HONG KONG COLLEGE OF COMMUNITY MEDICINE

Annual Scientific Meeting 2025

20 September 2025

Humanizing Tech, Revolutionizing Care: The AI Era

PROGRAMME BOOK

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References: 1. LEQVIO, Hong Kong Prescribing Information. Novartis Pharmaceuticals Corp. 2021. **2.** RS Wright, FJ Raal, W Koenig, U Landmesser, LA Leiter, S Vikarunnessa, A Lesogor, P Maheux, Z Talloczy, X Zang, GG Schwartz, KK Ray, Inclisiran administration potently and durably lowers LDL-C over an extended-term follow-up: the ORION-8 trial, Cardiovascular Research, 2024;, cvae109, https://doi.org/10.1093/cvr/cvae109. **3.** Ray KK, Wright RS, Kallend D, et al; ORION-10 and ORION-11 Investigators. Two phase 3 trials of inclisiran in patients with elevated LDL cholesterol. N Engl J Med. 2020;382(16):1507-1519. doi:10.1056/NEJMoa1912387.

Leqvio® Important note: Before prescribing, consult full prescribing information. **Presentation: Solution for injection:** Each pre-filled syringe contains 1.5 mL of solution containing 284 mg inclisiran (equivalent to 300 mg inclisiran sodium). **Indications:** Leqvio is indicated in adults with primary hypercholesterolaemia (heterozygous familial and nonfamilial) or mixed dyslipidaemia, as an adjunct to diet: • in combination with a statin or statin with other lipid lowering therapies in patients unable to reach LDLC goals with the maximum tolerated dose of a statin, or • alone or in combination with other lipid lowering therapies in patients who are statin intolerant, or for whom a statin is contraindicated. **Dosage and administration:** Recommended dose: 284 mg inclisiran administered as a single subcutaneous injection: initially, again at 3 months, followed by every 6 months. Missed dose: • If a planned dose is missed by less than 3 months, inclisiran should be administered and dosing continued according to the patient's original schedule. • If a planned dose is missed by more than 3 months, a new dosing schedule should be started – inclisiran should be administered initially, again at 3 months, followed by every 6 months. Treatment Transition from PCSK9 Inhibitor Monoclonal Antibody: Inclisiran can be administered immediately after the last dose of a monoclonal antibody PCSK9 inhibitor. To maintain LDL C lowering it is recommended that inclisiran is administered within 2 weeks after the last dose of a monoclonal antibody PCSK9 inhibitor. **Special populations:** Renal impairment: No dose adjustments are necessary for patients with mild, moderate or severe renal impairment or patients with end stage renal disease. There is limited experience with inclisiran in patients with severe renal impairment. Inclisiran should be used with caution in these patients. **Hepatic impairment:** No dose adjustments are necessary for patients with mild (Child Pugh class A) or moderate (Child Pugh class B) hepatic impairment. No data are available in patients with severe hepatic impairment (Child Pugh class C). Inclisiran should be used with caution in patients with severe hepatic impairment. Pediatric patients (below 18 years): The safety and efficacy of inclisiran have not been established. Geriatric patients (65 years of age or above): No dose adjustment is necessary. **Method of administration:** Intended for administration by a healthcare professional. For subcutaneous injection into the abdomen. alternative injection sites include the upper arm or thigh. Injections should not be given into areas of active skin disease or injury such as sunburns, skin rashes, inflammation or skin infections. Leqvio should be inspected visually for particulate matter prior to administration. Each pre-filled syringe is for single use only. **Contraindications:** Hypersensitivity to the active substance or to any of the excipients. **Warnings and precautions:** Haemodialysis: Considering that inclisiran is eliminated renally, haemodialysis should not be performed for at least 72 hours after inclisiran dosing. **Pregnancy, lactation, females and males of reproductive potential Pregnancy:** There are no or limited amount of data from the use of inclisiran in pregnant women. Animal studies do not indicate direct or indirect harmful effects with respect to reproductive toxicity. As a precautionary measure, it is preferable to avoid the use of inclisiran during pregnancy. **Lactation:** It is unknown whether inclisiran is excreted in human milk. Available pharmacodynamic/toxicological data in animals have shown excretion of inclisiran in milk. A risk to newborns/infants cannot be excluded. A decision must be made whether to discontinue breast feeding or to discontinue/abstain from inclisiran therapy, taking into account the benefit of breast feeding for the child and the benefit of therapy for the woman. Infertility: No human data. No effects on animal fertility. **Adverse drug reactions:** Common (≥1 to <10%): Adverse events at the injection site (includes injection site reaction, injection site pain, injection site erythema, and injection site rash). **Interactions:** Not a substrate, inhibitor or inducer of CYP450 enzymes or common drug transporters. Not expected to have clinically significant interactions with other medications. Drug-drug interaction assessments demonstrated a lack of clinically meaningful interactions with either atorvastatin, rosuvastatin or other statins. **Packs:** Solution in pre-filled syringe: 1's **Legal classification:** P1S1S3 Last revision: Sep 2021 Ref: EU Dec 2020.

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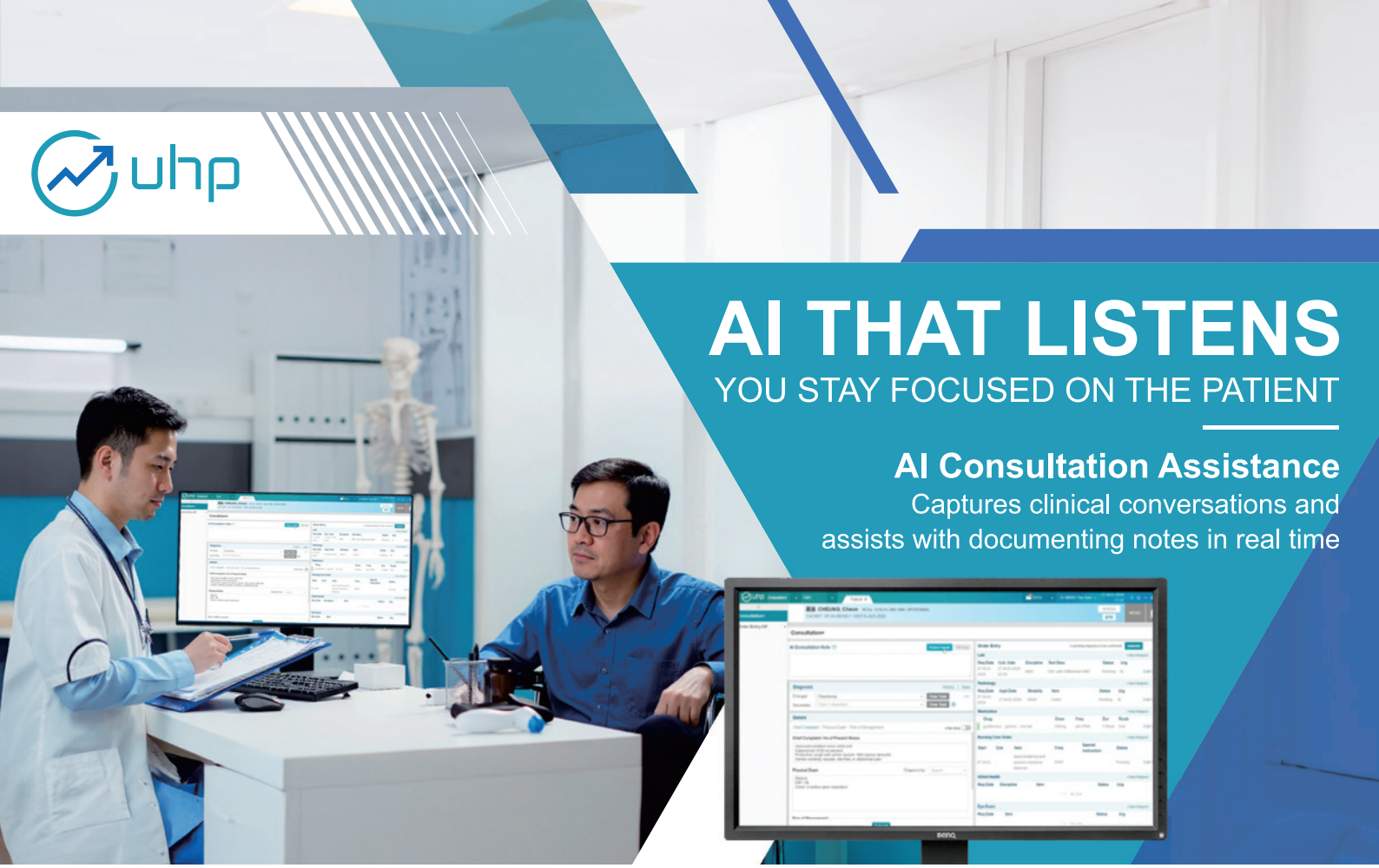
Programme

Time	Programme
08:30 - 09:00	Registration
09:00 - 09:15	**Opening Ceremony** Welcome Speech Dr. Fei Chau PANG *President, Hong Kong College of Community Medicine* Opening Address Dr. Cecilia Y. M. FAN *Under Secretary for Health, The Government of the Hong Kong SAR*
09:15 – 09:45	**T. Y. CHAU Lecture** Moderator: Dr. Alastair MAH AI in Healthcare: We're Not Slowing Down Mr. Nick THERKELSEN *Former Founder and CEO, Bain-acquired AI/ML firm, Max Kelsen*
09:45 – 11:00	**Session 1: Future Healthcare with AI** Moderator: Prof. Pui Hong CHUNG Beyond the Algorithm: Navigating AI Deployment in the Public Healthcare Dr. Keith W. H. CHIU *Consultant, Department of Diagnostic and Interventional Radiology, Queen Elizabeth Hospital* AI for Primary Care: Large Language Models in Small Communities Dr. Xiaodong TAO *CEO, iFLYTEK Health* **S. H. LEE Lecture:** Next Wave of Healthcare AI Development Prof. Ian C. K. WONG *Professor of Pharmacy, Principal Investigator of Jockey Club PHARM+ Community, Medication Service Network, Department of Pharmacology and Pharmacy, The University of Hong Kong* Panel discussion
11:00 – 11:30	Coffee / Tea
11:30 – 12:15	**Session 2: AI Unleashed: Taming the Legal Wild West** Moderator: Dr. Jasperine HO Responsible AI for Medicine Prof. Joseph J. Y. SUNG *Senior Vice President (Health & Life Sciences) and Dean of the Lee Kong Chian School of Medicine, Nanyang Technological University* Potential Liabilities from the Use of AI in Healthcare Ms. Katy YEUNG *Partner, Howse Williams* Q&A session
12:15 – 13:20	Lunch
13:20 – 15:00	**Free Paper Session** Moderator: Dr. Eddie YUEN Impact of Competency Training on Medical Administrators: Evaluation of a Leadership Development Programme Dr. Alastair MAH *United Family Healthcare* Psychological Flexibility, Burnout and Mental Health Outcomes among Healthcare Professionals in Hong Kong: A Path Analysis Ms. Kai Yi CHAN *JC School of Public Health and Primary Care, The Chinese University of Hong Kong*

Programme

	The Rising Burden of Pancreatic Cancer in Hong Kong: A 33-Year Analysis (1990–2022) with Projections to 2050 Mr. Zehuan YANG *The Chinese University of Hong Kong*
	"Will Others Read It Too?" On Trust, Negotiated Rules and Engagement in a Photovoice Project on Emotional Struggles among Pakistani Women in Hong Kong Dr. Elena NICHINI *JC School of Public Health and Primary Care, The Chinese University of Hong Kong*
	A Pilot Randomized Trial of a Generative AI Chatbot for Youth Tobacco Cessation: 3-Month Results Mr. Xiaoyun XIE *School of Nursing, The University of Hong Kong*
	Factors Predicted the Use of Smoking Cessation Services in Discharged Smoking Patients: A Secondary Analysis of a Randomized Clinical Trial Dr. Yingpei ZENG *The University of Hong Kong*
	Mobile Smartphone-Based Phonocardiography (mPCG) for Measuring Heart Rate Recovery Ms. Tsz Ching CHAN *The University of Hong Kong*
	Alcohol Brief Intervention Integrated with Mobile Chat-Based Support for Risky Drinkers in Emergency Departments: Preliminary Results of a Pragmatic Randomized Controlled Trial Dr. Yajie LI *The University of Hong Kong*
	Knowledge, Attitudes, Perceived Competence, and Current Practice of Trauma-Informed Care among Hong Kong Frontline Nurses: Can AI-Powered Platforms Serve as Nurses' Skill Trainers? Dr. Nelson YEUNG *The Chinese University of Hong Kong*
	Eliciting the Preference Weights for the Adult Social Care Outcomes Toolkit in Hong Kong General Population Ms. Siyue YU *The Chinese University of Hong Kong*
	Enhancing AI Literacy Among Health Discipline Students in Hong Kong through a Virtual Elderly Avatar App: Preliminary Findings from a Quasi-Experimental Study Prof. Siu Chee CHAN *The University of Hong Kong*
15:00 – 16:15	**Session 3: Nurturing an AI-Savvy Healthcare Workforce** Moderator: Dr. Tony HA
	AI in Medical Education and Healthcare: Training the Right Genotype & Phenotype of Physicians Prof. Davy CHENG Founding Dean & Presidential Chair Professor, CUHK-Shenzhen Medicine
	From Chatbots to Clinicians: How AI is Reshaping Medical Education and Student Development Prof. Gary K. K. LAU Assistant Dean (Education Innovations), LKS Faculty of Medicine, The University of Hong Kong
	From AI Co-Pilot to AI Agents: The Next Evolution in Public Health Technology Prof. Andy CHUN Professor of Practice, Department of Computing, The Hong Kong Polytechnic University
	Panel Discussion
16:15 – 16:30	**Closing Ceremony**

All times indicated are Hong Kong Time (UTC +8).
** Programme is subject to change without prior notice.*



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Abstracts

T. Y. CHAU Lecture

Mr. Nick THERKELSEN

Former Founder and CEO, Bain-acquired AI/ML firm, Max Kelsen

Mr. Nick Therkelsen is the global leader for Healthcare AI at Bain & Company. Nick works with his clients to apply AI and Generative AI technology to their businesses. In particular, he works with healthcare and life sciences companies to support them through the disruption that technology is bringing to the sector. Nick has experience applying AI in genomics, drug discovery, diagnostics, clinical operations, commercial operations and more across medical devices, pharma and providers. Prior to Bain, Nick founded and was the CEO of leading Artificial Intelligence consultancy Max Kelsen, where he worked across sectors to build and deploy over 100 AI systems. Nick's team was awarded a global customer of the year award from Google and an AI & ML partner of the year award from Amazon Web Services, and they were published multiple times in top-tier academic journals, among other achievements. Nick holds a Bachelor of Laws with Honours and a Bachelor of Economics from the University of Queensland. In his personal time, Nick is an active investor in AI, HealthTech and BioTech startups.

Abstract

AI in Healthcare: We're not slowing down.

AI in healthcare has attracted billions in investment, and whilst had a slow start in healthcare is now highly adopted across the sector, from the radiology applications to digital scribes, the wave of innovation appears to only be gathering steam. Conversely for many practitioners, their work does not feel transformed from its pre-AI posture, physician burnout continues, patient outcomes haven't noticeably moved, so when does all this innovation change the way we work and our patients live and what does the future look like?

Abstracts

Dr. Keith W. H. CHIU

Consultant, Department of Diagnostic and Interventional Radiology, Queen Elizabeth Hospital

Dr. Keith Chiu is a Consultant in the Department of Diagnostic and Interventional Radiology, Queen Elizabeth Hospital. Dr. Chiu underwent his radiology training in the United Kingdom before returning back to Hong Kong in 2015, first as Clinical Assistant Professor in the Department of Diagnostic Radiology in the University of Hong Kong, then Associate Consultant in the department of Diagnostic and Interventional Radiology in Kwong Wah Hospital before his current post in 2022. Dr. Chiu has interests in Artificial Intelligence, oncological and intervention radiology with presentations, invited lectures and publications on related fields.

Abstract

Beyond the Algorithm: Navigating AI Deployment in the Public Healthcare

The rapid development of Artificial Intelligence (AI) in healthcare presents a significant opportunity to enhance diagnostic accuracy, improve patient safety, and streamline workflows. However, successful implementation hinges on far more than algorithmic performance. This talk will present different strategic frameworks for AI deployment, drawn from the experience of the Hospital Authority (HA). We will illustrate these frameworks through in-depth analysis of three distinct deployment paradigms: (1) the departmental introduction of commercial AI platforms for radiologists; (2) a territory-wide rollout of a commercial AI for hemorrhage detection on CT brain in Accident & Emergency (A&E) departments; and (3) the large-scale deployment of in-house developed models for lung nodule and hip fracture detection, fully integrated into the Clinical Management System (CMS). For each case study, we will contrast the unique benefits and challenges, with a critical focus on clinical integration, real-world workflow impact, and long-term scalability. The lessons learned provide a vital, practical blueprint for other healthcare systems seeking to harness AI's potential in a sustainable and effective manner.

Abstracts

Dr. Xiaodong TAO

CEO, iFLYTEK Health

Dr. Xiaodong Tao, graduated from University of Science and Technology of China with a B.S. degree in Electrical Engineering. In 2005, he obtained his Ph.D. degree in Electrical and Computer Engineering from the Johns Hopkins University. Since then, he worked in General Electric Company and Royal Philips Electronics of the Netherlands, where he led teams working on research and development of cutting-edge technologies for healthcare and medical equipment, in particular, imaging devices, imaging methods, clinical applications, and radiology solutions. Dr. Tao joined iFLYTEK Health in Jan. 2017 as the CEO. In 2021, The University of Science and Technology of China hired him as the doctoral tutor of biomedical engineering.

Abstract

AI for Primary Care: Large Language Models in Small Communities

After decades of healthcare reform, China's primary care system has undergone significant improvement, with better facilities, enhanced IT systems, and more latest technologies being integrated into healthcare services. As a result, people are enjoying better accessibility to quality care at affordable cost. However, persistent disparities remain in the availability of high quality homogenized healthcare services, due to a shortage of experienced physicians in primary settings. The recent development in Artificial Intelligence (AI) technologies—particularly the rapid progress of Large Language Models (LLMs) over the last three years—offers a unique opportunity to bridge this gap.

In this talk, we will introduce our work on healthcare AI technology development and applications of these technologies in two areas. 1. AI-Assisted Diagnosis: We develop tools that empower primary care doctors by ensuring their diagnostic processes align with clinical guidelines, automatically review medical records for completeness and accuracy, and provide intelligent recommendations to prevent missed or incorrect diagnoses; 2. Personalized Chronic Disease Management: Using automated follow-up calls and dynamic patient data gathered through various connectivity tools, we generate tailored management plans for individuals with chronic diseases. Over the past nine years, our products and services have been implemented across more than 700 counties in mainland China, delivering over 1 billion AI-assisted diagnoses and facilitating more than 1.5 billion patient follow-ups. To conclude, we will briefly discuss the current challenges and future trends in medical AI, especially LLMs.

Abstracts

S. H. LEE Lecture

Prof. Ian C. K. WONG

Professor of Pharmacy, Principal Investigator of Jockey Club PHARM+ Community, Medication Service Network, Department of Pharmacology and Pharmacy, The University of Hong Kong

Professor Ian Wong holds the Regius (Royal) Chair in Pharmacy at Aston University in England, a prestigious position established by the late Queen Elizabeth II to commemorate her 90th birthday. He served as the Head of the Department of Pharmacology and Pharmacy at the University of Hong Kong until 2024. In 2021, he was awarded HK$20 million by the Hong Kong SAR Government to lead two major big data research programmes, evaluating the long-term outcomes of COVID-19 and the safety of COVID vaccines.

