified into 4 groups: neither measure, dust mask only, ventilation only, and both measures. Crude odds ratios (ORs) and 95% confidence intervals (CIs) were estimated using univariable logistic regression. Adjusted associations were evaluated using Firth penalized logistic regression to account for sparse data bias. Multivariable models adjusted for age, sex, smoking pack-years, cumulative duration of occupational dust exposure, and history of tuberculosis.

### Results:

Ventilation or dust-removal equipment was reported by 90.8% of controls and 37.2% of cases, while regular dust-mask use was reported by 71.4% and 23.6%, respectively. In the adjusted model, ventilation or dust-removal equipment was associated with lower odds of pneumoconiosis (adjusted OR 0.115, 95% CI 0.030-0.437), as was regular dust-mask use (adjusted OR 0.217, 95% CI 0.064-0.739). Compared with participants reporting neither measure, the adjusted ORs were 0.221 (95% CI 0.024-2.013) for dust mask only, 0.120 (95% CI 0.016-0.880) for ventilation only, and 0.026 (95% CI 0.003-0.211) for both measures.

### Conclusion:

Established workplace dust-control measures, particularly the combination of ventilation or dust-removal equipment and regular dust-mask use, were associated with lower odds of pneumoconiosis. These findings provide empirical support for consistent implementation of and adherence to existing occupational protection standards. Occupational health practice should prioritize effective engineering controls together with sustained access to and correct use of respiratory protection in dust-exposed workplaces. (Pneumoconiosis Compensation Fund Board, \*shelly@cuhk.edu.hk)

# Poster Presentations



70

## Can a Commercial Large Multimodal Model Perform Zero-shot Heart Rate Estimation using Mobile Phonocardiogram (mPCG)?

**Miss Angie Y. T. Wong**<sup>1,2</sup>, Mr. Tony Lui<sup>1</sup>, Prof. Joshua Ho<sup>1</sup>

<sup>1</sup>School of Biomedical Sciences, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, <sup>2</sup>Diocesan Girls' School, Hong Kong SAR

### Background:

Mobile Phonocardiography (mPCG) uses wearable or mobile smartphone to perform cardiac auscultation for cardiovascular screening. While automated mPCG analysis traditionally relies on supervised machine learning and extensive domain-specific fine-tuning, the emergence of Large Multimodal Models (LMMs) offers a potential paradigm shift toward out-of-the-box, zero-shot signal processing. However, the robustness of these foundational models in handling real-world clinical noise remains largely unexplored.

### Objective:

This study tests the zero-shot capabilities of a state-of-the-art LMM, Qwen, on automated heart sound analysis, with a specific focus on first heart sound (S1) segmentation and heart rate (HR) estimation under natural noisy acoustic conditions.

### Methods:

We utilized 20-second PCG recordings from the publicly available CirCor Heart Sound dataset (PhysioNet). The Qwen model was tasked with performing zero-shot S1 segmentation and HR estimation directly from the raw, noisy audio data without any task-specific prior training or fine-tuning. Model performance was evaluated against the manual ground truth annotations.

### Results:

While the Qwen model demonstrates a in generally it can accurately identify S1 heart sounds in a zero-shot setting, preliminary assessment indicates performance less robust when the audio track is superimposed with heavy respiratory artifacts (such as breathing). This finding demonstrates the feasibility and limitations of deploying zero-shot LMMs for mPCG analysis on how effectively foundational models can perform HR estimation accuracy and S1 segmentation precision when subjected to controlled noise degradation.

### Conclusion:

In its current state, a commercial LMM can generally identify S1 from mPCG, but its reliability for raw, noisy mPCG recordings is still limited. Further studies are needed to fully benchmark more LMMs on large data sets.

# Poster Presentations

71

## Public Acceptance of Artificial Intelligence in Healthcare in Hong Kong

Ms. Yutong Cai<sup>1</sup>, Mr. Tsz Yeung Cheng<sup>2</sup>, Ms. Ling Hei Lindsay Guan<sup>3</sup>, Mr. Chun Hei Mak<sup>4</sup>, Mr. Hin Yeung Wong<sup>1</sup>, Mr. Ying Choi Rex Wong<sup>5</sup>

<sup>1</sup>St. Paul's Co-educational College, Hong Kong SAR, <sup>2</sup>Po Leung Kuk No.1 W.H. Cheung College, Hong Kong SAR, <sup>3</sup>West Island School, Hong Kong SAR, <sup>4</sup>HKFYG Lee Shau Kee College, Hong Kong SAR, <sup>5</sup>School of Public Health, The University of Hong Kong, Hong Kong SAR

### Purpose

This scoping review aims to identify and summarize the current knowledge and evidence about how the public in Hong Kong perceives, accepts, trusts, and expresses concerns about the use of artificial intelligence in healthcare, as well as identifying demographic variations and evidence gaps.