Professor Wong has published over 700 articles in prominent journals, including those in the Nature portfolio, JAMA Network, The Lancet family, and BMJ journals. He has been ranked among the top 1% of scholars worldwide from 2015 to 2024.

An article in The Lancet Psychiatry referred to him as the "Father of Healthcare Big Data Research in Hong Kong," a testament to the significant number of researchers his team has trained in this field.

Abstract

Next Wave of Healthcare AI Development

Agentic artificial intelligence (AI) is set to usher in a new wave of developments in healthcare, bringing autonomous reasoning and decision-making to complex medical tasks. As adoption increases in the coming years, this technology—building on generative AI—will proactively manage multistep processes and synthesize information from multiple sources to enhance both efficiency and patient care. Potential applications of agentic AI include drug discovery, clinical trials, insurance claims processing, clinical referrals, diagnosis, and virtual health assistance, such as real-time monitoring and medication reminders. By supporting these functions, agentic AI stands to significantly improve productivity and operational efficiency across the healthcare sector. In this lecture, I will introduce the concept of agentic AI and its prospective uses in the future.

Abstracts

Prof. Joseph J. Y. SUNG

Senior Vice President (Health & Life Sciences) and Dean of the Lee Kong Chian School of Medicine, Nanyang Technological University

Professor Sung is currently a Distinguished University Professor, Senior Vice President (Health & Life Sciences), and Dean of the Lee Kong Chian School of Medicine at Nanyang Technological University, Singapore.

He obtained his medical degree (MBBS) from The University of Hong Kong and was awarded a PhD in Biomedical Sciences by the University of Calgary and an MD by The Chinese University of Hong Kong. From 2010 to 2017, he served as the Vice-Chancellor and President of The Chinese University of Hong Kong.

Professor Sung's research interests include intestinal bleeding, Helicobacter pylori, peptic ulcers, hepatitis B, colorectal cancer, and other cancers of the digestive system. In recent years, his work has expanded to studies on the gut microbiome, digestive diseases, and the application of artificial intelligence in clinical medicine. He has authored over 1,000 scientific articles published in leading medical and scientific journals. His most recent book, "Artificial Intelligence in Medicine: From Ethical, Social, and Legal Perspectives", was published in 2024.

Professor Sung has been recognized as a "Highly Cited Researcher" by Clarivate Analytics for the consecutive years from 2018 to 2024.

Abstract

Responsible AI for Medicine

Responsible AI is the use of AI that prevents or reduces harms. Harms include pain, disability and death, but also misinformation, invasion of privacy and unfairness. From receivers' perspectives, these harms are what matters to them personally. From designers' and users' perspectives, these harms determine whether they are practising with responsibility and dignity. One should note that morality cannot be determined by vote. It is culture specific and it relies a lot of information provided. In building AI tools for clinical diagnosis and management, bias should be avoided or minimised. In this talk, I will discuss on issues like Privacy, Informed Consent, Trust and Explainability and Equity of Healthcare. Before AI can be implemented in a scalable manner, we should set up framework to ensure that our use of AI in medicine is "Responsible".

Abstracts

Ms. Katy YEUNG

Partner, Howse Williams

Katy qualified as a Solicitor in England and Wales in 2011 and was admitted as a Hong Kong Solicitor in 2015. Katy is experienced in medico-legal matters. She advises healthcare professionals, clinics, private hospitals and their indemnity providers on a wide range of matters including clinical negligence claims, complaints, Coroner's inquests and disciplinary proceedings.

Katy also advises on non-contentious matters on the Personal Data (Privacy) Ordinance, the Human Reproductive Technology Ordinance, and general compliance with the relevant codes and practices for healthcare professionals, clinics and private hospitals.

Abstract

Potential Liabilities from the Use of AI in Healthcare

This presentation will look at how Artificial Intelligence (AI) is changing the way doctors practice medicine, and the impact on legal and ethical responsibilities. As AI tools become more common in healthcare, ranging from AI-assisted diagnostics to clinical decision support, we will look at how liability is likely to be apportioned when adverse outcomes occur. Currently, AI is used as a tool to assist doctors and the ultimate responsibility remains with doctors. We will discuss important issues such as: Can doctors rely on AI recommendations without breaching their duty of care? How should AI's role be communicated during the patient consent process? and what happens when AI contributes to a clinical error? Issues including the standards of care, data protection when AI is used, and the current guidance in Hong Kong will also be discussed to provide a clearer understanding of the relevant medico-legal issues concerning AI in healthcare.

Abstracts

Prof. Davy CHENG

Founding Dean & Presidential Chair Professor, CUHK-Shenzhen Medicine

As a clinician-scientist, clinician-educator, and clinician-administrator, Prof. Cheng has authored over 190 peer-reviewed scientific articles, 60 books/book chapters (citations: 25,209; h-index: 69; i10-index: 149). His evidence-based guideline work and pioneer research in fast-track cardiac anesthesia and surgery has placed him among the World's Top 2% Scientists since 2022; also #17 Global Ranking of Lifetime Highly Ranked Scholar in Anesthesiology (Tracheal Intubation) in 2024. Prof. Cheng has been a well sought-after speaker at over 220 universities, cardiac centers, and national/international conferences.

Abstract

AI in Medical Education and Healthcare: Training the Right Genotype & Phenotype of Physicians

This presentation provides an overview of the current and anticipated healthcare demands in China and globally, with a particular focus on the latest trends in the integration of artificial intelligence within healthcare and medical education. It highlights the transformative potential of AI in clinical practice, patient management, and professional training, and showcases how CUHKSZ is leveraging AI in the training of new physicians. The aim of this presentation is to offer insights into future directions and strategic opportunities for innovation in medical education.

Abstracts

Prof. Gary K. K. LAU

Assistant Dean (Education Innovations), LKS Faculty of Medicine, The University of Hong Kong

Professor Gary Lau is currently Assistant Dean (Education Innovations), Director of EdTech and SIMHSE (Students in Medical and Health Sciences Education) and Director of HKU Stroke at HKUMed. He has published >180 articles/book chapters on stroke/medical education. He and his team has pioneered a number of initiatives relating to educational technology and students as partners. He has received numerous prestigious awards which include the Henry Walton Prize from the Association for the Study of Medical Education and Exemplary Teaching and Learning Silver Award from eLearning Forum Asia. He was recognised as one of the Ten Outstanding Young Persons of Hong Kong in 2024.

Abstract

From Chatbots to Clinicians: How AI is Reshaping Medical Education and Student Development

The rapid integration of artificial intelligence (AI) into medical education brings both transformative potentials alongside critical challenges. AI-powered chatbots and virtual patient simulations provide new opportunities that may enhance clinical reasoning, adaptive learning, and communication skills; offering personalized, scalable training beyond traditional methods. Automated assessment tools provide real-time feedback, while AI-driven case simulations prepare students for complex decision-making. However, overreliance on AI threatens essential physician competencies, such as independent critical thinking and humanistic patient care.

As AI reshapes medical education, fostering AI literacy is vital - ensuring future clinicians understand its ethical, legal, and professional limitations. Educators must balance AI's advantages with it's limitations. This talk explores how a blended approach can maximise AI's benefits whilst preserving the irreplaceable role of human mentorship and humanities-based education, ensuring physicians remains both technologically adept and patient-centred

Abstracts

Prof. Andy CHUN

Professor of Practice, Department of Computing, The Hong Kong Polytechnic University

Prof. Andy Chun is a distinguished pioneer in Artificial Intelligence, with a career spanning several decades. He spearheaded Hong Kong's first commercial AI system deployment in the late 1980s. He has since developed innovative AI solutions for numerous public and private sectors, significantly enhancing Hong Kong's social services, quality of life, and economic prosperity. Prof. Chun is a Professor of Practice at Hong Kong Polytechnic University and an Adjunct Professor of the EMBA program at City University of Hong Kong. In these roles, he actively advocates for innovation and the adoption of emerging technologies.

Throughout his career, Prof. Chun has led technology initiatives at Prudential plc, held CEO positions at multiple AI start-ups, and served as the University CIO at City University of Hong Kong. He is an advisor to the HKSAR Government on AI and IT strategies and the founder of the AI Specialist Group for the Hong Kong Computer Society. His exceptional contributions to AI have earned him numerous accolades, including being named a Distinguished Fellow of the Hong Kong Computer Society. Prof. Chun holds a Ph.D. in Electrical Engineering from the University of Illinois at Urbana-Champaign.

Abstract

From AI Co-Pilot to AI Agents: The Next Evolution in Public Health Technology

AI is revolutionizing healthcare, with generative AI already serving as a co-pilot to assist clinicians in diagnostics and patient care. But the next leap, agentic AI, promises even greater autonomy, transforming medical decision-making and public health systems. To provide higher-quality, personalized care, medical professionals must quickly equip themselves with these rapidly evolving tools. This talk explores how AI-literate clinicians can harness both AI co-pilots and AI agents to enhance healthcare for our citizens.

Free Paper Presentations

Free Paper 1

Impact of Competency Training on Medical Administrators: Evaluation of a Leadership Development Programme

Dr. Alastair Mah[1]
[1]United Family Healthcare, Beijing, China, [2]JC School of Public Health and Primary Care, The Chinese University of Hong Kong Faculty of Medicine, Hong Kong SAR, China

Purpose
To evaluate the impact of a competency-based training programme on enhancing the competencies of medical administrators in China.

Methodology
A quasi-experimental study was conducted with 23 medical administrators from United Family Healthcare (UFH) hospitals across China. Participants completed the Royal Australasian College of Medical Administrators (RACMA) competency self-assessment questionnaire (158 items across seven domains: medical expert, communication, collaborator, manager, health advocate, scholar, professionalism) before and after a three-phase Medical Management and Leadership Development Programme (March 2023–March 2024). The RACMA model was adapted to the Chinese context (e.g. "Australasian healthcare systems" revised to "Chinese healthcare systems"). Competency domains were assessed via 5-point Likert scales (0–4). Pre-test/post-test differences were analysed using paired t-tests/Wilcoxon signed-rank tests (significance: $p < 0.1$). Objective performance was validated using Annual Performance Review (APR) scores.

Results
Significant post-training improvements occurred in four domains:
- Medical expert (mean increase: pretest 52.74 → post-test 59.17; $p = 0.043$)
- Communication (44.17 → 48.83; $p = 0.083$)
- Collaborator (23.70 → 26.52; $p = 0.031$)
- Manager (136.22 → 158.39; $p = 0.009$)

Knowledge ($p = 0.010$) and skills ($p = 0.022$) improved more substantially than behaviour ($p = 0.096$). Health advocate, scholar, and professionalism domains showed no significant overall gains. APR scores increased in 87% of participants (average increase: 13.7%), corroborating self-assessment findings. "Medical expert" for a medical administrator is a health system expert.

Conclusion
Competency training significantly enhanced performance in medical expert and managerial domains among medical administrators. However, domains requiring long-term behavioural integration (e.g. professionalism) showed limited short-term improvement. The RACMA model is effective for targeted training in China's healthcare settings, though future programmes should prioritise longitudinal behavioural support.

Free Paper Presentations

Free Paper 2

Psychological Flexibility, Burnout and Mental Health Outcomes Among Healthcare Professionals in Hong Kong: A Path Analysis

Ms. Kylie Kai-yi Chan[1,2], Ms Tiffanie Sze-wing Pang, Mr Yilun Huang[1], Professor Nelson Chun-yiu Yeung[1], Professor Phoenix Kit-han Mo[1], Professor Xue Yang[1]
[1]Jc School of Public Health and Primary Care, The Chinese University of Hong Kong, Hong Kong SAR, [2]Department of Psychology, The Chinese University of Hong Kong, Hong Kong SAR

Purpose
Burnout, depression, anxiety, and post-traumatic stress disorders (PTSD) are prevalent among healthcare professionals (HCPs) worldwide. Psychological flexibility was identified as a potential protective factor, but the mechanism is unclear. Relevant research is lacking in Hong Kong despite HCPs' significant work stress and mental health needs. This study aims to evaluate the rates of these common mental health problems among HCPs and explore the mechanism of how psychological flexibility and burnout can affect HCPs' mental health.

Methodology
In this cross-sectional study, 497 HCPs filled in an online survey where demographics and mental health measurements were collected. Depression, anxiety, PTSD, and burnout were assessed by the Chinese versions of Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder Scale (GAD-7), Abbreviated PTSD Checklist - Civilian Version (Abbreviated PCL-C), and the Copenhagen Burnout Inventory respectively. Psychological flexibility was measured by Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT-10). Two path models were built to examine the role of psychological flexibility, and its components valued action (VA), behavioural awareness (BA) and openness to experience (OE), on mental health outcomes via burnout.

Results
A significant number of participants reported clinical levels of depression (168 [33.8%]), anxiety (132 [27.2%]), and PTSD (56 [11.9%]), with a comorbidity rate of 10.2%. Only 17 (4.0%) had sought professional help. Path analysis revealed psychological flexibility's significant indirect effects through burnout (depression: $\beta = -0.277$, 95% CI [-.331, -0.228], $p < 0.001$; anxiety: $\beta = -0.219$, 95% CI [-0.270, -0.173], $p < 0.001$; PTSD: $\beta = -0.218$, 95% CI [-0.267, -0.175], $p < 0.001$). Burnout was also significantly negatively associated with all three components of psychological flexibility (VA: $\beta = -0.252$, $p < 0.001$; BA: $\beta = -0.362$, $p < 0.001$; OE: $\beta = -0.119$, $p = 0.005$). Each component demonstrated significant indirect effects through burnout.

Conclusion
Common mental health problems are prevalent among HCPs, but their professional help-seeking is extremely low. Higher psychological flexibility was associated with lower risks of mental health problems through its effect on burnout. Interventions targeting psychological flexibility may improve HCPs' mental health both directly and by alleviating burnout as an important mediator.

Free Paper Presentations

Free Paper 3

The Rising Burden of Pancreatic Cancer in Hong Kong: A 33-Year Analysis (1990–2022) With Projections to 2050

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Purpose
This study aimed to evaluate the burden and epidemiological trends of pancreatic cancer in Hong Kong, with projections to 2050.

Methods
Sex-stratified incidence and mortality data (1990–2022) were extracted from the Hong Kong Cancer Registry, while population demographics and projections were retrieved from government censuses and the Hong Kong Population Projections programme. Disability-adjusted life years (DALYs) were calculated using sourced data. Decomposition analysis was employed to quantify contributions of demographic aging, population growth, and epidemiological shifts to pancreatic cancer burden. Age-Period-Cohort analysis was used to decompose burden into age, calendar period and birth cohort effects. Temporal trends were evaluated using Joinpoint regression, and a Bayesian hierarchical model projected disease burden through 2050.

Results
In 2022, Hong Kong reported 1,037 incident cases, 920 deaths, and 15,457 (95% CI: 15,416 to 15,498) DALYs. From 1990 to 2022, the age-standardized rates rose from 4.48 to 6.61 per 100,000 persons for incidence, 4.62 to 5.29 for mortality, and 73.2 to 98.9 for DALYs. Epidemiological variation was responsible for 23.4% of the increase in incident cases, 10.7% of deaths, and 25.1% of DALYs. Older age groups, more recent periods, and later birth cohorts were all associated with increased incidence, mortality, and DALY rates. While the largest increase in pancreatic cancer incidence was observed among adults aged 35-39 years (AAPC: 3.20, 95% CI: 0.52-5.85), the most significant increase in mortality (1.89 [0.84 to 2.79], p<0.001) and DALYs (1.60 [0.72 to 2.41], p=0.002) occurred in older adults aged 70-74. In 2050, the number of incident cases was predicted to increase to 2,605 (2,182 to 3,086), deaths to 2,016 (1,668 to 2,410), and DALYs to 13,782 (12,726 to 14,900).

Conclusions
Hong Kong has experienced a substantial increase in pancreatic cancer burden over the past three decades, with significant rises in both absolute case numbers and age-standardized rates. To address this rising challenge, targeted public health interventions and healthcare policies are urgently needed. Additionally, further research should investigate modifiable risk factors underlying the observed epidemiological variation to inform effective prevention strategies.

Free Paper Presentations

Free Paper 4

"Will Others Read It Too?" On Trust, Negotiated Rules and Engagement in a Photovoice Project on Emotional Struggles among Pakistani Women in Hong Kong

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Introduction
A call for participatory research and more horizontal approaches to knowledge production is emerging within the field of public health with the overall aim of enhancing health equity and promoting tailored care. Yet engagement poses challenges to researchers as often traditional power relations with participants are only superficially tackled.

This study shares our research team's experiences of engagement in a photovoice project addressing emotional struggles among Pakistani women in Hong Kong. Doctors may label their anecdotes of struggling in terms of mental health issues, yet the biomedical frameworks in which they are embedded are unlikely to fully encapsulate their experiences. Doctors and social workers may rely as well on culturalist explanations of their suffering, which is also often associated with the underutilization of available mental health services. Yet when treated as an isolated "fixed variable" (Kleinman 2004) culture has been seen as hindering rather than promoting care.

Objective
Our photovoice project aims instead at actively engaging Pakistani women as co-researchers and providing them with an alternative platform to understand and express their emotional struggles, beyond biomedical and culturalist explanations. To enhance engagement and avoid tokenistic participation, establishment of trust and training of co-researchers are crucial.

Methodology
This study adopted photovoice, which is an innovative methodology with participatory-action research (PAR) at its core, relying on photos and narratives to provide a platform for co-researchers to express emotional struggles in their own terms. As part of the preparatory stage, 11 rounds of focus group discussions were conducted with 74 Pakistani women. Participatory learning tools were employed to discuss upon trust, confidentiality and shared rules.

Results
Responsibility, fear, respect, embarrassment and positionality emerged throughout the discussion. This preparatory stage served as a platform to engage our interlocutors in critical dialogue about negotiated rules of participation. This in turn is likely to foster engagement and long-term academic/community collaboration.

Free Paper Presentations

Free Paper 5

A Pilot Randomized Trial of a Generative AI Chatbot for Youth Tobacco Cessation: 3-month Results

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Purpose
To assess the feasibility, acceptability, and preliminary effectiveness of a novel generative artificial intelligence (GenAI) chatbot for youth tobacco cessation.

Methodology
This two-arm, parallel pilot randomised controlled trial was conducted at the HKU Youth Quitline, targeting youth aged ≤25 years who had smoked cigarettes, electronic cigarettes, or heated tobacco products in the past month. Participants were randomised 1:1 to receive multi-session smoking cessation counselling delivered by a web-based GenAI chatbot (intervention) or by peer counsellors (standard care). The chatbot was designed to deliver cessation counselling using the 5A's (ask, advise, assess, assist, arrange), 5R's (relevance, risks, rewards, roadblocks, repetition), and motivational interviewing, mirroring the standard telephone counselling approach used by peer counsellors. Trial feasibility was assessed via recruitment rate and retention rate at 3 months. Chatbot acceptability was measured using the System Usability Scale (SUS) and usage metrics. Treatment outcomes included self-reported 7-day point-prevalent abstinence (PPA), 30-day PPA, and 24-hour quit attempt at 3 months, analysed by intention-to-treat. Trial registration: ClinicalTrials.gov (NCT06470776).

Results
From July 7 to November 23, 2024, 154 of 164 eligible youths (recruitment rate=94%) were recruited and randomized to the intervention (n=77) or control (n=77) group. The mean (SD) age was 18.3 (3.4) years; 114 (74%) were male. In the intervention group, 55 (71%) participants used the chatbot at least once, and 13 (17%) completed all counselling sessions. The median (IQR) SUS (range 0-100) score was 68 (48-78). At 3-month follow-up (retention rate=86%), 7-day PPA (31% vs 26%, P=0.48), 30-day PPA (19% vs 21%, P=0.84), and 24-hour quit attempt (64% vs 55%, P=0.26) were similar between groups. Intervention participants who used the chatbot at least once had higher 7-day PPA (36% vs 18%, P=0.12), 30-day PPA (24% vs 9%, P=0.15), and 24-hour quit attempt (71% vs 45%, P=0.036) than those who did not.

Conclusion
This trial showed the feasibility and acceptability of a GenAI chatbot for youth tobacco cessation. The comparable abstinence outcomes suggest the chatbot could serve as a scalable alternative to peer-led counselling for enhancing the Youth Quitline service. A definite trial is warranted to confirm non-inferiority.

Funding: Health and Medical Research Fund (No.20212551).

Free Paper Presentations

Free Paper 6

Factors Predicted the Use of Smoking Cessation Services in Discharged Smoking Patients: A Secondary Analysis of a Randomized Clinical Trial

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Purpose
Many patients continue to smoke after hospital stay. Smoking cessation (SC) services, which offer pharmaceutical and behavioural support, can increase quit attempts and sustain the long-term abstinence in discharged smokers. We examined factors that predicted SC service use in discharged smoking patients.

Methodology
We used data of a 2-arm, multicenter, randomized clinical trial of smoking cessation interventions for discharged smoking patients, who were proactively recruited from the Department of Medicine & Geriatrics in 3 public hospitals in Hong Kong. Eligible participants were Hong Kong residents aged 18 years or older who had smoked daily before admission. Participants were randomly assigned 1:1 to either the intervention group or the control group. The intervention group received active referral of SC services, while the control group had no support for SC services. SC service use was defined as any use of SC services during the 12-month follow-up period. We also assessed different types of SC services use. Baseline data included demographic characteristics, baseline smoking behaviours, readiness to quit, perceptions of quitting, and quit history. Poisson regression with robust variance estimator were used to yield adjusted risk ratios (aRR) for SC service use with baseline characteristics.

Results
Of 770 participants, 76 (9.9%) ever used SC services since study initiation. Having ever used SC services was associated with being female (aRR 1.95, 95%CI 1.07-3.55) and less participants aged ≥ 60 years (aRR 0.38, 95%CI 0.16-0.92). Previous use of SC medications/services (aRR 2.17, 95%CI 1.22-3.86), readiness to quit within 30 days (aRR 1.83, 95%CI 1.08-3.11), higher scores of perceived importance (aRR 1.15, 95%CI 1.03-1.29) and difficulty (aRR 1.19, 95%CI 1.07-1.32) of quitting, and the intervention of referral (aRR 1.62, 95%CI 1.01-2.61) predicted more SC service use. The most common type of SC services provided was nicotine replacement therapy (46, 60.5%).

Conclusion
Previous experience of using SC medications/services, readiness to quit within 30 days, and perceived importance and difficulty of quitting predicted service use in discharge smoking patients. Proactive interventions on SC service use are warranted for patients with no or little intention to quit, to increase quit attempts.

Funding: General Research Fund, Research Grants Council

Free Paper Presentations

Free Paper 7

Mobile Smartphone-Based Phonocardiography (mPCG) for Measuring Heart Rate Recovery

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Background
Heart Rate Recovery (HRR) refers to the decrease in heart rate (HR) 1 or 2 minutes post-exercise. It is a critical indicator of autonomic nervous system function and cardiovascular health. Abnormal HRR is independently associated with increased mortality risk, cardiovascular disease, and metabolic disorders. To eliminate hardware barriers to the common methods of obtaining HRR from electrocardiography (ECG) and photoplethysmography (PPG), we propose a novel mobile phonocardiography (mPCG) system to measure HRR utilising the built-in microphone of smartphones.

Purpose
This study aims to evaluate whether mPCG-derived HRR performs on par with PPG-derived HRR.

Methodology
In this cross-sectional study, 50 participants who were deemed fit based on a health and fitness questionnaire were recruited. All participants exercised on a treadmill until 80-90% of age-adjusted maximum (220-age) was reached. HR was continuously recorded using Polar H10 ECG chest-strap (reference) and Huawei Band 9 (PPG comparator) for up to 10 minutes post-exercise. mPCG was recorded with a smartphone placed on the chest on each participant via the phone's built-in microphone immediately after exercise. After excluding low quality tracks and tracks with missing data, 41 participants' data were included for analysis (median age: 20 (IQR: 19-24) years, 29% female). The primary endpoints are concordance correlation coefficient (CCC) and accuracy (within ±5 bpm or ±10 bpm) of HRR derived from mPCG and PPG, in respect to ECG. HRR was calculated as the decrease in HR 1 minute post-exercise.

Results
Using ECG as the reference, the concordance of mPCG-derived HRR (CCC: 0.82 [95%CI 0.69-0.90]) is significantly higher than PPG-derived HRR CCC (CCC: 0.37 [95%CI 0.07-0.61]). 100% of HRR values from mPCG fell within ±10 bpm of the ECG reference, compared to 90% of PPG-derived HRR values. At ±5 bpm of reference, mPCG and PPG are accurate at 73% and 78% respectively, which are comparable.

Conclusion
This study demonstrates that smartphone-based mPCG is able to generate accurate HRR measures in reference to ECG and is more reliable than wrist-worn PPG-derived HRR. Given the wide availability of smartphones in the community, it can be used as a powerful technology to measure HRR for community health assessment.

Free Paper Presentations

Free Paper 8

Alcohol Brief Intervention Integrated with Mobile Chat-Based Support for Risky Drinkers in Emergency Departments: Preliminary Results of a Pragmatic Randomized Controlled Trial

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Purpose

Alcohol-related injuries and violence frequently result in visits to accident and emergency departments (AEDs), presenting an opportunity to address risky drinking behaviors. This study evaluates the effectiveness of the alcohol brief intervention (ABI) with mobile chat-based support in reducing alcohol consumption among risky drinkers in AEDs.

Methodology

In this two-arm, parallel, pragmatic, individual-randomized controlled trial, risky drinkers attending AEDs with an Alcohol Use Disorders Identification Test (AUDIT) score of ≥8 were recruited, and randomized (1:1) to either intervention or control group. All participants received face-to-face ABI at baseline. As an extension of ABI, the intervention group received personalized chat-based support, guided by the Behavior Change Wheel and behavior change techniques, delivered by a live counselor via WhatsApp over the subsequent 3 months. Control group received text messages on general health. Outcomes, including weekly alcohol consumption, AUDIT score, binge drinking and heavy drinking, were measured at 3 and 6 months. The primary analysis was by intention to treat. Linear regression (reported as unstandardized coefficient B) and logistic regression (reported as odds ratio) were used to compare the outcomes between study groups. Covariates include sex, age, marital status, employment, income, intention and self-efficacy to reduce or quit drinking. This trial is registered with ClinicalTrials.gov (NCT05018624).

Results

Between 25 May 2022 and 28 March 2024, 632 out of 2299 eligible risky drinkers were recruited from five AEDs in Hong Kong. Retention rates were 68.7% and 66.1% at 3 and 6 months. At 3 months, the intervention group (n=316) reported non-significant reductions in weekly alcohol consumption (B = -13.6, 95% CI: -49.0 to 21.7) and AUDIT score (-0.3, -1.3 to 0.7) compared with the control group (n=316). The prevalence of binge drinking (Odds ratio = 1.3, 95% CI: 0.9 to 1.8) and heavy drinking (1.1, 0.7 to 1.8) did not differ between study groups. Similar results were found at 6 months and remained consistent after adjusting for covariates.

Conclusion

ABI with chat-based support did not reduce the prevalence of binge and heavy drinking among risky drinkers attending AEDs although there was a non-significant trend towards reduced weekly alcohol consumption and AUDIT scores.

Free Paper Presentations

Free Paper 9

Knowledge, Attitudes, Perceived Competence, and Current Practice of Trauma-Informed Care among Hong Kong Frontline Nurses: Can AI-Powered Platforms Serve as Nurses' Skill Trainers?

Dr. Nelson Yeung[1], Ms. Jiexi Yang[1]
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Purpose
As frontline nurses are often exposed to patients' traumas, it is important to understand their perceptions and competence in implementing trauma-informed care(TIC)(i.e., an approach recognizing the health impacts of traumas and providing physically/psychologically safe service settings for trauma-exposed patients). Despite a growing international consensus about the benefits of TIC for patients' well-being, no standardized protocol exists in Hong Kong to guide local implementation of TIC. This study examined the levels of knowledge, attitude, competence in implementing TIC, and recent TIC practice among Hong Kong nurses.

Methodology
Nurses(N=252, 86.9% female) having experiences caring for trauma-exposed patients(e.g., accidents, suicide, terminal illnesses) were recruited through nursing associations in Hong Kong between February-March 2024. They completed an online cross-sectional survey measuring the aforementioned variables.

Results
Regarding knowledge, most of participants were aware that "trauma affects physical, emotional, and mental well-being"(98.4%) and "re-traumatization can occur unintentionally"(94.8%). However, fewer participants agreed that "exposure to trauma is common"(69.1%). Besides, the participants reported a moderate-to-high level of favorable attitudes towards TIC. However, less than half of them perceived themselves incompetent in providing basic trauma-focused interventions(44.0%) and eliciting details of a traumatic event from patients without re-traumatizing them(40.9%). Regarding TIC practice, the most frequently-adopted practice was encouraging patients to utilize their social support systems(77.8%). Fewer participants utilized TIC-related support available from their institutions(34.9%), taught about what to say to a trauma-exposed family member(46.4%), and taught patients specific strategies to cope with upsetting experiences(55.6%). Only 1.2% of participants participated in TIC-related training.

Conclusion
Frontline nurses were aware of the negative health impacts of traumas on patients and having favorable attitudes towards TIC. However, they were not confident in understanding/providing TIC-related interventions and asking about patients' trauma details without re-traumatization. It was also uncommon for them to use TIC-related support from their institutions and to teach patients/their family members to cope with traumas. Advances in artificial intelligence(AI) have made personalizing nurses' training on patient-care skills possible. The findings highlighted important components for the development of future AI-driven TIC training programs and underscore the need for further research into nurses' acceptance of such initiatives and their effectiveness in enhancing TIC practices.

Free Paper Presentations

Free Paper 10

Eliciting the Preference Weights for the Adult Social Care Outcomes Toolkit in Hong Kong General Population

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Purpose
The Adult Social Care Outcomes Toolkit (ASCOT) is a preference-based instrument designed to measure outcomes for long-term care (LTC) recipients. Although a Hong Kong (HK) Chinese version of ASCOT is available, it lacks a local value set that reflects societal preferences for LTC-related quality of life (QoL). This study aimed to elicit these preference weights from the HK general population to develop the first HK-specific ASCOT value set.

Methodology
A cross-sectional online survey using the best-worst scaling (BWS) profile case method was administered to a representative sample of the HK general population, stratified by age and gender. Respondents were asked to imagine themselves needing LTC and were presented with hypothetical profiles describing outcome levels across the eight ASCOT domains: control over daily life, personal cleanliness, food and drink, safety, social contact, occupation, home cleanliness, and dignity. For each profile, respondents selected the 'best' and 'worst' outcomes. A multinomial mixed-logit model was employed to analyse the choices and establish the preference weights.

Results
A total of 1348 responses were collected, which were representative of the HK general population in terms of age, gender, and location, but individuals with a secondary education level were over-represented. The multinomial mixed-logit model revealed that the most valued attributes were ‘control over daily life’ and ‘occupation’ at their highest levels (ideal state). The least valued attributes were ‘control over daily life’ and ‘safety’ at their lowest levels (high needs). For most domains, large differences in preference weights were observed between the highest level (ideal state) and the second-highest level (no needs).

Conclusion
This study successfully generated the first set of HK-specific preference weights for the Chinese version of the ASCOT instrument. These weights will facilitate the measurement of LTC-related QoL among care users and to support the economic evaluation of LTC services in HK.

Free Paper Presentations

Free Paper 11

Enhancing AI Literacy Among Health Discipline Students in Hong Kong Through a Virtual Elderly Avatar App: Preliminary Findings from a Quasi-Experimental Study

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Purpose
This study aims to evaluate the preliminary effectiveness of an AI-powered virtual older adults avatar app in enhancing AI literacy among health discipline students.

Methodology
A quasi-experimental pretest-posttest design was employed. Twenty-six Jockey Club Nursing Leadership Development Fellowship Programme students from a Hong Kong university participated in training via a mobile app featuring a conversational AI older adults avatar ("AI Elder") designed to simulate real-life dialogues with older adults. Socio-demographic data and AI literacy scores were collected before and after the training. Pre- and post-training outcomes were analyzed using Wilcoxon signed-rank tests. Additionally, responses to open-ended questions were analyzed using content analysis.

Results
All 26 participants (46.16% 41-50 years, 76.92% female) completed the training. Post-training, there was a statistically significant improvement in AI literacy scores (Median [IQR]: 35.92 [31.5, 43.5] to 38.62 [30.5, 43]; Z= 2.41, p= 0.02). Notably, the item "I can use artificial intelligence meaningfully to achieve my goals" also improved significantly (Z= 3.12, p= 0.03). Content analysis of qualitative feedback highlighted the app's realism, personalization, and emotional engagement. Suggestions for improvement included enhancing connectivity, system performance, and natural language understanding.

Conclusion
Preliminary findings suggest that an AI-powered virtual older adults avatar app can effectively enhance AI literacy among health discipline students. Significant improvements were observed in overall AI literacy and students expressed positive feedback regarding the app's training potential. Nevertheless, technical challenges, particularly in connectivity and natural language processing, were identified and should be addressed in future development. This ongoing project highlights the promise of AI-driven, scalable training tools in preparing students for both intergenerational communication and the integration of AI within healthcare education.

Poster Presentations

Poster 1

How to Recruit More DHC Doctors? A Quantitative and Qualitative Study of District Health Centres from Doctors' Perspective

Ms. Wing Tung Liu[1], **Mr. Pak Hong Tse**[1], Mr. Tin Yau Poon[1], Mr. Ho Wang Ng[1], Prof. Hong Fung[2], Dr. Hiu Yeung, Jacqueline Choi[2]
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Purpose
This study aims to gather insights from primary healthcare doctors regarding their knowledge of District Health Centres (DHC), their motivations for participating or refraining from participation, and their suggestions for enhancing the program and recruiting more doctors.

Methodology
In this cross-sectional study conducted from January 2024 to October 2024, doctors were invited to complete a questionnaire and engage in interviews, with 58 respondents to the questionnaire and 8 participating in interviews.

Results
The findings revealed that most doctors (80%) joined DHC to contribute to the development of primary healthcare in Hong Kong. The most common obstacles to doctors not enrolling include complicated administrative procedures (39.5%) and difficulties associated with the enrollment process (26.3%). Additionally, technological difficulty (23.7%) is another major barrier faced by both existing DHC network medical practitioners and those not enrolled. Despite these challenges, most doctors acknowledge the potential of DHC to improve the overall health condition of the general public (79.3%), improve the public healthcare system (81.0%), act as competent case managers (70.7%), and facilitate collaboration with allied health support and social care (84.5%).

Conclusion
To recruit more doctors, the recommendations by this study include a more extensive promotion of the functions and goals of DHC within the medical sector, a simplified administration especially on reimbursement and enrollment, development of a more user-friendly IT platform, active involvement of doctors in DHC management, establishment of a tiered reimbursement system based on patient volume, addressing geographical monopoly by advising patients to choose doctors near their homes or workplaces, and outreach to hidden populations through home visits and community engagements in crowded areas. It is worthwhile to stress that for the future development of DHC, promotion efforts for primary care doctors are as important as that for the general public, and that recruiting more primary care doctors is not only beneficial to the development of DHC, but also to the transformation of primary healthcare in Hong Kong.

Poster Presentations

Poster 2

Rebound of antibiotic use and respiratory infections after resumption of normalcy from COVID-19 in Hong Kong

Dr Edmond Ma[1], Mr Enoch Hsu[1], Mr Vincent Chow[1], **Dr Andrea Liu**[1], Dr. Lok Sum Ko[1], Dr Albert Au[2], Dr KH Kung[2], Dr Hong Chen[1]
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Purpose
During COVID-19 pandemic, use of antimicrobial has been shown to be reduced coupled with various respiratory infections. We investigated whether this effect on reduction of antibiotic prescription can be sustained after resumption of normalcy and lifting of public health measures.

Methods
We compared the wholesale supply of antimicrobials using mean annual Daily Defined Dose / 1000 inhabitants (DID) in different sectors in pre-COVID-19 (2014-2019), COVID-19 (2020-2022) and post-COVID-19 (2023) periods. We grouped the data according to AWaRe categorisation namely Access, Watch and Reserve defined by WHO, and analysed the trends of the top 10 antibiotics and broad-spectrum antimicrobials. The trends in statutory notifiable diseases (including scarlet fever, invasive pneumococcal disease, chickenpox, tuberculosis, and pertussis), and influenza-like-illness detected by sentinel surveillance systems were analysed by negative-binominal regression.

Results
Compared to baseline level, an overall reduction of 27.2% of antimicrobial utilization was observed during the pandemic years, with a rebound recorded in 2023, up to 89.5% of the pre-pandemic level. Most antibiotics showed notable drop in utilization during the pandemic period and rebound in 2023. The access group of antimicrobials accounted for 57.9% in 2014 gradually increased to 60.2% in 2023 across the pandemic years. Concurrently, reduction in incidences of scarlet fever, invasive pneumococcal disease, chickenpox, tuberculosis, pertussis and influenza-like-illness were observed during COVID-19 pandemic with statistically significant decreasing trends for scarlet fever, invasive pneumococcal disease and chickenpox ($p<0.05$). Rebound in all these infections was reported in 2023, except for chickenpox which showed continued decrease in incidence.

Conclusions
We demonstrated a substantial reduction of antibiotic use during the COVID-19 pandemic, which rebounded in 2023, likely due to increased incidences of respiratory diseases after lifting of public health and social measures. We urged for close monitoring of the antimicrobial resistance pattern of different bacteria due to the inter-connectiveness and global impact of these two pandemics.

Poster Presentations

Poster 3

Trend Comparison between Sewage Viral Load of Seasonal Influenza Viruses and Detection from Respiratory Specimens Based on a Pilot Study of Sewage Surveillance

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Purpose
Seasonal influenza poses a significant public health burden locally. The Centre for Health Protection of the Department of Health has leveraged established infrastructure to develop a new sewage-based surveillance indicator for tracking local seasonal influenza activity as a complement to the conventional systems, with an aim to enhance monitoring and early warning. This study evaluates its utility during the 2024/25 winter influenza season in Hong Kong.

Methodology
From October 2024 to March 2025, we weekly collected sewage samples from 18 stationary sites across Hong Kong's sewerage network, representing about 30% of the population. Auto-samplers captured sewage for 3 hours with 15-minute interval during morning peak flow. Viral material enrichment and extraction from sewage samples were performed with a magnetic bead-based nucleic acid purification method. Viral loads of influenza A (IVA) and B (IVB) were quantified using reverse transcription quantitative polymerase chain reaction. Additionally, nine sewage samples were also tested weekly for IVA subtypes. We compared the trends between influenza viral loads in sewage and influenza detection rates from respiratory specimens using Pearson correlation analysis.