### Methodology

A scoping review was conducted in accordance with the PRISMA framework. PubMed was searched for studies, resulting in 37 initial records for studies published between 2016 and 2026 for studies on AI acceptance in healthcare settings in Hong Kong. Results from the Greater Bay Area were included when Hong Kong-specific papers were limited.

### Results

Twelve studies were included after screening. In terms of applications of AI, most studies focused on AI chatbots (n=7); there were a limited number of studies that focused on general healthcare AI (n=1), diagnostic AI (n=1), telemedicine (n=1), care robots (n=1), and AI nursing technologies (n=1). The major facilitators toward AI in healthcare included functional utility, accessibility, anonymity, trust, perceived usefulness, and social support. Conversely, major barriers to the use of AI in healthcare encompassed perceptual fear, privacy concerns, lack of empathy, technical limitations, and age-related usability challenges. Additionally, demographic variations are observed. For example, younger and wealthier individuals reported greater acceptance of AI in healthcare. Secondary school students reported variable levels of acceptance of AI chatbot counseling. Family caregivers' acceptance of AI in healthcare was conditional on trust and perceived usefulness. Key evidence gaps included an overrepresentation of studies on AI chatbots, a lack of data on caregivers, patients, and older adults, along with a lack of longitudinal studies.

### Conclusion

AI in healthcare can be a helpful tool for initial care, as people find it useful, accessible, anonymous, and cost-efficient. However, there are concerns about its privacy, reliability, and the emotional authenticity of interactions with AI. It is therefore perceived as an entry-level tool that cannot fully replace humans. To improve AI in healthcare, future development and corresponding research efforts should focus on addressing these concerns and expanding studies to explore a wider range of AI applications over longer periods.

## Poster Presentations

72

### Evaluating a Smoking Cessation Counselling Curriculum for Medical and Pharmacy Students in Hong Kong: A Pilot Quasi-Experimental Study

**Mr. Ying Choi Rex Wong<sup>1</sup>**, Ms. Jiahang Li<sup>1</sup>, Ms. Baikong Mamid<sup>1</sup>, Dr. Dana Vackova

<sup>1</sup>School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, China, Hong Kong SAR

#### Purpose:

To evaluate a structured smoking cessation counselling (SCC) curriculum aligned with primary healthcare workforce development in Hong Kong, and determine whether interprofessional education (IPE) was associated with additional improvement in collaboration-related competence compared with a uniprofessional format.

#### Methodology:

A pilot quasi-experimental pre-post study was conducted among undergraduate health professions students at The University of Hong Kong. Aligned with Hong Kong's preventive and multidisciplinary primary healthcare model, all participants received the same SCC curriculum, comprising preparatory learning and a 90-minute tutorial with staged patient cases, counselling role-play, patient care planning, teach-back, referral planning, and debriefing. The control cohort participated in MBBS-only groups, whereas the IPE cohort participated in mixed MBBS-BPharm groups. Outcomes included SCC-related knowledge, attitudes, and practice confidence; a standardised composite of these outcomes; and collaboration-related competence measured using the 20-item Interprofessional Collaborative Competency Attainment Survey (ICCAS). Overall pre-post changes were assessed using paired t-tests. Post-tutorial ICCAS scores were compared using analysis of covariance adjusted for baseline ICCAS.

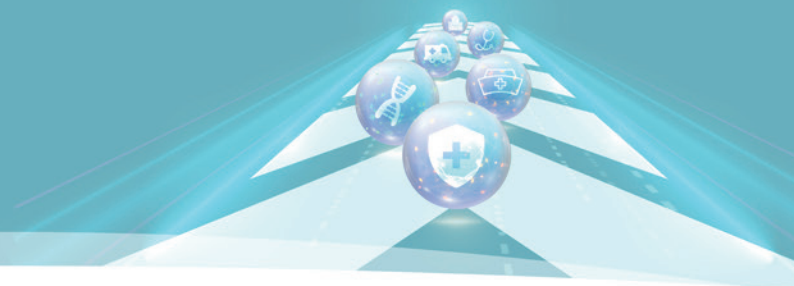
#### Results:

The analytic sample comprised 381 participants: 168 in the control cohort and 213 in the IPE cohort. Across participants, ICCAS scores increased by a mean of 12.17 points (95% confidence interval [CI], 10.88–13.46;  $p < 0.001$ ). The standardised composite of knowledge, attitudes, and practice confidence increased by 0.35 (95% CI, 0.29–0.41;  $p < 0.001$ ), with significant improvements in all 3 domains. After baseline adjustment, post-tutorial ICCAS scores did not differ significantly between cohorts (adjusted mean difference, 0.32 points; 95% CI, –1.87 to 2.52;  $p = 0.772$ ). Sensitivity analyses produced consistent findings.