Results
Influenza viral loads in sewage and detection rates from respiratory specimens shared similar patterns for both IVA and IVB. While IVA(H1) predominated and circulation of IVA(H3) and IVB remained low during this season, sewage data showed a one-week leading effect over detections from respiratory samples for IVA and IVB with strong correlations ($r = 0.92$, $p<0.001$ and $r = 0.76$ $p<0.001$, respectively). For IVA subtypes, sewage data also showed similar one-week leading effect with a strong correlation ($r = 0.78$, $p<0.001$) for IVA(H1) but a moderate correlation ($r = 0.52$, $p=0.03$) for IVA(H3), the latter likely due to its lower prevalence. Site-specific analyses revealed heterogeneous viral load quantities and trends, reflecting local population dynamics across districts during long holidays.

Conclusion
The results showed that sewage surveillance could provide one-week early warning signal for influenza activity compared to the conventional surveillance systems. To mitigate biases from population fluctuations during long holidays and variations in sampling site characteristics (e.g. flow rates, catchment population), data normalisation with biomarkers (e.g. pepper mild mottle virus or ammonia) is proposed.

Poster Presentations

Poster 4

The Physical and Psychological Health Effect of Mindfulness-Based Cognitive Therapy among Breast cancer Patients: A systematic review and Meta-analysis

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Background
Mindfulness-Based Cognitive Therapy (MBCT) has been previously shown to have significant benefits for various physical and psychological health conditions. However, the follow up effect of MBCT on physical and psychosocial health problems among breast cancer patients remains unclear.

Purpose
This meta-analysis aims to evaluate the pooled follow-up effects of mindfulness-based cognitive therapy on physical and psychological health problems among breast cancer patients.

Methods
The review was done as per the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guideline using different search databases, including CINAHL Ultimate, EMBASE-Ovid, including others. This review included randomized and non-randomized trials of patients with breast cancer at any stage of disease. Studies that examined the impact of MBCT and reported physical and psychological health outcomes were included. Methodological quality was assessed and the pooled effects of outcome variables were done using random-effects meta-analysis. This study was preregistered with PROSPERO (registration no.: CRD420251026374).

Results
This meta-analysis using Hedge's g statistic, indicated a significant overall effect of MBCT in reduction of anxiety -1.09 (95%CI = [-1.50, -0.69]), depression -1.11 (95%CI = [-1.50, -0.71]), distress -0.77 (95%CI = [-1.47, -0.08]), and fear of cancer recurrence -0.72 (95%CI = [-1.01, -0.43]) among breast cancer patients as well as significant improvement in quality of life 1.70 (95% CI = [0.20, 3.21]) and mindfulness 8.38 (95%CI = [3.10, 13.67]) among breast cancer patients. Moreover, the pooled effect of MBCT has shown the significant improvement in fatigue (-0.63; 95% CI = [-0.95, -0.32]), and pain (-0.48; 95% CI = [-0.71, -0.25]) among breast cancer patients. However, there was no significant effect on body image (1.04; 95%CI = [-9.51, 11.6]) among breast cancer patients. Heterogeneity across the various outcomes ranged from low to high (I^2: 0.00%-88.8%).

Conclusion
Mindfulness-Based Cognitive Therapy could be effective in addressing physical and psychological health problems of breast cancer patients when it is in cooperated into standards of care by relevant agencies or institutions.

Poster Presentations

Poster 5

A Cluster of Legionnaires' Disease Linked to Tour Groups in Hong Kong

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Background
People get infected with Legionnaires' Disease (LD) when they breathe in contaminated droplets (aerosols) and mist generated by artificial water systems. LD typically manifests as severe pneumonia, with a case fatality rate of approximately 10%. About 20% of LD cases worldwide are associated with recent travel. In February 2025, the Centre for Health Protection (CHP) launched an epidemiological investigation into a cluster of LD case linked to travel to Guangdong with tour groups.

Purpose
We detailed the rapid epidemiological investigation and contact tracing, underscoring the vital role of coordinated cross-border public health measures in managing travel-associated outbreaks.

Methodology
A confirmed case was defined as clinically compatible illness with laboratory confirmation of *Legionella pneumophila* by PCR or culture. We collect epidemiological and clinical data through telephone interviews and medical records, and obtained urine and sputum samples for testing. CHP contacted all tour group participants and staff for active case finding. Following our notification via the established liaison and communication channels, the Guangdong health authorities conducted a field investigation, including the collection of environmental samples for Legionella culture and sequence-based typing.

Results
The cases participated in three tours visiting Foshan City in Guangdong Province with identical itineraries and hotel accommodations, which were organized by the same travel agent. Active surveillance identified a total of 8 cases among the 125 participants. They had symptom onset between 28 February and 1 March 2025. They did not have common exposure outside of the tour. Cases ranged in age from 61 to 77 years (median: 70); 63% were male and 75% had chronic illnesses. All presented with pneumonia. Their symptoms included fever (n=8), cough (n=3), shortness of breath (n=3), vomiting (n=2), malaise (n=2), diarrhea (n=1), headache (n=1), chills and rigor (n=1) and acute retention of urine (n=1). Two required intensive care. All recovered, with hospital stays ranging from 3 to 75 days (median: 8.5). All patients' isolates belongs to *Legionella pneumophila* serogroup 1. Environmental samples from the concerned hotel's showers and water basins matched the sequence-based type of the patients' isolate (SBT1125), which is rare in Hong Kong. Targeted control measures were implemented in the hotel concerned, and no further related cases were reported.

Conclusion
This investigation highlights the essential role of swift, coordinated epidemiological responses and collaboration among health authorities and the travel industry in identifying and controlling travel-associated LD outbreaks. Early detection and intervention enabled effective source identification, preventing further cases and demonstrating effective outbreak mitigation.

Poster Presentations

Poster 6

The Associations Between Indoor Air Pollution and Prostate Cancer in Hong Kong

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Purpose
This study aimed to investigate the association between indoor air pollution and prostate cancer (PCa) in Hong Kong.

Methodology
This cross-sectional study included 588 PCa cases and 650 controls matched in a 5-year age group (with other diseases) from Prince of Wales Hospital in Hong Kong during August 2011 and November 2016. Participants reported their exposure frequency and duration to indoor air pollutants in the household (e.g., second-hand smoke, cooking fumes, mosquito-repellent incense, stick incense, insecticides, and air fresheners) and workplace settings (e.g., second-hand smoke and occupational chemical hazards). Multiple logistic regression models adjusted for potential confounding factors (age, drinking status, smoking status, familial prostate cancer history, BMI, household and workplace indoor air pollution) were employed to explore the associations between indoor air pollution exposure and PCa risk.

Results
While a higher percentage of control had a BMI > 24 (59.4% vs. 47.8%), more PCa cases reported a familial PCa history (5.6% vs. 1.1%). More PCa cases were frequently exposed to household second-hand smoke (≥ 16 smoker-years), cooking fume (≥ 10 dish-years), and mosquito-repellent incense (< 1 time/day at least 3 months for 10 years) compared to controls ($p < 0.05$). Frequent exposure to household air pollution was linked to increased PCa risk, with adjusted odds ratios (AOR) of 1.97 (95% CI: 1.33–5.27) for second-hand smoke, 1.78 (95% CI: 1.10-2.93) for cooking fumes, and 2.19 (95% CI: 1.17-4.24) for mosquito-repellent incense. Moreover, a higher proportion of PCa cases reported occupational chemical hazard exposure in the previous full-time job ($p < 0.05$), which was also associated with higher PCa risk (AOR = 3.66, 95%CI: 1.24-11.38).

Conclusions
These findings suggest that controlling indoor air pollution may mitigate PCa risk, as various types of indoor air pollution (e.g., household and workplace) were associated with PCa. Stakeholders can leverage these insights to develop health promotion programs aimed at preventing PCa, given that individuals spend a significant amount of time indoors and are exposed to these pollutants.

Poster Presentations

Poster 7

A Cluster of Staphylococcus Aureus Food Poisoning Associated with In-flight Catering Meals

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Background
On 8–9 January 2025, Cathay Pacific Airways (CX) reported multiple cases of acute gastroenteritis among passengers on two CX640 flights from Kathmandu to Hong Kong, prompting an investigation by the Centre for Health Protection (CHP).

Method
Symptomatic passengers were assessed on arrival and others interviewed via telephone or questionnaire. A hotline was established for case identification. A case-control analysis was conducted. Site inspection of the catering facility was performed, and clinical, food, and environmental samples were collected for laboratory testing.

Results
Of 613 passengers, 120 were interviewed, and 43 (22 males, 21 females; median age 28, range 11–75) met the case definition. Key symptoms included vomiting (95%), nausea (56%), abdominal pain (44%), diarrhoea (14%), and fever (2%), with onset 10–60 minutes (median 30 minutes) post-consumption. Twenty-four sought medical attention; none required hospitalization.
The carrot and beetroot salad with tamarind ginger dressing was significantly associated with illness (attack rate: 59.6% among consumers vs. 14.3% among non-consumers; odds ratio 8.87, $p<0.0001$). Food preparation involved extensive manual handling without subsequent heating.
Staphylococcus aureus was isolated from stool samples of two patients and nasal swabs from six food handlers involved in salad preparation. Enterotoxin genes were detected in samples from one patient and four food handlers. Food and environmental samples tested negative for S. aureus.
The CHP instructed the suspension of the beetroot salad and to use utensils and equipment during food preparation process to avoid direct hand contact with food ingredients. Food handlers were also reminded to strictly adhere to hand hygiene guidelines. No further cases were reported after the implementation of remedial measures.

Conclusion
Epidemiological and laboratory evidence strongly implicates S. aureus contamination of beetroot salad as the cause of this outbreak. This incident highlights the importance of minimizing manual handling and enforcing strict hand hygiene in food preparation, especially for ready-to-eat items in high-risk settings such as airline catering.

Poster Presentations

Poster 8

Applying Implementation Research Logic Model to Develop Intervention Design and Implementation Strategies for Direct Access to Physiotherapists in Primary Care

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Purpose
To enhance the efficiency of primary care and cross-disciplinary collaboration, the Hong Kong SAR Government has proposed an amendment to the Supplementary Medical Profession Bill to enable patients' direct access to physiotherapy, which is under deliberation in the Legislative Council Bills Committee. To inform policy formulation of a direct access model appropriate in the local context, we conducted a study in 2023, applying the Implementation Research Logic Model (IRLM), which is a concept mapping to depict the relations between the design of the policy with the implementation barriers and facilitators (the determinants of implementation) and how these can be addressed by implementation strategies. The effectiveness of the strategies is measured as implementation outcomes and ultimately as outcomes of policy. This paper illustrates and critically examines the use of IRLM as a planning and analytic tool in a real-world policy implementation context.

Methodology
The sequential mixed-methods comprised a literature review, an expert steering group, qualitative interviews and focus groups of key stakeholders. Thematic analysis of qualitative data identified key barriers and facilitators using the Consolidated Framework for Implementation Research (CFIR). Corresponding implementation strategies were derived from the Expert Recommendations for Implementing Change (ERIC).

Results
Findings revealed complex barriers in the proposed policy intervention, including concerns about specification of pre-diagnosis and clinical protocols as pre-conditions, limited understanding of physiotherapists' role, and questions about competency and safety. For example, a major barrier - limited understanding of the government's proposals (CFIR domains of intervention and individual characteristics) - was addressed from ERIC targeted strategies of educational meetings and distribution of informational materials. Mechanisms such as stakeholder workshops and co-development of materials were designed with expected outcomes articulated. The IRLM was reviewed and refined using expert input to finalise intervention designs and implementation strategies.

Conclusion
Stakeholders expressed mixed views on the model's design and implementation. The IRLM facilitated a holistic planning process, integrating formative research and stakeholder engagement to inform appropriate policy design intervention and strategies for effective implementation. This concept mapping was foundational for the subsequent consensus-building exercise in a Delphi Survey, integrating diverse methodological components into a coherent narrative.

Poster Presentations

Poster 9

Effectiveness of mobile chat messaging for relapse prevention among people who recently quit smoking: 3-month results of a randomized controlled trial

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Purpose
This study evaluated the effectiveness of mobile chat messaging for individuals who recently quit smoking, addressing the lack of effective relapse prevention strategy to sustain long-term abstinence.

Methods
In this two-arm, assessor-blinded, randomized controlled trial with 6-month follow-ups, Chinese adults who had abstained from smoking for 3 to 30 days were recruited from two clinic-based smoking cessation services in Hong Kong. Participants were computer-randomized (1:1) to either the intervention group or control group. All participants received standard-of-care smoking cessation treatment from the services. The intervention group additionally received chat messaging support for relapse prevention via WhatsApp for 3 months from baseline, which included personalized support delivered by a live counselor and access to a supportive chatbot. The control group received text messages on generic cessation advice for 3 months as attention control. Study outcomes at 3-month follow-up included self-reported relapse rate (7 days of consecutive smoking) and 7-day point-prevalent abstinence. The primary analysis was by intention-to-treat, assuming participants with missing data were non-abstinent. Trial registration: ClinicalTrials.gov (NCT05370352).

Results
590 participants were randomized into either the intervention (n=294) or control (n=296) groups. At 3-month follow-up (retention rate=97.3%), relapse rate was significantly lower in the intervention group (23.5% vs. 30.7%; RR 0.76; 95% CI 0.58–1.00; P=0.048). The difference in 7-day point-prevalent abstinence was non-significant (74.5% vs. 69.3%; RR 1.08; 95% CI 0.97–1.19; P=0.16). 30.6% of intervention participants interacted with the live counselor at least once. Proportionately more participants in the intervention group reported having read almost all (19.5% vs. 16.4%) or all of the messages (59.2% vs. 48.5%; P = 0.006) compared with the control group. On a scale of 1 to 5, the intervention group reported significantly greater perceived helpfulness of the messages in motivating quitting (3.9 vs. 3.5; p<0.001) and increasing knowledge on relapse prevention (3.9 vs. 3.5; p<0.001). Perceived psychosocial support (0 to 10) was also significantly higher in the intervention than control group (8.0 vs. 6.9; p<0.001).

Conclusion
Mobile chat messaging for relapse prevention significantly reduced relapse at 3 months and were perceived more favorably than generic text messages.

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Poster Presentations

Poster 10

Epidemiological Trends and Future Prediction of Colorectal Cancer Burden in Hong Kong Population: a territory-wide analysis and modelling study

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Background
Colorectal cancer (CRC) is a leading global health concern. While developed regions bear a higher burden, rapid industrialization and Westernized lifestyles are driving rising CRC rates in transitioning Asian countries like Hong Kong. Despite this trend, comprehensive studies on CRC burden in Hong Kong remain scarce. This study analyzes CRC trends from 1990–2022 and projects the disease burden to 2050.

Methods
CRC cases and deaths were extracted from the Hong Kong Cancer Registry. We also estimated the disability-adjusted life years (DALYs), years of life lost (YLLs), and years lived with disability (YLDs) of CRC. Decomposition analysis assessed contributions from population aging, growth, and epidemiologic changes. Age-Period-Cohort (APC) and joinpoint regression analyses evaluated temporal trends using average annual percentage change (AAPC), while a Bayesian negative binomial model projected future burden.

Results
In 2022, Hong Kong recorded 5,190 CRC cases and 2,270 deaths, with 37,900 DALYs lost. From 1990–2022, incidence, mortality, and DALYs rose by 156.7%, 155.3%, and 89.6%, respectively—driven by population growth (82.1%, 27.9%, 40.6%) and aging (27.9%, 90.2%, 100.4%), partially offset by epidemiologic improvements (−9.9%, −18.1%, −41.0%). Annual increases were observed in incidence (AAPC: 2.15%), mortality (2.26%), and DALYs (1.22%), notably among males aged 45–49. By 2050, cases may reach 7,389, with 3,820 deaths and 39,500 DALYs lost, though age-standardized rates are projected to decline.

Conclusion
Hong Kong faces a rapidly growing CRC burden, driven primarily by population aging and growth, with a concerning trend toward earlier disease onset—particularly among males aged 45–49. These findings highlight the urgent need for targeted public health interventions, including earlier screening initiatives and lifestyle modification programs to address its risk factors. Policymakers should consider lowering the recommended screening age and enhancing public awareness campaigns to promote early detection.

Poster Presentations

Poster 11

Alcohol-Related Harms Among Chinese University Hostel Residents: A Study Across Normal Periods, Time of Political Unrest, and the COVID-19 Pandemic

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Purpose
Situated in university hostels, this study aimed at comparing students' experiences of first-hand (from one's own drinking) and second-hand harms (from other people's drinking) and the variations in predictors between normal periods, time of political unrest, and the COVID-19 pandemic.

Methodology
Anonymous surveys on drinking behaviors and negative consequences were distributed to hostel residents at three universities in Hong Kong from September 2018 to June 2021. We compared the frequencies of harms using Pearson's Chi-squared tests and performed logistic regression for each period separately with backward elimination of predictors for experiencing harms higher than the 3rd quartiles.

Results
During the three aforementioned periods, 55.9%, 52.8%, and 54.7% of the hostel residents experienced first-hand harms, and 63.8%, 58.2%, and 61.0% experienced second-hand harms. The first-hand harms to physical health and second-hand harms causing inconveniences were most common overall and occurred most frequently during the COVID-19 pandemic, unlike other harms that were most common during the normal period. The most commonly reported first- and second-hand harms varied significantly between periods, except for first-hand harms pertaining to physical and mental health. Binge drinking status and pro-drinking attitudes were at least marginally significantly associated with high harms in all periods (AOR: 1.04-5.16). Non-binge drinkers had significantly lower odds of experiencing second-hand harms during the normal and protest periods (AOR: 0.69-0.71). In the normal period, alcohol-related knowledge (AOR: 0.92 and 0.94) and drinking roommates (AOR: 1.62 and 1.67) were associated with high harms. During the protest period, postgraduate students had lower odds of reporting high harms (AOR: 0.21 and 0.68). Other significant predictors oscillated over time and included gender, age group, university, weekend residence, engagement in underage drinking, and religious belief. No significant differences in harms were found by nationality.

Conclusion
Similar to their Western counterparts, Chinese university students living on campus reported a wide range of first- and second-hand alcohol-related harms. The associated factors and variations in stressors indicate that proactive, multi-prong, and context-specific strategies are required to reduce alcohol-related harms in dormitory settings.

Poster Presentations

Poster 12

Cost-Effectiveness Analysis of Tumor-Treating Fields in Patients with Newly Diagnosed Glioblastoma: From the Perspective of the Public Healthcare Provider in Hong Kong

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Purpose
The objective of this study was to determine the cost-effectiveness of standard of care (SOC) combined with tumor-treating fields (TTF) treatment versus SOC alone in patients with newly diagnosed glioblastoma (GBM), incorporating clinical trial data and recent international real-world studies, including data from patients in Hong Kong, with the cost analyzed from the perspective of the public healthcare provider in Hong Kong.

Methodology
The survival outcomes of newly diagnosed GBM patients were estimated by the partitioned survival model (PSM) with three mutually exclusive health states: stable disease, progressive disease and death. The survival curves were derived from the meta-analysis combining data from 8 clinical trial and cohort studies, generating the pooled overall survival (OS) and progression-free survival (PFS). Survival data were extrapolated beyond the pooled survival curve period. The total cost included treatment costs, supportive care utilization and end-of-life care costs, obtained from the charge list of public hospital and expert consultation. A 3% discount rate was applied to costs and survival outcomes. The main measure was the incremental cost per life-year gained (LYG) over a 15-year time horizon. One-way and probabilistic sensitivity analysis (PSA) were conducted to assess uncertainty.

Results
The median pooled OS for the TTF+SOC and SOC alone group were 23.7 and 17.2 months, respectively; median pooled PFS were 15.0 and 8.9 months, respectively. These survival outcomes aligned with the OS and PFS observed in Hong Kong's GBM patients. Assuming usage of TTF until progression, the incremental cost per LYG was HKD 2,004,526, with an incremental cost of HKD 2,811,777 and an incremental LYG of 1.40 years over a 15-year horizon. Sensitivity analysis showed that cost-effectiveness ratio was most sensitive to the OS of both groups, the TTF treatment cost and the PFS of TTF+SOC group. Approximately a 40% reduction in the monthly cost of TTF was required to achieve a cost-effective result.

Conclusion
Using a willingness-to-pay threshold of three times the per-capita GDP in Hong Kong, TTF treatment is not cost effective. The cost-effectiveness ratio was largely varied by the TTF treatment duration, future studies exploring its relationship with survival outcomes are needed.

Poster Presentations

Poster 13

Mapping the burden and epidemiological trends of non-alcoholic fatty liver disease in low- and middle-income countries due to income group, age differences, and risk factors

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Introduction
Non-alcoholic fatty liver disease (NAFLD) poses significant health risks to individuals with metabolic diseases and extensively strains healthcare systems. In low- and middle-income countries (LMICs), limited resources and inadequate public health infrastructure further exacerbates the challenges of NAFLD detection, prevention, treatment, and awareness. This study aims to evaluate the burden of NAFLD in LMICs Countries.

Methods
Using the World Bank's classification, all countries were categorized into four income groups: low income, lower middle-income, upper middle-income, and high income, with LMICs being compared to high income countries. The burden of NAFLD, including incidence, mortality, and DALYs, was assesseds. Temporal trends countries from LMICs and high income regions were assessed by sex, age groups, and risk factors.

Results
The age-standardized rates of incidence, mortality, and DALYs for LMIC in 2021 were 636.5 (95% CI 609–664), 2.65 (95% CI 2.36–2.93), and 66.80 (95% CI 59.7–73.9) per 100,000, respectively. Regions like MENA, Central Asia, and Latin America carry the greatest burden of NAFLD globally. Across all LMICs in 2021, individuals who are 20-24 years old experience the highest incidence burden [1212.68 (95% CI 821.39–1603.98)] and 85+ years' experience the highest mortality [15.19 (95% CI 12.44–17.95)]. Diabetes is the leading contributor to both death and DALYs across all sexes and LMICs, with low-income countries [mortality: 0.079 (95% CI 0.049–0.12, DALYs: 0.072 (95% CI 0.045–0.11)] experiencing the highest age-standardized burden.

Conclusion
Overall, the NAFLD burden has been increasing in LMICs. The burden of NAFLD varies across all temporal trends assessed, with the highest rates being observed in upper and lower middle-income countries, older age groups, and individuals with diabetes. This study emphasizes the need for targeted, effective interventions in locations with a greater NAFLD burden.

Poster Presentations

Poster 14

A review of epidemiology, clinical features and public health control measures of invasive meningococcal disease in Hong Kong, January 2015 to July 2025

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Purpose
A resurgence of invasive meningococcal disease (IMD) has been observed in Hong Kong since 2023, following a marked decline during the COVID-19 pandemic years (2020–2022). In response to this trend, we undertook a comprehensive review of the epidemiology, clinical features, and public health control measures of IMD in Hong Kong from January 2015 to July 2025, with a view to informing future disease prevention strategies.

Methods
We reviewed all notified IMD cases in Hong Kong over the study period, and analysed their epidemiological characteristics, clinical presentations, temporal trends, and serogroup distribution. Clusters of cases and the public health response, including contact tracing and chemoprophylaxis for close contacts, were also evaluated.

Results
Between January 2015 and July 2025, 59 cases of IMD were reported, with annual incidence rates ranging from 0 to 0.19 per 100,000 population. The highest incidence was recorded in 2019, followed by a substantial decline during the COVID-19 pandemic period, likely attributable to widespread social distancing and infection control measures. However, a moderate rebound to 5–7 cases per year was observed between 2023 and July 2025, which coincided with the relaxation of these measures. Clinical presentations were diverse, including septicemia (32 cases, 54.2%), meningitis (19, 32.2%), both septicemia and meningitis (6, 10.2%), and septic arthritis (2, 3.4%). Most cases (48, 81.4%) were locally acquired. Serogroup B was the most common (29 cases, 49.2%), followed by Y (10, 16.9%), C (7, 11.9%), W (4, 6.8%), and X (1, 1.7%). Public health responses included rapid contact tracing and administration of chemoprophylaxis to close contacts. Notably, in April 2025, the first cluster of this period occurred at a construction site in a public hospital, prompting immediate intervention. No further epidemiologically linked cases were subsequently identified.

Conclusions
From 2015 to mid-2025, IMD incidence in Hong Kong remained low, and serogroup B predominated. Given the current epidemiological situation, population-based meningococcal vaccination remains unjustified, as the risk of vaccine-related adverse events may exceed disease risk, particularly among adolescents. Nevertheless, the emergence of clusters highlights the ongoing risk of localised outbreaks, underscoring the importance of continued surveillance and timely public health actions.

Poster Presentations

Poster 15

Exploring the Use of HA Go Among Hong Kong Residents: A Cross-Sectional Study of User Characteristics

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Background
HA Go is a one-stop digital healthcare platform developed to enhance patients' healthcare journey and support self-management. This study aims to examine the characteristics, perceptions, and factors associated with the downloading and usage of HA Go among Hong Kong residents.

Methods
A cross-sectional survey was conducted among Hong Kong residents aged 18 years or older. Participants completed an online questionnaire capturing socio-demographic information, health status, and attitudes toward HA Go. Chi-square tests were used to compare users and non-users, while univariable and multivariable logistic regression analyses assessed associations between participant characteristics and HA Go usage.

Results
A total of 1,100 participants were included (535 males and 564 females), of whom 672 were HA Go users. Multivariable analysis revealed that HA Go usage was positively associated with older age (aged 55–65: aOR = 1.68, 95% CI: 1.26–2.26; aged >65: aOR = 3.19, 95% CI: 1.64–6.44), possession of both voluntary and private health insurance (aOR = 1.89, 95% CI: 1.14–3.19), self-rated poor health (aOR = 1.57, 95% CI: 1.18–2.10), presence of chronic disease (aOR = 2.12, 95% CI: 1.60–2.81), and higher perceived enablers (aOR = 1.82, 95% CI: 1.27–2.65). Conversely, higher perceived barriers were negatively associated with usage (aOR = 0.43, 95% CI: 0.34–0.55).

Conclusion
This study provides a comprehensive overview of the demographic and health-related characteristics associated with the use of HA Go among Hong Kong residents. Findings indicate that older adults, individuals with chronic conditions, those with private health insurance, and those who perceive greater enabling factors are more likely to adopt the platform. Conversely, perceived barriers such as privacy concerns and technical difficulties significantly hinder usage. These insights highlight the need for targeted strategies to address user concerns and improve accessibility, particularly for underserved populations. Enhancing user experience and promoting digital health literacy may further support the effective integration of HA Go into routine healthcare management.

Poster Presentations

Poster 16

Cost-Effectiveness of DXA Screening for Osteoporosis in the Older Adults: a Markov model analysis

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Background
Osteoporosis is a common musculoskeletal disorder, especially among the elderly, and osteoporotic fractures contribute significantly to morbidity, mortality, and healthcare burden. While several guidelines recommend screening at-risk populations, the cost-effectiveness of osteoporosis screening remains unclear. This study assessed the cost-effectiveness of dual-energy X-ray absorptiometry (DXA) screening from age 50 to 80.

Method
A Markov decision model simulated annual DXA screening for 100,000 men and women aged 50 without prior fractures. Individuals diagnosed with osteoporosis received a 5-year course of alendronate. The cost-effectiveness of screening strategies was measured by incremental cost-effectiveness ratio (ICER), and all costs of treatment and screening were calculated to assess the additional cost per life year saved by different screening strategies and compared to no screening. Sensitivity analyses were conducted to examine the impact of varying adherence (50%–100%) on ICER and effectiveness.

Results
Overall, we observed that with no screening strategy, 4,200 and 7,988 hip fracture cases occurred in the male and female populations, and resulted in 16,846 and 26,102 life years lost, respectively. In the male population, DXA screening prevented about 6.8% of hip fractures and saved 1,813 life years compared with no screening. In the female population, the prevent rate and life-years saved by DXA screening are 6.2% and 2,443 years, respectively, compared with no screening among the female population. Additionally, the lowest ICER was observed in the female population using the DXA screening strategy with US$ 20,021, which is much lower than the additional cost required to save a life-year in the male population (ICER: US$ 26,979). Life years saved increased with higher adherence in both sexes. At 66% adherence, benefits were similar between men and women. Above this threshold, women gained more life years, with a corresponding decrease in ICER. When adherence was below 66%, DXA screening was more cost-effective in men; at higher adherence, it became more favorable in women.

Conclusion
DXA screening from age 50 is more cost-effective than no screening, particularly in women. Sensitivity analyses confirmed the robustness of the findings and emphasized the influence of adherence and sex-specific differences in optimizing screening strategies.

Poster Presentations

Poster 17

Assessing the reliability and validity of a translated quality of life survey for unreached and semi-literate populations in East Africa

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Purpose
This study aims to assess the reliability and validity of a translated Somali version of the "World Health Organization Prevention of Blindness and Deafness 20-item Visual Functioning Questionnaire" survey to quantify vision-related quality of life (VRQOL) among semi-literate communities in Djibouti, East Africa. 94 million people globally suffer from cataract, disproportionately in low-income countries. Undergoing surgery can improve VRQOL and lead to broader benefits for community livelihood. Many tools exist to quantify this improvement, but are not tested for use in low-income settings or in minority languages.

Materials and methods
A Somali-language "World Health Organization Prevention of Blindness and Deafness 20-item Visual Functioning Questionnaire" translated from English was administered to cataract patients. The survey includes 20 items each with 5-item Likert scale to test a different aspect of eyesight, function, and psychosocial scores. IBM SPSS software was used to test the reliability and validity of the survey.

Results
542 patients completed the survey between February 2023 and March 2025. Missing data accounted for <5% of all data points, and regression analysis during multiple imputation showed no significant trend in missing data points. Survey response skewness was 0.517, within the acceptable range to -1 to 1. The survey demonstrated excellent internal consistency for reliability (Cronbach's alpha=0.897, accepted value >0.7), and acceptable inter-item correlation (mean=0.302, accepted value <0.75), inter-item covariance (0.436, accepted value 0.15 – 0.5), item-total correlation (0.520, accepted value >0.5). Construct validity was not demonstrated as cases with poorer overall eyesight did not exhibit worse scores, and not satisfying known-group difference criteria, where groups were expected to differ.

Conclusion
The translated version of the WHO-PBD VF-20 was found to be reliable for use in field-context in Djibouti. All 20-items demonstrated equal response rates. More research is required to improve survey validity. Expansion of linguistic technology using AI can create research opportunities in minority languages for translation and administering the survey. Technology can broaden global understanding of public health and the applicability of research tools in previously unreached, semi-literate populations.

Poster Presentations

Poster 18

Burden of Gastrointestinal Cancers Attributable to Dietary Risk Factors in Asian Population: a population-based study

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Background: Gastrointestinal (GI) cancer is one of the most common cancers and the leading cause of cancer-related death worldwide, especially in Asia. This study aims to evaluate the disease burden of GI cancers due to different dietary risk factors in Hong Kong and other Asian countries.

Method: Data used in this study were generated from the Global Health Data Exchange and local household surveys from Hong Kong and 35 other Asian countries in East Asia, Central Asia, South Asia, Southeast Asia, and the High-income Asia Pacific region. The diet-attributable GI cancer death, disability-adjusted life year (DALYs), years of life lost (YLLs), and years lived with disability (YLDs) were measured for each country.

Result: In 2021, a total of 12,751.8 years of DALYs loss due to diet-attributable GI cancer as estimated in Hong Kong, with an age-standardized rate (ASR) of 90.9 per 100,000 population. The leading dietary risk factors include diet low in milk (DALYs=5310.1, ASR=37.9), followed by diet low in whole grains (DAYLs=5234.9, ASR=37.3), and diet high in red meat (DALYs=4391.8, ASR=31.3). In addition, a significant geographic difference was observed among Asians regarding the GI-attributable GI cancer burden. The highest burden was observed in East Asia (ASR in DALYs=174.5) followed by Southeast Asia (171.3) and high-income Asia Pacific (158.3), while the lowest ASR in DALYs was found in South Asia (71.3) and Central Asia (105.6). Furthermore, males reported a heavier burden of diseases than the female population (187.0 vs. 120.1), while the burden of GI cancer attributed to dietary exposure was increased with age, with an ASR ranging from 19.8 for the population aged 25-29 to 1120.4 for those aged 85 or above.

Conclusion: The study highlighted the burden of GI cancers attributable to dietary risks in Hong Kong and Asia. We found that the main dietary risk factors in Hong Kong included insufficient intake of milk and dairy products, insufficient intake of whole grains, and excessive intake of red meat. A significant difference regarding region, sex, and age was observed among the Asian population. These findings underscore the urgent need for more targeted intervention strategies.

Poster Presentations

Poster 19

Economic Burden of Sleep Disorders in the United States: A Cost Analysis Using MEPS Data

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Little is known about the direct medical costs and productivity losses caused by sleep disorders. Estimating the economic costs of sleep disorders can provide insights into the value of preventive health interventions.

The objective is to estimate the direct incremental medical costs attributable to sleep disorders and indirect costs due to productivity losses from sleep disorders among the US population from 2018 to 2022.

We analyzed cross-sectional study data from the Medical Expenditure Panel Survey from 2018 to 2022. Descriptive statistics compared the demographic characteristics of participants with and without sleep disorders (using chi-square tests and t-tests). Unadjusted total healthcare expenditures were determined by adding different sources of payments together. A two-part model adjusted for demographics and comorbidities was used to estimate the incremental medical costs attributable to sleep disorders. The indirect costs due to productivity losses (human capital approach) were calculated by multiplying the number of missed workdays by the mean daily wage of individuals with sleep disorders.

Among 137,545 study participants, 5.0% experienced sleep disorders. Patients with sleep disorders were more likely to be female, non-Hispanic White, married, smokers, uninsured, with poor perceived health status, and higher Charlson Comorbidity Scores. The unadjusted direct medical costs increased from $17,191 per person in 2018 to $17,891 in 2022. Prescription medicine accounted for the largest share among all categories, and outpatient visits showed the most substantial growth. After adjusting for demographics and comorbid conditions, the estimated incremental medical costs increased from $5,180 to $5,463 per person per year. The indirect costs of lost work productivity was $5894 million, marking a 93% increase from 2018 to 2022.

The direct medical costs and indirect costs associated with sleep disorders are substantial and show a rising trend. Health interventions targeting sleep disorders are crucial for alleviating the economic and social burden of sleep disorders.

Poster Presentations

Poster 20

Two Epidemiologically Linked Cases of Invasive Meningococcal Disease Associated with a Construction Site in Hong Kong, 2025

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Background
Meningococcal infection, caused by Neisseria meningitidis, poses a significant public health threat due to its potential for rapid transmission and high mortality. Effective outbreak control relies on prompt identification and response.

Objective
To investigate and control two epidemiologically linked cases of invasive meningococcal disease (IMD) among workers at a construction site related to the United Christian Hospital (UCH) expansion project in April 2025.

Methods
A case was defined as an individual with laboratory-confirmed Neisseria meningitidis (by culture or polymerase chain reaction (PCR) from a sterile site) who worked at the identified construction site in April 2025. Epidemiological and clinical data were obtained through phone interviews, clinical record review, and site visits. Laboratory testing was conducted by hospital and Public Health Laboratory Services Branch of CHP. Contact tracing, risk assessment, and field investigations were carried out.

Results
Two male workers (aged 34 and 69) developed fever and additional symptoms (sore throat, epistaxis, headache) on 8–9 April 2025. Both were hospitalized and diagnosed with IMD, with serogroup B identified from blood (culture) and CSF (PCR), respectively. Neither had a history of meningococcal vaccination. They had worked on the same floor of the concerned construction site, which was located outside the clinical service area of UCH. They had no recent travel. Seventy close contacts from home, hospital, and workplace settings were identified. All remained asymptomatic and were under medical surveillance. Chemoprophylaxis and health education were provided, a hotline was established for construction site workers, and a public press release was issued. No further cases were detected during enhanced surveillance.

Conclusion
Swift public health action, including comprehensive contact tracing, timely chemoprophylaxis, and enhanced surveillance, successfully contained this IMD cluster. This underscores the importance of coordinated response and preventive measures to limit transmission in occupational settings.

Poster Presentations

Poster 21

Anemia among Ghanaian Women of Reproductive Age: Exploring Rural- Urban Differences in Sociodemographic and Behavioural Determinants

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Background
Anemia remains a major public health challenge in low-and-middle-income countries. In Africa, it affects a substantial proportion of women of reproductive age (WRA), despite widespread health interventions.

Purpose
This study aims to assess the sociodemographic and behavioural determinants of anemia among women aged 15-49 years in Ghana.

Method: Using national representative data from the 2022 Ghana Demographic and Health Survey (GDHS), 7,557 women aged 15-49 were included in these cross-sectional studies. Stratified multiple logistic regression analysis was used to identify independent predictors of anemia, with adjusted odds ratios (AOR) and 95% confidence intervals (CI) calculated.

Result
In 2022, overall anemia prevalence was 42.1% with higher rates observed in rural (52.3%) and urban (47.8%) areas compared to the national average. Prevalence was highest among younger adolescents (15–19 years), urban women aged (40-44 years) and rural women (45-49 years). Women in lower wealth quintile had a high prevalence (urban: 50.6%, rural: 45.5%). Regression analysis revealed significant regional disparities. Women in the urban western region had higher odds of anemia (AOR=2.28, 95% CI:1.51 to 3.45), while women in rural Western North region had 31% lower odds of developing anemia compared to those in Central region (AOR=0.69, 95% CI:0.48 to 0.99). Women using modern contraceptives are 25% less likely to develop anemia than non-users in both urban (AOR=0.75, 95% CI:0.59 to 0.95) and rural (AOR= 0.78, 95% CI:0.65 to 0.93) settings. Rural women with bank accounts also had 16% reduced risk of anemia (AOR=0.84, 95% CI:0.71 to 0.99)

Conclusion
Social interventions that empower women economically and improve their standards of living may have the co-benefit of reducing anemia levels in Ghana.

Poster Presentations

Poster 22

A Confirmed Case of Group A Streptococcal Necrotising Fasciitis Possibly Linked to Acupuncture Treatment — Hong Kong, 2025

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Background
Group A Streptococcus (GAS) causes a spectrum of diseases from mild infections to severe, life-threatening conditions like necrotising fasciitis and streptococcal toxic shock syndrome. GAS infections associated with acupuncture are rarely reported. This report describes a confirmed necrotising fasciitis case with epidemiological and genetic evidence suggesting possible transmission linked to acupuncture treatment.

Methods
Following case notification, an investigation was conducted including detailed interviews with the patient, spouse, and attending healthcare staff. Environmental inspections and infection control assessments were performed at two Chinese Medicine Practitioner (CMP) clinics where acupuncture was received. Swabs were collected for laboratory testing. Active case finding and contact tracing were implemented. Genetic analysis compared patient and environmental GAS isolates.

Results
A 47-year-old man developed left buttock pain and leg numbness following a sprain on 6 April 2025. He received acupuncture from the first CMP on 7 and 9 April, then from a second CMP on 10 April. On 11 April, he presented with fever and left thigh pain and was diagnosed with necrotising fasciitis and septic shock, requiring left lower limb amputation. Inspection of the second CMP's clinic revealed lapses including expired acupuncture needles and alcohol swabs, unused needles exposed to room air, and improper disinfection procedure. One environmental swab from this clinic tested positive for GAS, genetically identical to the patient's clinical isolates. No other potential sources or skin trauma during the incubation period were identified. Active surveillance found no additional cases. Press releases were issued on 29 April and 6 May 2025 to alert public.