#### Conclusion:

The structured SCC curriculum was associated with improved SCC-related learning outcomes and perceived collaboration-related competence, supporting its potential value in preparing health professions students for preventive, team-based primary healthcare. Although mixed MBBS-BPharm delivery was not associated with additional measurable ICCAS benefit compared with MBBS-only delivery, collaborative activities embedded in the shared curriculum may have supported gains in both cohorts. Additional IPE value may require longer exposure, clearer role differentiation, and shared tasks that make interprofessional collaboration visible and measurable.

# Poster Presentations



73

## The Development and Governance of Internet Hospitals in China: Trends, Structural Imbalances, and Strategic Responses

**Dr. Minjiang Guo**<sup>1</sup>

<sup>1</sup>Centre For Health Systems and Policy Research, Hong Kong SAR

### Background:

The scale of Internet hospitals in China has continued to expand, reaching 3,756 institutions. How to better facilitate the effective integration of Internet hospitals into the existing healthcare delivery system has emerged as a critical issue.

### Purpose:

This study aims to delineate the development trends of Internet hospitals from 2014 to 2022, analyze the characteristics from structural and distributional perspectives, and provide references for further optimizing the planning and management of Internet hospitals.

### Methodology:

This study systematically collected data from official websites of the National Health Commission, provincial and municipal health administrative departments, and healthcare institutions, alongside publicly accessible policy documents. Complemented by an in-depth review of representative operational cases of internet hospitals, descriptive statistical analyses were performed across multiple dimensions, encompassing service portfolios, catchment areas, affiliated hosting entities, and geographical distribution patterns.

### Results:

The development of Internet hospitals has progressed through an embryonic stage (2014–2018), an exploratory stage (2018–2020), and a rapid-growth stage (2020–2022), and has now entered a phase of relatively stable development. Eastern provinces, tertiary hospitals, and general hospitals accounted for the highest proportions of Internet hospitals, at 62.1%, 61.6%, and 59.3%, respectively, mirroring the structural distribution of high-quality medical resources. Internal medicine was the most frequently established department (75.6%), with online consultations and prescription refills for follow-up visits constituting the primary service types, underscoring the complementary role of Internet hospitals to offline services.

### Conclusion:

Shaped by industry environment and technical regulations, the development of Internet hospitals exhibits a pattern highly coupled with the distribution of offline healthcare resources, and their developmental trajectory has yet to fully transcend the framework of the traditional healthcare service system. Future efforts should focus on synergistically leveraging policy guidance, technological enablement, and incentive mechanisms to drive a shift from "scale expansion" to "quality improvement" in Internet hospitals. Particular attention should be paid to channeling resources to central, western, and primary-level regions, and exploring deep integration with tiered diagnosis and treatment systems, health insurance payment reforms, and data interoperability, so as to truly realize the structural optimization and efficiency enhancement of the overall healthcare service system through Internet-based healthcare.

# Poster Presentations

74

## Commuting Burden and Perceived Control as Socio-Behavioral Predictors of Short Sleep Duration among Hong Kong Adults

Roger Chung, Jean Kim, Ms. Veeleah Yi Chun Lok<sup>1</sup>JC School of Public Health and Primary Care, The Chinese University of Hong Kong,

### Background:

International studies of population sleep health have been dominated by studies of suburban Western populations. In large Asian cities, characterized by high living density and round-the-clock activity, a comprehensive analysis of the sociodemographic, health and cognitive-behavioural factors has not been undertaken. It is also unclear whether risk factors for inadequate sleep operate as a gradient or threshold remains. We examined socioecological correlates of hyposomnia (<7hrs of sleep) in urban Chinese.

### Methods:

A cross-sectional telephone survey was conducted among 2,501 community-dwelling Hong Kong adults in 2025. The prevalence of hyposomnia was examined. Hierarchical multivariable logistic regression models were conducted: 1) Sociodemographic Model, 2) Sociodemographic and Health Model, and 3) Full Multivariable Model which included Theory of Planned Behaviour (TPB) constructs. Adjusted odds ratios (aOR) with 95% CIs are reported.