Conclusion
This case likely represents acupuncture-associated GAS necrotising fasciitis. The genetic match between patient and environmental isolates alongside identified infection control breaches strengthens the evidence of possible transmission during acupuncture. This underscores the need for enhanced practitioner infection control training, and strict adherence to sterilization procedures during acupuncture to prevent similar infections.

Poster Presentations

Poster 23

Digital Health Teleconsultation in Hong Kong: Usability from Patients and Medical Practitioners Perspectives

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Purpose
The COVID-19 pandemic has accelerated the adoption of teleconsultation services in Hong Kong's private healthcare sector. Understanding factors impacting the usability of teleconsultation is essential to enhance the accessibility, effectiveness and quality of the digital health services. This study aims to evaluate and compare the perceived usability of private teleconsultation services among patients and medical practitioners.

Methodology
Two cross-sectional questionnaire surveys were conducted from June and October 2024 among patients who had used, and medical practitioners who had provided private teleconsultation services. Usability was assessed using 12 statements adapted from the validated Telemedicine Usability Questionnaire, rated on a 5-point Likert scale. These statements were categorized into six key domains: usefulness, ease of use and learnability, interface quality, interaction quality, reliability, and satisfaction and future use. Overall usability scores were calculated as the mean of the 12 items.

Results
A total of 400 patients who had used private teleconsultation and 300 medical practitioners who had provided private teleconsultation participated. The mean overall usability scores were 3.66 for patients and 3.39 for private medical practitioners out of 5. Among patients, the highest-rated domains were ease of use and learnability, while medical practitioners rated satisfaction and future use most favorably. However, both groups expressed concerns about reliability, particularly regarding the comparability of teleconsultations to physical visits. Medical practitioners reported lower usability scores than patients, mainly due to issues with interface quality and reliability. Some commonly-used platforms were not purpose-designed for teleconsultation and lacked features such as integration with electronic patient health records. Concerns about diagnostic accuracy and liability during teleconsultations also contributed to lower reliability ratings.

Conclusion
This study revealed moderate perceived usability of private teleconsultation services, with lower usability ratings from medical practitioners compared to patients. Key differences were observed in the domains of interface quality and reliability. To enhance adoption, further research is warranted to understand the underlying reasons for these disparities and to inform improvements in teleconsultation platforms and practices.

Acknowledgement
The work was commissioned by the Consumer Council for its study titled "Enhancing Governance in Telehealth: Fostering Consumer Trust and Innovation", which was published on 19 August 2025. The report can be accessed at: https://www.consumer.org.hk/en/advocacy/study-report/telehealth_services_study

Poster Presentations

Poster 24

Gene Therapy from Patients' and Caregivers' Point of View: A Meta-Ethnography

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Purpose
This meta-ethnography synthesises the findings of qualitative studies, which aimed to create a conceptual model regarding patients' and caregivers' experience and decision-making process on Gene Therapy (GT).

Methodology
A systematic search of qualitative studies published since 2010 in PubMed, Web of Science, and ProQuest was undertaken. Thirty-eight studies were selected to be included in the meta-ethnography.

Result
A conceptual model consisting of five main concept was developed: Motivator, which highlighted the hope, expectations and goals that patients and caregivers wish for GT; Deterrent, which described the risk, burdens, and uncertainty surrounding GT as a novel therapy; Information need, which described the information need expressed by patients and caregivers and their source and content they demand to assist in their decision-making; Decision making process, which illustrated the methods patients and caregivers utilizes for consideration of GT alongside the challenges of the caregivers making decision for their child; and Post-GT, which patients and caregivers shared their reflection after going through GT clinical trials.

Conclusion
There is are limited number of studies that focus on patients' and caregivers' needs and the challenges they face in the framework of GT currently. This synthesis model visualises the decision-making process that patients and caregivers potentially go through, highlighting the factors that may change the perceptions of each concept. This finding can contribute to assisting clinicians and clinical investigators to effectively capture the need and communicate efficiently with patients and caregivers in different settings, providing a patient-centred healthcare.

Poster Presentations

Poster 25

Can large language models write computer code snippets for statistical analysis of biomedical data?

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Background
Writing computer code to perform biomedical data analysis is an increasingly important skill in the medical profession, especially in community medicine. However, not all medical professionals are well versed in computing coding. Large Language Models (LLMs) can generate computer code from plain language instructions, making them a promising tool for creating code snippets for statistical analysis. There is a lack of empirical evidence to assess the accuracy and effectiveness of LLM-assisted or human-only computer coding for statistical analysis of biomedical data.

Purpose
This study evaluates the correctness and generation time of LLM-assisted coding compared to human-only coding of R code snippets for analysis tasks that are common to tabular biomedical data.

Methodology
Three LLMs - Deepseek R1 (DeepSeek), ChatGPT 4.0 from Poe (Poe-GPT) and ChatGPT 4.0 from Perplexity (Perplexity-GPT) - were used to generate R code snippets to perform three tasks on a publicly available dataset: (1) regression analysis, (2) box plot visualisation, and (3) histogram visualisation. To ensure fair comparison, a rubric score for accuracy of output generated by LLM-assisted code, ranging from completely different (score=0), somewhat similar (score=1), to the same to human-generated codes (score=2).

Results
Compared to human-generated R code, the accuracies of LLM-assisted R code for the three analysis tasks are 1.78-1.89 (out of 2) for regression analysis, 1.67-1.78 for box plot visualisation, and 0.89-1.0 for histogram visualisation. The differences in terms of accuracy of the three LLMs are relatively small. Importantly, no individual LLM can produce R code that generates analysis that is entirely the same as the human code for all tasks. Compared to the average amount of time for human to the relevant R code (103s), the average time for DeepSeek, Poe-GPT and Perplexity-GPT is 121.4s (17.9% increase), 61.2s (40.6% reduction), and 63.9s (38.0% reduction), respectively.

Conclusion
The use of LLM to generate R code snippets may not be as effective as previously assumed. LLM-generated code can produce analysis results that differ from those produced by human-written code, and the time to write and execute the LLM prompts may not be time-saving.

Poster Presentations

Poster 26

Can large language models perform systematic reviews?

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Background
Systematic review is the process of systematically collecting, evaluating, and integrating evidence from primary research papers for a well-defined research question. The process of critically evaluating the quality of research papers is a time-consuming task. Large language models (LLMs) are useful in extracting information from scientific articles. However, it is unclear if LLMs are able to accurately evaluate the reliability of individual research papers.

Purpose
In this study, we tested the ability of two commercially available LLMs, namely Gemini 2.5 pro and Llama 4 Maverick, to accurately score the quality of the experimental evidence of a collection of full-length human cancer genomics papers.

Methodology
We collected 39 primary research papers that aimed to address the question 'Is mitochondrial DNA common deletion (mtDNA-CD) present specifically in human tumours'. Each paper was carefully assessed by a human genetics researcher, and the quality of the experiment and data were scored between 1 and 5 (5 being highest quality), based on three domains: (1) experimental method, (2) statistical analysis, and (3) sampling strategy. Using 10 papers for prompt engineering and parameter optimisation, we tested the performance of the trained LLMs on the remaining 29 papers.

Results
If we allow the LLM-generated score to be within ±1 against the human's scoring, the accuracy of the overall scores are: Gemini 89.7% and Llama 86.2%. Accuracy of the three domains are: experimental method (Gemini 86.2%, Llama 79.3%), statistical analysis (Gemini 79.3%, Llama 72.4%), and sampling strategy (Gemini 65.5%, Llama 41.3%). Gemini can extract the relevant text for evaluating experimental method, statistical analysis, and sampling strategy at the accuracy of 100%, 89.3%, and 96.3%, respectively.

Conclusion
Our results support the cautious use of LLMs to evaluate the reliability of evidence in primary research papers for systematic review. The performance can differ based on the specific choice of LLM and scoring domains. Nonetheless, given the overall good accuracy and strong performance in extracting the relevant text within the full text, it is possible to use LLM to accelerate the human evaluation process in a systematic review.

Poster Presentations

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Addressing Chemsex Among Gay, Bisexual Men Who Have Sex With Men: A Systematic Review and Meta-Analysis

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Background
Chemsex—the intentional use of psychoactive substances to enhance sexual experiences—presents significant public health challenges among gay, bisexual, and other men who have sex with men (GBMSM). Evidence regarding intervention effectiveness remains limited and geographically skewed.

Methods
We systematically searched nine databases (Scopus, Web of Science, PubMed, Global Health, PsycINFO, CENTRAL, CINAHL, PsychArticles) yielding 9,569 records. After removing 4,730 duplicates, 4,839 records were screened, with 194 assessed for full-text eligibility. Fourteen studies met inclusion criteria, with eight included in the meta-analysis (N=29-1,071). Studies were excluded primarily for wrong outcomes (n=127), study design (n=49), population (n=3), or language (n=1). Eligible studies included RCTs, quasi-experimental designs, and pre-test/post-test evaluations targeting chemsex reduction or harm mitigation among GBMSM. Outcomes were standardized to Hedges' g using the NIH Quality Assessment Tool.

Results
The meta-analysis yielded a non-significant pooled effect size (g=-0.64, 95% CI: -1.74 to 0.45, p=0.207) with substantial heterogeneity (I^2=97.7%). Geographic location explained significant variation (p<0.001): studies from Hong Kong (g=-3.54) and United Kingdom (g=-1.42) demonstrated large beneficial effects, while US-based interventions showed negligible impact (g=-0.02). Individually-delivered interventions showed promising trends compared to group approaches.

Conclusion
This meta-analysis reveals critical geographic disparities in chemsex intervention effectiveness. The substantial heterogeneity suggests the importance of contextual factors in intervention design. Future research should explore cultural adaptations and standardized approaches to address the global chemsex phenomenon among GBMSM populations.

Poster Presentations

Poster 28

Mapping Burden and Risk Factors of Ovarian Cancer in Low- and Middle-Income Countries

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Background
Ovarian cancer is the eighth most common malignancy among women globally and among the most lethal gynecologic cancers. Although low- and middle-income countries (LMICs) report lower incidence than high-income countries (HICs), LMICs report higher mortality rates, accounting for over 70% of global ovarian cancer deaths, reflecting rising socioeconomic disparities, later-stage diagnoses, and limited healthcare infrastructure. This study examines the relationship between economic and structural risk factors with cancer incidence, mortality, and DALYs in LMICs.

Methods
We looked at the impact of ovarian cancer in low- and middle-income countries (LMICs) by using public global databases to analyze changes over time in risk factors, age groups, income levels, disability-adjusted life years (DALYs), and mortality-to-incidence ratios (MIRS).

Findings
Ovarian cancer incidence rose by 78% in LMICs. The highest incidence was observed for women aged 60 and above—a contrast with HICs, where the burden declines after age 70 and remains stagnant throughout. Mortality rates rose by 73% in LMICs with higher ovarian cancer DALYs, from earlier detection and more advanced infrastructure, where ovarian cancer DALYs increased by 13.9 units for a one-unit increase in log (GDP per capita) [$\beta = 13.87$; 95% CI: 5.51–22.23; $p = 0.001$]. Conversely, there is a negative correlation between the mortality-to-incidence ratio (MIR) and income level, suggesting that higher-income LMICs experience higher survival outcomes, where MIR decreases by 0.044 for a one-unit increase in log (GDP per capita) [$\beta = -0.0435$; $p < 0.001$; $R^2 = 0.138$].

Conclusion
Ovarian cancer burden has disproportionately increased in LMICs with rising incidence and mortality, and an increase in DALYs. Although LMICs report lower incidence rates, they experience higher mortality and DALYs that exceed those of HICs, primarily due to limited medical infrastructure and barriers to earlier diagnostic screenings. Temporal trends suggest that the gap between HICs and LMICs is decreasing over time, reflecting the urgent need for improved medical infrastructure and targeted prevention in low-and middle-income countries.

Poster Presentations

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Burden of Diabetes Attributable to Low Physical Activity in Low- and Middle-income Countries

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Background
Diabetes ranks among the top ten drivers of increasing disease burden, where low physical activity (PA) is recognised to be a primary risk factor of type two diabetes mellitus (T2DM). The prevalence of T2DM disability-adjusted life years (DALYs) associated with low PA is estimated to have more than doubled, from 1990-2019. Low-and-middle-income countries (LMICs) face an increasing diabetes burden compared to high income countries, where 95% of the predicted increase in diabetes prevalence is expected to occur in LMICs.

Methods
Diabetes burden was analysed using graphs produced from four global data sets ranging from 1990-2021. DALYs and death rates of 210 countries were included, additionally categorised according to income and sociodemographic groups, from low, lower-middle, middle, upper-middle, and high -income and -sociodemographic groups. Burden was additionally recorded among males and females, separately and combined, covering 13 age groups.

Findings
Lower-middle-income countries faced the highest burden of diabetes, consistently experiencing the highest age-standardised death rates (ASDR), and DALYs rates, with 4.03 ASDR and 105.70 DALYs, compared to 1.05 ASDR and 48.88 DALYs in high-income countries. This trend only deviated when considering all-age DALYs count, with upper-middle-income countries facing the highest burden. Death and DALYs rates consistently increased with age, with the age group of 85 and above experiencing the highest rates among all (222.28 ASDR and 2807.05 DALYs). Lower-middle sociodemographic countries also faced the highest burden, with females experiencing significantly higher diabetes burden than their male counterparts, 3.86 ASDR and 107.02 DALYs in females compared to 2.45 ASDR and 67.98 DALYs in males.

Conclusion
Globally, the ASDR and DALYs rates of diabetes attributable to low physical activity have risen over the past few decades, from 1990 to 2021. As the incidence of diabetes is predicted to continue to increase, it poses a significant public health issue, calling for more informed policy implementation to better understand the disparities among diabetes burden between countries.

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Efficiency and Productivity of County-level CDCs in Qingdao Municipal, China: a Retrospective Study Based on 6 Years of Panel Data

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Purpose
County-level Centers for Disease Control and Prevention (CDC) are the foundational units of China's public health system. They bear heavy responsibilities but face issues such as insufficient staffing, weak technical capabilities, and poor funding support. The efficiency and fairness of resource allocation are crucial for enhancing public health outcomes. Therefore, this study will focus on the 10 county-level CDCs in Qingdao City to assess the trends in fairness and efficiency of resources from 2018 to 2023, in order to provide reference for optimizing the resource allocation structure and effectively fulfilling the functions of county-level CDCs.

Methods
We used Gini coefficient and Lorenz curve to assess the fairness of resource allocation in the country-level CDCs in Qingdao. And the efficiency of CDCs was calculated using data envelopment analysis (DEA), and the efficiency change was analyzed by employing the Malmquist productivity index (MPI).

Results
The health resources at the Qingdao CDCs have shown an overall upward trend from 2018 to 2023. During 2018–2023, CDC personnel allocation demonstrated high equity in demographic and economic dimensions (Gini <0.3), but suboptimal equity in geographic distribution (Gini 0.3–0.5). The average technical efficiency was 0.940, pure technical efficiency averaged 0.995, and scale efficiency was 0.944. Among 10 CDCs, 50% achieved DEA efficiency. According to the total factor productivity (TFP) reflected by the indicator system constructed in this study, TFP grew at a rate of 6.0% between 2022 and 2023. Changes in technical efficiency change (TEC) and scale efficiency change (SEC) overall outperformed the change in technological progress (TC).

Conclusion
Priority should be given to total factor productivity (TFP) by implementing flexible staffing adjustments, increasing the number of technical personnel and senior experts, and strengthening continuous training to enhance workforce capabilities. Also, fiscal efficiency should be enhanced by through linking fund allocation with performance evaluation. Meanwhile, accelerate technological modernization and enhance technological capabilities through digital tools and management innovation. Overall, these comprehensive measures will enhance resource utilization efficiency and strengthen the resilience of public health services.

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Assessing the Prevalence of Social Isolation and Loneliness in Hong Kong SAR, China Community: A Population-wide Study

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Purpose
Social isolation and loneliness are increasingly recognised as significant public health concerns, due to their detrimental impacts on physical and mental health throughout the lifespan. However, previous research predominantly focused on older adults, and the prevalence of social isolation and loneliness across the adult population remains unclear. To fill in the knowledge gap, this study aims to examine the prevalence of social isolation and loneliness across adults of all ages in the Hong Kong SAR, China community.

Methodology
Targeting a sample size of n≥1000, a cross-sectional population-wide telephone survey adopting random sampling began in June 2025. Social isolation and loneliness were assessed by the Lubben Social Network Scale-6 (LSNS-6) and the UCLA 3-item loneliness scale scores (UCLA-3), respectively. Samples with LSNS-6 scores <12 out of 30, and UCLA-3 scores ≥6 out of 9, were considered 'social isolated' and 'lonely'. The recruited sample was sub-grouped into youth (aged 18-39), middle-aged (aged 40-64), and older adults (aged 65+), and chi-squared tests were performed to determine if the difference in prevalence across age groups was of statistical significance.

Results
As of June 30, 2025, 123 samples were recruited, with the data collection ongoing and targeted for completion by October 2025. The majority of the sample was older adults (47.2%), followed by middle-aged (39.8%) and youth (13.0%). Social isolation was reported most frequently in youth (37.5%), but the difference was insignificant across age groups (middle-aged: 28.6%; older adults: 34.5%). Loneliness was relatively uncommon compared to social isolation. The highest loneliness prevalence was observed in middle-aged (10.2%), with differences across age groups being insignificant (youth: 6.3%; older adults: 1.7%).

Conclusion
The preliminary findings indicate social isolation as a prevalent issue regardless of age groups in Hong Kong SAR, China community, and highlight social isolation as a public health challenge at the population level. While the definitive conclusion awaits the study completion, the findings urge rapid policy development and comprehensive community engagement to mitigate social isolation.

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Distributions, risk factors and epidemiological trends of endometriosis in low- and middle-income countries: a comprehensive analysis

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Background
Endometriosis is a chronic inflammatory condition in which tissue similar to the tissue lining the uterus grows outside the uterine cavity. Due to the invasive nature of testing alongside the widespread normalization of menstrual pain, the disease is frequently under diagnosed despite affecting 10% of the female population. Furthermore, many low- and middle-income countries (LMICs) face significant challenges in diagnosing and treating endometriosis early, as their healthcare systems frequently lack the capacity to maintain specialized multi-disciplinary teams with the necessary skills and equipment. This study aimed to evaluate the burden of endometriosis especially in LMICs.

Methods
A systematic analysis was conducted to assess temporal trends, incidence, DALYs (Disability-Adjusted Life Years), mortality by different income levels and age groups. All countries were categorized into four income groups: low income, lower middle-income, upper middle-income, and high income.

Results
The analysis revealed significant disparities in the burden of endometriosis across income groups, with LMICs exhibiting higher age-standardized incidence and DALYs compared to high-income countries, likely due to underdiagnosis and limited healthcare access. While global trends showed declining incidence and DALYs from 1990 to 2021, lower-middle-income countries experienced a concerning rise in endometriosis-related mortality after 2005, suggesting delayed diagnosis and inadequate treatment. Age-specific data indicated that reproductive-age individuals (20–39 years) in LMICs bore the highest burden. Geospatial analysis further highlighted elevated incidence rates in LMICs, including sub-Saharan Africa and South Asia.

Conclusion
Overall, the burden of endometriosis exhibits significant variation across temporal trends, with the highest rates observed in LMICs. With rising mortality trends in LMICs, coupled with persistently high DALYs among reproductive-age women, this underscores significant disparities in early detection, treatment, and healthcare infrastructure.

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Stakeholder Perceptions and Adoption Barriers of the HA Go Application in Hong Kong: A Qualitative Study

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Background
The Hospital Authority in Hong Kong developed an application, known as 'HA Go', to enhance the patient healthcare journey and optimize the efficiency of healthcare resource allocation. This study aims to explore the perception of the HA Go among the key stakeholders and identify barriers and facilitators to the adoption of HA Go.

Method
This was a qualitative study to assess the viewpoints regarding the adoption of HA Go from six groups of key stakeholders including (1) users; (2) non-users; (3) caregivers; (4) doctors in the public healthcare sector; (5) doctors in the private healthcare sector; and (6) policy makers related to the HA Go development. The Consolidated Framework for Implementation Research was adopted to guide the interview and data analysis in this study.

Results
A total of 33 participants were included in this study. Among them, 15 (45.5%) participants were from the user, non-user, and caregiver groups, while 18 (54.5%) were physicians or policymakers related to the HA Go application. Regarding the participants from the user, non-user, and caregiver groups, the key benefit of HA Go and facilitator of usage identified are the usefulness of appointment management, simplifying the healthcare process, and easy access to information and knowledge of HA Go. Conversely, the key barriers identified by this group of participants are the concern about the familiarity of digital devices. Regarding the participant in physicians and policymaker group, the key benefits and facilitators identified were improvement in patient appointments, healthcare process, patient medication management, health management, caregiving quality, physicians-patient communication, healthcare resource allocation, functional improvements, user-friendly user interface, promotion and platform integration and overlap reduction. In contrast, the key barriers that hindered the HA Go were the familiarity of digital devices and limited access to knowledge and information related to HA Go.

Conclusion
This study highlighted the potential role of the HA Go in enhancing patients' healthcare journey and optimizing healthcare resource allocation, and identified the enablers, barriers, and opportunities for improvement. These findings may assist policymakers in developing more targeted strategies and enhancements to ensure the success of HA Go.

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Barriers and Facilitators to Lung Cancer Screening Among High-Risk Individuals in Hong Kong: A Qualitative Study

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Background
Lung cancer is currently the leading causes of cancer-related mortality among the world, with screening being significance for early cancer detection and treatment. Though the benefits of lung cancer screening has been proven, many high-risk individuals remain unaware or hesitant to participate. This qualitative study aimed to explore the attitudes, perceptions, barriers, and facilitators to lung cancer screening among high-risk populations.

Methods
Using a purposive sampling approach, we conducted semi-structured interviews with eligible participants including individuals aged 45 years and older, specifically targeting high-risk population. Their risks of lung cancer were calculated based on a risk score system, using age, smoking status, chronic obstructive pulmonary disease (COPD), and family history of lung cancer. The interviews and data analysis were guided by the Theoretical Domains Framework to ensure a comprehensive exploration of participant views.

Results
Among 30 participants (22 females; 27 aged ≥65 years, retired) included, 21 expressed willingness to join lung cancer screening. Key motivators included strong trust in healthcare providers and desire for early detection, particularly among those with high-risk conditions, such as family history, smoking habits, or exposure to cooking fumes. Notably, participants demonstrated high acceptance of potential screening outcomes and readiness to pursue treatment if needed. Insufficient knowledge about screening emerged as a major barrier. Financial concerns were also prominent, with participants emphasizing that fee waivers or subsidies would significantly boost participation.

Conclusion
This study highlighted strong willingness for lung cancer screening among high-risk individuals in Hong Kong. However, significant knowledge gaps and financial burden were the major barriers. Targeted education campaigns and subsidized screening programs were expected to improve participation rates. Future studies should determine effective ways to implement lung cancer screening program.

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Factors Influencing AI Literacy Among Health Discipline Students in Hong Kong: An Ongoing Cross-Sectional Study

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Purpose
This ongoing study aims to identify the key factors influencing artificial intelligence (AI) literacy among health discipline students at a university in Hong Kong.

Methodology
A cross-sectional survey is being conducted among students (Age: 20-25 years: 33.92%; female: 75.6%) affiliated with The University of Hong Kong. To date, 171 participants have completed a questionnaire covering sociodemographic information (age, gender, major, academic year, programme type) and an AI literacy scale. Multiple linear regression analysis has been used to examine associations between sociodemographic factors and AI literacy scores. Statistical significance was defined as a two-tailed p-value less than 0.05.

Results
Preliminary analysis indicates that the mean AI literacy score among participants is 43.77 ± 5.00. Significant variations in AI literacy are observed based on participant status, faculty, programme type, and year of study ($p < 0.05$). The regression model currently explains 46% of the variance in AI literacy (adjusted $R^2=0.348$). Age shows a significant negative correlation with AI literacy ($r = -0.448$, $p < 0.001$). Academic year and programme type are significant predictors: students in higher diploma programmes scored on average 25.48 points lower than their counterparts ($p < 0.05$), and those in earlier academic years also exhibited lower AI literacy.

Conclusion
Interim results indicate that academic year, programme type, and age significantly influence AI literacy among health discipline students in Hong Kong. Targeted interventions and tailored support, particularly for students in earlier years, higher diploma programmes, and older age groups, are needed. Ongoing work will further explore effective strategies, including virtual training tools, to enhance AI literacy and better prepare students for future healthcare practice.

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Investigating Social Determinants and Gender Differences in Sleep Health Disparities: Early Findings from a Descriptive Study in Hong Kong 2024

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Introduction
Sleep health is influenced by social and structural factors such as income, housing, commuting, and noise. This study examines sleep duration, sleep latency, and sleep adequacy and associated factors in Hong Kong, the city with high income inequality and the lowest per capita living space in the world.

Methods
An anonymous, cross-sectional telephone survey was conducted on adults in Hong Kong, 2024 (n=500). Descriptive statistics (mean, standard deviation, and frequencies) summarized sleep data: (1) sleep duration, (2) time to fall asleep (sleep latency), and (3) sleep adequacy. Associated sociodemographic (e.g. sex, income), behavioural (e.g. exercise habits, commuting time) and environmental factors (e.g. housing type, ambient noise, residential area) were also examined to identify patterns in sleep disparities using multivariable regression analyses.

Results
Preliminary findings show that sociodemographic factors are significantly associated with sleep. In particular, females and people with lower income reported shorter sleep duration (mean < 6.1 hrs), longer time to fall asleep (mean > 36 minutes), and lower sleep adequacy (mean < 7.6 hrs) than higher income groups and males ($p<0.05$). Noise disturbances were more also common in lower-income groups, worsening sleep outcomes. Behavioural and environmental factors also contribute significantly to poor sleep quality ($p<0.05$).

Conclusions
Targeted interventions are required to address sleep inequalities in those sociodemographic groups with poor sleep such as women and lower income individuals. Since personal and environmental factors contribute to sleep health disparities in Hong Kong, there is a need for sleep interventions that go beyond the personal level. As sleep is a vital component of good health, sleep health should be included in public policy discussions in high population density, urban environments.

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Examining the Influence of Sleep Hygiene Knowledge and Practices on Sleep Health: A Cross-Sectional Survey of Adults in Hong Kong, 2024

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Introduction
Sleep health, a critical component of overall well-being, has previously been closely linked to sleep hygiene (SH). The study aims to investigate how SH knowledge and actual SH behaviors, along with self-reported health status, influence sleep quality outcomes across different age groups and demographics among Chinese adults residing in a high living density region.

Methods
An anonymous, cross-sectional, telephone survey was conducted on adults from Hong Kong (n=500) in 2024. The study obtained information about the participant's sociodemographic information, living situation, self-rated health, SH knowledge, SH behaviors (using Sleep Hygiene Index instrument). Multiple linear regression analysis, controlling for sociodemographic factors, was used to explore how these factors predicted self-reported sleep quality, as assessed with the Pittsburg Sleep Quality Index.

Results
Over the past month, the mean overall sleep quality score (scored 0 to 3, 3 indicating poor sleep quality) was 1.2 with a standard deviation (SD) of 0.77. Their average sleep duration was 6.36 hours (SD = 1.28). The mean SH knowledge score was 11.1 out of maximum 14 points (SD = 1.74), and the mean SH behaviors score was 9.98 points out of 26 (SD = 5.13). Multivariable analysis showed that individuals with higher SH knowledge scores reported better sleep quality, while those with poorer SH behaviors scores had worse sleep outcomes. Self-rated mental health, including stress, anxiety, and depression, significantly predicted sleep quality, with poorer mental health linked to worse sleep outcomes ($p < 0.05$). Additionally, older age, female gender, and diagnosed sleep apnea were significantly associated with worse sleep health ($p < 0.05$). Furthermore, the SH knowledge score($B = 0.65$, $p < 0.05$) was a significant predictor of SH behaviors score, indicating that higher SH knowledge scores were associated with better SH behaviors scores.

Conclusions
Both personal factors, such as SH knowledge, and health factors, contribute to sleep health disparities. As SH knowledge predicts actual SH behaviors scores, enhancing this knowledge should be a priority in health promotion. Future interventions should aim to improve sleep hygiene through education while also addressing broader issues like mental health and sleep disorders.

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Global Changes in Life Expectancy during the COVID-19 Pandemic

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Background & Purpose
The COVID-19 pandemic resulted in a substantial increase in mortality in many countries, corresponding to a decrease in global life expectancy (LE). We aim to evaluate how the pandemic has affected the mortality and trend of LE in different regions and countries with different social and economic development levels. We estimated the changes in LE in 188 countries during the COVID-19 pandemic.

Methodology
We reviewed LE data from 1998 to 2023 for 188 countries and regions globally from the World Bank. A linear regression model was used to extrapolate the LE in 2020 to 2023 from the pre-pandemic level of 1998-2019 to compare the LE before and after the pandemic.

Results
We found a decline in LE from 2019 to 2020 (males: 76.1% of countries & females: 58.5%), and from 2020 to 2021 (males: 67% & females: 79.3%) in most countries for both sexes. Most countries observed an improvement in LE in 2022 compared with the previous year (males: 88.9% & females: 86.2%), apart from Eastern Asia, including Hong Kong SAR, China (males: -2.54 & females: -1.17 years), Japan (males: -0.42 & females: -0.48 years), and South Korea (males: -0.7 & females: -1.0 years). Australia and New Zealand also observed a marginal decrease in LE. Eastern Asia has a decrease of LE of 0.08 years for males in 2022, compared to 2021, while other regions observed an increase in LE of 1.51 and 1.57 years for males and females, respectively, at the same time.

Conclusions
Almost all countries recorded a decrease in LE in the COVID-19 pandemic. East Asian regions, Australia & New Zealand observed negative changes in LE in 2022 compared to 2021 due to the Omicron pandemic, which caused severe strain on healthcare resources. The LE in the pandemic deviated from the increasing trend of LE in the pre-pandemic period for most countries, and has not resumed to the rising trend in 2023, regardless of the social and economic development.

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Repeat Influenza Vaccination Effects in 2021/22 and 2022/23 in a Community-Based Cohort in Hong Kong

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Background
Repeated annual influenza vaccination has been associated with attenuated immune responses and reduced clinical effectiveness. Most studies of repeat vaccination immunogenicity have focused on the responses at 30 days after vaccination. As influenza did not circulate in Hong Kong for over two years during the COVID-19 pandemic, we were able to investigate vaccine responses in the absence of infections.

Methods
In this community-based cohort study in Hong Kong, we investigated the impact of repeated annual influenza vaccination on HAI titer boosting and waning rates of 8 contemporary vaccine strains over two years in 2021/22 and 2022/23. We further investigated differences in HAI titer waning rates after day 14 post-vaccination using a power law model and vaccination history. Participants were divided into three groups based on vaccination history in the prior six years: no prior vaccination, low uptake (1-2 vaccinations) and higher uptake (3+ vaccinations).

Results
We found statistically significant reductions in post-vaccination geometric mean titres for A/Brisbane/2/2018(H1N1) in 2022/23 compared to 2021/22, and reduced mean-fold rises in titers in repeat vaccinees in 2022/23 for several strains. In addition to attenuated response, the higher vaccination uptake group had significantly slower waning after 2021/22 vaccination for A/Victoria/2570/2019, B/Phuket/3073/2013, and B/Austria/1359417/2019, and reached similar titers at six months post-vaccination compared to the groups with less vaccination history.

Conclusions
Our findings suggest that repeated influenza vaccination is associated with attenuated antibody titer responses at day 14 post-vaccination, but has less impact on antibody levels at six months post-vaccination.

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Increases in influenza excess mortality during epidemic peaks in Hong Kong

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Purpose
Influenza epidemics may cause substantial pressure on healthcare systems. We extended statistical models to ascertain potential increases in excess mortality at the epidemic peak periods.

Methodology
We applied linear regression models to respiratory mortality rates among older adults ≥65 years in Hong Kong from 1998 through 2019. The differences between estimated mortality rates in the presence or absence of reported influenza and peak activity were used to estimate influenza-associated excess mortality and any peak effect.

Results
We estimated that on average there were 482 (95% CI: 390, 570) excess respiratory deaths associated with influenza annually, with 8.8% of these excess respiratory deaths being attributable to an elevated impact of influenza during the peak periods of epidemics. During the influenza seasons defined in the study, the average influenza-associated mortality in seasons predominated by influenza A(H1N1) was associated with higher peak effect (20 excess deaths, i.e. around 28%) than seasons during which influenza A(H3N2) predominated (16 excess deaths, i.e. around 7%).

Conclusion
Influenza was associated with a statistically significant increase in the number of excess deaths during epidemic peaks in Hong Kong. Surge effects could be mitigated by epidemic preparedness with administrative measures or community-based non-pharmaceutical interventions.

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Assessing the Broader Impact of Influenza: A Meta-Analysis of Cause-Specific and All-Cause Influenza-Associated Mortality

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Purpose
The mortality impact of influenza epidemics is often quantified via increases in respiratory mortality, but this may not fully capture other health outcomes like cardiovascular events. We aimed to explore the ratios of influenza-associated cause-specific to all-cause mortality.

Methodology
We reviewed relevant articles from PubMed and EMBASE which reported both influenza-associated all-cause mortality and at least one death grouping: pneumonia and influenza, respiratory, or respiratory plus cardiovascular diseases. Only population-based estimates from influenza seasons were included.

Results
We included 130 mortality ratio estimates from 54 studies. We identified substantial heterogeneity in estimates (1.2%-93%). The cause of death groupings accounted for substantial heterogeneity, with higher ratio estimates attributed to respiratory plus cardiovascular diseases (45%-93%) compared with respiratory diseases only (7.8%-66%) or pneumonia and influenza (1.2%-38%). Respiratory mortality to all-cause mortality ratios increased substantially with age. Similar increases in the ratio estimates with age were also observed for mortality based on pneumonia and influenza and respiratory plus cardiovascular diseases.

Conclusion
Our review quantifies the broader mortality burden of influenza, with substantial impact associated with cardiovascular deaths in addition to influenza-associated respiratory deaths. Promoting vaccination among high-risk groups remain as an important strategy to prevent influenza-associated deaths, and enhancing the assessment of influenza impact beyond mortality would be valuable for pandemic preparedness.

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Comparison of risk prediction models for kidney disease: an external validation using 0.5 million UK Biobank participants

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Objectives
Kidney disease is prevalent and costly to treat. Risk prediction tools play an essential role in identifying at-risk individuals to facilitate early detection and management. Independent external validation of prediction models is needed to assess comparative performance and support clinical application. We compared the external validation performance of existing kidney risk prediction models using 0.5 million participants in the UK Biobank.

Methods
We identified and compared 16 risk prediction models for chronic kidney disease from 3 recent systematic reviews (7 models for the whole population, 9 models specific for type 2 diabetes). We analysed 497,896 adults (age 40-73) in the UK Biobank data; of which 4.7% (n=23,298) had type 2 diabetes. Models were evaluated by discrimination and calibration performance with subgroup analyses by age, sex, ethnicity and pre-existing hypertension.

Results
During a total follow-up of 5.95 million person-years (median: 12.2 years; IQR: 1.4), predictive models for people without diabetes exhibited fair-to-excellent discrimination performance (c-indices: 0.69-0.81) but severely overpredicted risk. The O'Seaghdha model demonstrated the best overall performance for discrimination (c-index: 0.81 [0.81-0.81]) and calibration (slope: 0.69, intercept: -0.011; integrated calibration index: 0.03 [0.02,0.04]). Performance for individuals with type 2 diabetes varied considerably (c-indices: 0.60-0.76 for chronic kidney disease; 0.67-0.88 for kidney failure) though models including medications for diabetes showed superior performance. Discriminative performance was poorer for people with hypertension. Severe miscalibration occurred for many models.

Conclusions
The O'Seaghdha risk prediction model for chronic kidney disease developed in the US population demonstrated excellent potential for clinical application in this large UK cohort. Model performance in individuals with diabetes or hypertension was poorer warranting further development. Recalibration prior to clinical application is needed for most models.

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Real-Time Estimation of Disease Burden Averted by Vaccination During Influenza Seasons in Hong Kong from 2014 to 2019

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Purpose
To compare real-time and retrospective approaches for estimating mortality burden averted by influenza vaccination during influenza seasons in Hong Kong from 2014-2019.

Methodology
We conducted a population-based ecological study using weekly age-specific mortality data from 1998-2023 obtained from the Census and Statistics Department. Linear regression models examined associations between influenza activity and respiratory mortality rates, adjusting for temperature, absolute humidity, SARS-CoV-2 activity, and respiratory syncytial virus (RSV) activity. Real-time excess mortality were estimated using historical data (years 1 to k) to predict burden in year k+1 based on current influenza surveillance data. Averted deaths were calculated by multiplying expected burden in absence of vaccination by the proportion of effectively vaccinated individuals (vaccination coverage × vaccine effectiveness). Vaccination coverage data were obtained from the Centre for Health Protection (CHP), Legislative Council records, and independent studies. Vaccine effectiveness estimates were derived from published real-world effectiveness studies conducted in Hong Kong. Analysis was stratified by age groups (0-4, 5-64, 65+ years, and all ages) and cause-specific outcomes (all-cause, cardiovascular and respiratory, and pneumonia and influenza deaths).

Results
Real-time estimates showed strong correlation with retrospective estimates across age groups and outcomes. For all-cause deaths, retrospective estimates showed 105-841 averted deaths in the 65+ age group annually, with a notable spike in 2018. Real-time estimates demonstrated greater uncertainty in general but aligned well with retrospective estimates, showing no significant differences between the two methods. Age-specific patterns in retrospective estimates showed minimal averted deaths in children aged 0-4 years (-4.9 to -0.1 deaths) and in the 5-64 age group (1.0 deaths). For pneumonia and influenza deaths, the annual averted burden ranged from 13-131 deaths (retrospective) and 12-103 deaths (real-time). Cardiovascular and respiratory deaths showed 27-204 averted deaths (retrospective) and 26-192 deaths (real-time). Confidence intervals were consistently wider during severe seasons, particularly from 2018 to 2019.

Conclusion
Real-time estimations provide reliable estimates of vaccination impact highly aligned with retrospective estimations, enabling timely assessment of influenza vaccination benefits during ongoing seasons. The analysis confirms that vaccination impact is primarily concentrated in older adults (65+ years), highlighting the importance of targeted vaccination strategies for this group.

Poster Presentations

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Engagement with a chat-based alcohol reduction intervention among risky drinkers attending Accident and Emergency Departments

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Background
Intervention engagement is crucial in improving health outcomes and is a key modifiable factor in optimizing intervention efficacy. This study examined the engagement patterns and associated characteristics among risky drinkers attending Accident and Emergency Departments (AEDs) who participated in a chat-based alcohol reduction intervention.