### Results:

Hong Kong adults averaged 7.81 hours of sleep per night (SD = 1.33) and the overall prevalence of hyposomnia was 17.4%. The full multivariable model showed that living in the highest (>150,000/km<sup>2</sup>) (aOR=1.42, 95% CI: 0.99-2.03) and middle (50,000 to 150,000/km<sup>2</sup>) (aOR=1.23, 95% CI: 0.98-1.55) population density districts had a marginal association with short sleep, while residing in a 2–3 person household was protective (aOR=0.68, 95% CI: 0.48-0.97). Commute >90 min/day was the dominant structural driver (aOR=1.85, 95% CI: 1.47-2.33), whereas dysphoric mood did not show a statistically significant effect on the likelihood of low sleep duration (aOR=1.34, 95% CI: 0.98-1.82). Among the TPB variables, hyposomnia was associated with medium and low Sleep Attitudes scores as well as low Subjective Norms score (aOR: 1.58-1.76, p<0.05). As compared with respondents reporting high Perceived Control of Sleep scores, those in the interquartile range (IQR) did not show a significant difference in likelihood of hyposomnia but those with low Perceived Control scores (<IQR) exhibited a stark effect (aOR=1.95, 95% CI: 1.51-2.52).

### Conclusion:

Short sleep in Hong Kong adults is driven by structural burdens of urban living and eroded cognitive-behavioural autonomy, rather than conventional demographic factors or mental health problems. These findings advocate for a dual-pronged public health strategy which includes urban planning and workplace policies to reduce commute times and targeted counselling to restore sleep-specific self-efficacy.

# Poster Presentations

75

## Estimating COVID-19 seroprevalence, vaccine immunogenicity, and antibody dynamics in a healthcare worker cohort

**Wey Wen Lim<sup>1</sup>**, Loretta Mak<sup>1</sup>, Faith Ho<sup>1</sup>, Tiffany W Y Ng<sup>1</sup>, Emily Mun Yau<sup>1</sup>, Ronald L W Ko<sup>1</sup>, Dongxuan Chen<sup>1</sup>, Jingyi Xiao<sup>1</sup>, Wing Hong Seto<sup>1</sup>, Samuel M S Cheng<sup>1</sup>, Tanmayi Patharkar<sup>1</sup>, Ranawaka A P M Perera<sup>1</sup>, Dennis K M Ip<sup>1</sup>, Malik Peiris<sup>2</sup>, Benjamin J Cowling<sup>1</sup>

<sup>1</sup>School of Public Health, The University of Hong Kong, Hong Kong SAR, <sup>2</sup>Division of Public Health Laboratory Sciences, The University of Hong Kong, Hong Kong SAR

### Background

The HCW study was established in 2020 as a prospective cohort study among healthcare workers (HCWs) in Hong Kong to estimate the seroprevalence of SARS-CoV-2 antibodies, evaluate vaccine immunogenicity and effectiveness, and assess the durability of SARS-CoV-2 protection induced by vaccination and infection. Over six years, we have been able to map SARS-CoV-2 epidemiology in HCWs, measure the performance of mRNA and inactivated COVID-19 vaccines, and understand the durability of immunity against infections and re-infections across distinct phases of the pandemic.

### Methods

Between June 2020 and February 2026, we enrolled and followed up HCWs in Hong Kong in a longitudinal cohort study. Participants provided blood samples at enrolment and then every six months, and provided additional samples at one month after receipt of any influenza vaccination or COVID-19 vaccination. Participants provided demographic and occupational information in the twice-annual follow-up visits, and reported any acute respiratory illnesses. We tested all blood samples for binding and neutralizing antibodies against SARS-CoV-2, including against the ancestral strain and subvariants included in updated vaccines. Exposure to and infection with SARS-CoV-2 are reported by participants through monthly questionnaires.

### Results

In 2020 and 2021, Hong Kong experienced several waves of SARS-CoV-2 infections, which were effectively contained through stringent public health interventions. Our analyses showed that fewer than 1% of participating HCWs in our cohort had been infected by December 2021. Our early work on vaccine immunogenicity demonstrated that two doses of mRNA COVID-19 vaccines generated higher levels of neutralizing antibodies compared with two doses of inactivated COVID-19 vaccines. However, three doses of inactivated vaccines achieved similar levels of neutralizing antibodies generated by two doses of mRNA vaccines. Antibody levels against vaccine strains of SARS-CoV-2 waned over time, but the observed waning rates of antibody levels after repeated vaccination with the same vaccine strain, or a natural infection, are slower.

### Conclusion

A longitudinal cohort study of HCWs during and after a pandemic is valuable as it can allow timely investigations into the impact of an unfolding pandemic on the health workforce and vaccine immunogenicity in healthy adults due to prioritized access to vaccines and higher vaccination uptake.

# Acknowledgements

The Organising Committee members would like to extend their heartfelt thanks to the following sponsors for their unfailing support and generous contribution to the Hong Kong College of Community Medicine Annual Scientific Meeting 2026.

## Sponsors