Methods
This was a secondary analysis of a randomized controlled trial (ClinicalTrial.gov: NCT05018624) conducted in five AEDs in Hong Kong. We analysed 316 risky drinkers (91.1% male, mean age 42.1 years) with an Alcohol Use Disorders Identification Test score of ≥8 who were randomized to intervention group. Participants received 3-month personalized chat-based support by a live counsellor via WhatsApp which included 26 regular messages sent on a tapering schedule (from daily in the first week to weekly in the final 7 weeks). Engagement was defined as weekly responses (yes/no) to these messages. Group-based trajectory modelling was used to characterize the engagement patterns over time. Baseline characteristics were compared using one-way analysis of variance and Chi-square tests. Ordinal logistic regression was used to examine associations between baseline characteristics and engagement levels.

Results
We identified three distinct engagement trajectories: low engagement (82.4%) where participants showed minimal or no engagement; moderate engagement (11.1%) where participants began with high engagement declined to a moderate level; and high engagement (6.5%) where participants maintained consistently high engagement. The high engagement group included a higher proportion of participants aged ≥50 years and those who were married. The moderate engagement group reported lower weekly alcohol consumption. Parallel odds assumption of ordinal regression holds (Brant test P value = 0.66). Compared to participants aged 18-29 years, those aged 40-59 years (adjusted odds ratio = 2.8, 95% CI: 1.2 to 6.3) and ≥50 years (4.0, 1.8 to 9.0) showed higher engagement levels. Less heavy drinking (0.7, 0.5 to 0.9) and perceived importance towards reducing alcohol consumption (1.2, 1.1 to 1.3) were significantly associated with higher engagement levels.

Conclusion
This study identified three distinct engagement patterns among risky drinkers attending AEDs who received chat-based alcohol reduction intervention. Older age, less heavy drinking and perceived greater importance towards reducing alcohol consumption significantly associated with higher engagement levels.

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Alleviating Hong Kong's "Treatment-Oriented" Health Culture

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Introduction
Hong Kong is experiencing rapid population aging, placing increasing demands on its healthcare system and social services. Among the elderly, especially those from underprivileged backgrounds, there exists a significant gap in adopting prevention-oriented health behaviors. Despite the widespread availability of healthcare services, many underprivileged elderly face barriers including limited health literacy and economic hardship, which hinder engagement in preventive health practices. This situation disproportionately increases their vulnerability to chronic diseases and reduces overall quality of life.

Method
The specific challenge in Hong Kong lies in fostering a sustainable health culture focused on prevention within these socioeconomically disadvantaged elderly communities. Existing programs largely emphasize treatment and management of diseases, while the uptake and impact of prevention initiatives remain suboptimal.

In response, our study investigated 4 key approaches using artificial intelligence (AI). They are namely the development and integration of AI-assisted diagnoses, AI daily monitoring smart bands/health-tracking devices, unified electronic referral pathway and an AI family doctor matching system. AI will aid in alleviating the burden of doctors by monitoring the elderly for potential illness, increasing referral efficiency and tailoring personalized family physicians. Implemented AIs will undergo professional training and be given repetitive workloads, while adhering to existing data privacy protocol. Current literature, cost-effectiveness and efficacy projections are examined to reveal the feasibility of implementing such approaches in Hong Kong and their benefits to the underprivileged elderly.

Result
Our projections indicate marked improvements in participants' health knowledge and proactive behaviors. Post-intervention data show a 30% increase in regular health check-ups, a 28% rise in vaccination rates, and a notable enhancement in self-reported engagement in physical activity. Additionally, qualitative feedback underscores greater community cohesion and positive shifts in attitudes toward preventive care.

Conclusion
These findings underscore the importance of adopting culturally sensitive, community-driven strategies to strengthen prevention culture among Hong Kong's underprivileged elderly. The program's success not only suggests practical pathways to reduce health disparities but also provides a scalable framework for policymakers. Ultimately, fostering prevention-oriented health culture in Hong Kong's vulnerable elders will contribute to improved population health outcomes and lesser long-term healthcare burdens.

Poster Presentations

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Piloting of Hybrid Mode in Seasonal Influenza Vaccination School Outreach Programme in 2024/25

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Purpose
The 2024/25 Seasonal Influenza Vaccination School Outreach Programme (SIVSOP) introduced a pilot scheme of a new mode of providing nasal vaccine in schools to boost vaccination coverage among schoolchildren. The hybrid mode allowed kindergartens and child care centres (KGCCCs) to offer both injectable (IIV) and nasal (LAIV) vaccines in the same vaccination event. The pilot scheme also extended the use of LAIV to selected primary (PS) and secondary schools (SS). This evaluation assesses the programme's impact on vaccination rates, implementation feasibility, and stakeholder satisfaction.

Methodology
The evaluation analyzed vaccination data from 18 KGCCCs and 2 PS participating in the hybrid mode, and 4 SS participating in the LAIV pilot scheme. Key metrics included consent and vaccination rates, which were compared with non-hybrid schools and the schools' performance in previous years. Additionally, feedback on implementation, difficulties encountered, and satisfaction was collected via questionnaires from participating schools and vaccination service providers

Results
The hybrid mode successfully attracted 17 newcomer KGCCCs to organize outreach vaccination activities in 2024/25. These schools achieved an average vaccination rate of 41%, lower than non-hybrid KGCCCs (63%), likely due to their inexperience with outreach programmes. The two hybrid PS achieved a vaccination rate (68%) comparable to other PSs (72%) and their own prior performance. The four pilot SS using LAIV had a higher rate than other SSs (64% vs 59%) but a lower rate than their own performance with IIV in the previous year (71%). No clinical incidents were reported. Questionnaire responses indicated high satisfaction among schools (82%) and service providers (86%), with 60% of responding schools preferring the hybrid mode for the next year.

Conclusion
The introduction of the hybrid mode was a success, demonstrating smooth implementation and attracting schools to organise outreach vaccination activities. It is recommended to continue the hybrid mode and provision of LAIVs for KGCCCs, PSs and SSs in the 2025/26 season.

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Interplay of population immunity and importation in the dynamics of multi-pathogen respiratory epidemics

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Background & Aims
Global dynamics of recurrent epidemics for directly transmitted respiratory viruses are the combined outcomes of infection and vaccine-driven immunity/cross-immunity, viral antigenic changes, population mobility, human behavior, public health social measures (PHSMs) and other extrinsic drivers. The dynamics of these viruses has been changed in post COVID-19 pandemic period across the globe. This study aims to elucidate how population immunity and importation risks influenced the co-circulation dynamics and combined burden of multiple pathogens including influenza, RSV and COVID-19 across the study period.

Methods and Results
We developed three comparable data-driven statistical, semi-mechanistic and mechanistic modelling frameworks that integrates multiple large-scale data, including PHSMs, human mobility, serological, genomic, and syndromic surveillance. We first inferred the time-varying population immunity and importation risk over a 15-years period from 2011 to 2025 and then predict the dynamics of these pathogens' dynamics across the pre- during and post-pandemic periods. We found antigenic changes markedly improved the prediction performance by estimating increased correlation between population immunity and attack rate (from –0.16 to –0.57 with R^2 from 0.03 to 0.25) over null models with not accounted for antigenic drift. Imported cases from mainland China were associated with the largest increases in Hong Kong's transmissibility (Rt) for influenza and COVID-19, at 4.3% [95% CI: 0.7%, 9.3%] and 4.7% [95% CI: 0.3%, 10.4%], respectively. We observed a decline in the impact of human mobility on Rt after the pandemic onset estimating up to 51% [95% CI: 31%, 83%] decrease compared to the pre-pandemic period. We identified significant change in the circulation patterns (including seasonality) of multiple pathogens with associated burden across the pre-, during and post-pandemic periods.

Implications
This study presents a data-driven model integrating the importation risk and holistic immune landscape with multi-pathogen transmission dynamics, thereby characterizing the long-term evolution of population immunity. The frameworks hold significant potential for application to other respiratory infections. Our findings from a subtropical city Hong Kong, provide crucial insights into the pathogen co-circulation and their burden to be mitigated for effective public health intervention strategies.

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Reconstructing the Underlying Incidence of COVID-19 in Hong Kong Considering Symptomacity Information and Reporting Delay

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Purpose
The spreading and controlling of COVID-19 had shown two characteristics that need to be concerned, the reliance on delayed reporting system and a significantly large proportion of cases had no symptom during their infection. Based on the contact tracing data from the COVID-19 pandemic in Hong Kong from 2020 to mid 2021, this study aims to develop a model that infers the true underlying incidence by accounting for both symptomatic and asymptomatic cases and reporting delays.

Methodology
We developed a renewal-equation-based model that incorporates Hilbert space approximated Gaussian process method to reconstruct the underlying incidence and the instantaneous reproduction number (Rt) curve. With observed symptomatic and asymptomatic reported cases, assumed intrinsic generation time distribution, and Monte Carlo method inferred report delay distribution, the model could reconstruct the incidence curve and identifies symptomacity. We validate the model by simulation study and test the sensitivity of parameterization and assumptions by simulation and real-world data. We also check the compatibility of the model with other mainstream methods.

Results
The reconstructed incidence curves revealed epidemic peaks occurring 9–11 days earlier with magnitudes 1.02 to 1.06 times higher than those observed in reported case data. The estimated effective reproduction numbers (Rt) at epidemic onset ranged from 1.13 to 2.61. The proportion of infections being symptomatic was estimated between 60% and 77%. Simulations confirmed that the model reliably recovered both the underlying incidence and Rt. Ignoring asymptomatic transmission led to biased estimates in initial Rt ranging from -14.9% to 8.4%. The estimation from our proposed model is comparable to EpiNow2, EpiLPS, and Cori's R.

Conclusion
Our method highlights the importance of taking symptomatic and asymptomatic cases that differ in transmissibility into consideration. Asymptomatic cases had less transmissibility, aligned with previous studies. Using the information of reporting delay, we may reconstruct the incidence and more precisely study the impact of non-pharmaceutical interventions and virus mutation.

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From COVID-19 to Future Preparedness: Policy Insights from Three Years in a Cosmopolitan Where East Meets West Under COVID-19

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Purpose
The COVID-19 pandemic underscored the critical role of timely and well-coordinated public health measures in curbing disease spread, particularly before the availability of widespread vaccination. Three Years in a Cosmopolitan Where East Meets West Under COVID-19 (Chu, To, & Chung, 2025) provides an in-depth examination of the infection control strategies implemented in Hong Kong, a city balancing global connectivity with stringent public health safeguards. This paper summarises the chapter's insights and explores how these strategies can inform responses to future infectious disease outbreaks.

Methods
The analysis is based on the published results of Chu et al. (2024), which integrates epidemiological research, policy evaluations, and real-world case experiences to examine a range of interventions employed to limit COVID-19 transmission.

Results
Key measures identified as central to Hong Kong's containment strategy included widespread mask usage reinforced through public communication, calibrated physical distancing measures such as restrictions on gatherings and targeted venue closures, large-scale diagnostic testing coupled with rapid contact tracing, mandatory quarantine for exposed individuals, isolation of confirmed cases in designated facilities, and sustained public hygiene campaigns. Border surveillance and traveller screening served to delay case importation during critical phases.

Conclusion
The Hong Kong experience demonstrates that adaptive, multi-layered public health responses—rooted in rapid deployment, consistent enforcement, and public engagement—can markedly reduce transmission during epidemics. Embedding these principles into preparedness frameworks will enhance resilience and responsiveness in the face of future outbreaks. As no single intervention can singularly control an epidemic, an integrated, layered approach remains paramount. For prospective health threats—including seasonal influenza, novel coronaviruses, and emergent respiratory pathogens—jurisdictions should retain the capacity to rapidly re-implement masking and distancing protocols, expand testing and tracing infrastructure, uphold quarantine and isolation practices with adequate social support, and employ proportionate border measures aligned with risk assessments. Community trust and transparent communication are essential to sustaining compliance and maximising impact.

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Applying COVID-19 Vaccination Policy Insights to Future Immunisation Campaigns: A Summary of Analysis of the Effectiveness of Measures on the COVID-19 Vaccination Rate in Hong Kong

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Purpose
Vaccination programme success depends not only on vaccine availability but also on the effectiveness of supporting policy measures. Analysis of the Effectiveness of Measures on the COVID-19 Vaccination Rate in Hong Kong (Chu, Chung, & Pang, 2022) examined Hong Kong's COVID-19 vaccination policies across four categories—eligibility, accessibility, incentives, and restrictions—quantifying their effect on short-term vaccination rate acceleration. This paper summarises their findings, interprets observed trends, and discusses implications for future vaccination campaigns beyond COVID-19.

Methodology
The analysis is based on the published results of Chu et al. (2022), which examined age-stratified vaccination data from February 2021 to January 2022. Weekly age-weighted acceleration of vaccination rate (AWAVR) was compared between periods with and without each policy measure.

Results
The most consistent AWAVR increases were linked to accessibility enhancements (up to +1.51%) and restrictions (up to +1.25%), both statistically significant ($p < .0001$). Incentives, including vaccination leave and lotteries, yielded moderate but significant gains (up to +0.68%). Eligibility expansions targeting adolescents had mixed effects and were not statistically significant ($p = 0.12$). A general trend emerged in which AWAVR gains were the greatest when vaccination was made more immediate and convenient, or when the perceived personal cost of non-vaccination was higher.

Conclusion
The Hong Kong experience during COVID-19 highlights adaptable strategies that can be applied to diverse immunisation contexts, improving coverage and protecting public health. Future campaigns for seasonal influenza, pneumococcal disease, or emergent pathogens should prioritise reducing access barriers, delivering services directly to target groups, and combining incentive or restriction frameworks to prompt action. Eligibility changes should be paired with accessibility measures to maximise effect.

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Exploring Zero- and Low-Alcohol Beverages (NoLos) Consumption Pattern and Their Impact on Alcohol Use in Hong Kong: A Cross-Sectional Study Across Different Age Groups

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Purpose
Zero- and Low- alcohol beverages (NoLos) are gaining global popularity, with their growth surpassing regular alcoholic beverages. This study aims to fill the research gaps of local studies on NoLos and examine the impact of NoLos on public health.

Methodology
Phase 1 of the cross-sectional study was conducted from January to March 2025. Snowball sampling was used to recruit adults aged ≥18 years. Data were collected through an anonymous online survey on participants' demographics (age, gender, ethnicity, education, employment, income level, living district), awareness and consumption pattern of NoLos, regular alcoholic beverage consumption (assessed by Alcohol Use Disorder Identification Test – Consumption [AUDIT-C]), and perceptions on the alcohol-NoLo relationship. Mann-Whitney U test was used to detect the association between NoLo use and alcohol consumption.

Results
The survey involved 101 participants, predominantly young, male, Chinese, and highly educated. 83% of the participants were aware of NoLos, most commonly through local retailers like supermarkets and convenience stores, or friends/family members. While lifetime NoLo consumption (70%) exceeded a recent US estimate (62%), habitual NoLo use (at least 2 times per month) (4% – 14%) was considered lower compared to Western benchmark (≥30%) and regular alcohol use (42%). A significantly higher AUDIT-C score was also found in ever drinkers and habitual drinkers of NoLos, aligning with previous findings. Exploratory analyses found no strong evidence that NoLos play a substitute or supplement role to alcohol, or advance the entry point of alcohol consumption.

Conclusion
In this study, high awareness and exposure but low habitual use of NoLos was observed among young adults in Hong Kong. More local data should be collected to monitor the growing trend of NoLos. While a positive relationship has been seen between NoLos and alcohol consumption, further research should focus on their interaction to inform appropriate policy measures.

Poster Presentations

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Assessing the Risk Factors of Internet Addiction and Exploring Its Effects on Sleep Quality among Healthcare Students in Hong Kong: A Cross-Sectional Study

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Purpose
Internet addiction is increasingly prevalent among higher education students, who rely on online platforms for both academic and recreational purposes. This study aimed to examine the risk factors of internet addiction and explore its relationship with sleep quality among healthcare students in Hong Kong.

Methodology
A cross-sectional study was conducted from July 2024 to July 2025 using a convenience sample of undergraduate medicine, health sciences, and dentistry students in Hong Kong. Data were collected on socio-demographics (age, gender, household income, secondary education, living conditions, parenting status), psychological status (Patient Health Questionnaire-4 [PHQ-4] and Perceived Stress Scale [PSS]), internet addiction (Bergen Social Media Addiction Scale [BSMAS] and Internet Disorder Scale–Short Form [IDS9-SF]), and sleep quality (Jenkins Sleep Scale [JSS]). Multiple linear regression analyses identified predictors of social media use, internet disorder, and sleep quality.

Results
Of 298 participants (mean age=19.4 years; 50% females), the average daily electronic device use was reported to be 8.62 hours. Mean scores were 5.89 for PHQ-4, 11.71 for PSS-4, 14.59 for BSMAS, 19.88 for IDS9-SF, and 7.77 for JSS. Analyses showed that increased time spent on social media (B=1.585) and higher perceived stress (B=0.313) significantly predicted higher BSMAS scores, indicating a higher risk of social media addiction. For the risk of internet addiction, increased time spent on internet use (B=0.0308) and higher perceived stress (B=0.736) were significantly associated with higher scores in IDS9-SF. Sleep quality was not significantly associated with internet use, but was poorer among participants with higher depression and anxiety scores (B=0.425).

Conclusion
The findings suggest that perceived stress and internet use were linked to a higher risk of internet and social media addiction, while depressive and anxiety symptoms were associated with a lower sleep quality. The absence of a direct link between internet use and sleep quality suggests other mediating factors for further investigation. These results also emphasize the need for targeted mental health interventions to reduce internet addiction-related harms and improve sleep quality among healthcare students.

Poster Presentations

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Reinforcing standings of District Health Centres to reduce the burden on Hong Kong's tertiary care facilities

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Introduction
Prevention outweighs remedy. However, most people tend to prioritize the latter. To address this mindset, we suggest strengthening the role of District Health Centres.

Limited Public Understanding
Apart from health promotion courses and the Chronic Disease Co-care Pilot Scheme, there is a lack of public awareness regarding the services offered by District Health Centres, contributing to their low usage.

Service Targets Not Being Met
Most District Health Centres have only about 5% of residents registered as members, and less than 10% of members participate in the annual health risk checkup. To address this, we propose adapting a performance metric called 'Primary Healthcare KPI' in contracts, with phased funding linked to performance indicators.

To enhance overall coverage and participation, each centre will be tasked with serving at least 15% of its district population annually and increasing the participation of its labour workforce. Centres should also conduct annual follow-up assessments for at least 50% of their high-risk registrants.

Manpower Shortage
Most District Health Centres do not have doctors stationed. Additionally, staff turnover is a serious issue; in some centres, the entire team changed over the year, resulting in an attrition rate of 101%. Non-government organisations struggle to recruit medical staff. It is recommended that non-locally trained doctors and allied health professionals be employed at District Health Centres and that wages be standardised between centres. This will ease shortages and enhance service quality.

Limited Service Coverage and Insufficient Services
According to the official websites of District Health Centres, current screening services are limited to diabetes, high blood pressure and musculoskeletal problems. Given the increasing prevalence of vision problems among adolescents, regular eye checkups should be promoted to reduce the risk of various eye complications and to prevent their progression. Mobile healthcare stations should also be established to provide screening tests and necessary referrals. Also, Chinese and Western medicine treatments could be incorporated into alcohol prevention and cessation programmes, minimising the risk of alcohol abuse in society.

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