



HONG KONG COLLEGE OF COMMUNITY MEDICINE Annual Scientific Meeting 2024

28 September 2024

**PLANETARY HEALTH
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PROGRAMME BOOK



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Table of Contents

2 Committees

3 Programme

5 Abstracts for Keynote Addresses

9 Abstracts for Guest Lectures

14 Abstracts for Free Paper Presentation

18 Abstracts for Poster Presentation

74 Acknowledgements



Committees

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Prof. Samuel Y.S. WONG

School Director and Professor, JC School of Public Health and Primary Care, The Chinese University of Hong Kong

Programme

Time	Programme
08:30 - 09:00	Registration
09:00 - 09:15	<p>Opening Ceremony Welcome Speech Dr. Fei Chau PANG <i>President, Hong Kong College of Community Medicine</i></p> <p>Opening Address Dr. Libby H. Y. LEE <i>Under Secretary for Health, The Government of the Hong Kong SAR</i></p> <p>Moderator: Dr. Edmond S.K. MA</p>
09:15 - 10:00	<p>Keynote Address (I) Tracking the Latest Evidence Connecting Climate Change and Public Health Dr. Marina ROMANELLO <i>Executive Director, Lancet Countdown, United Kingdom</i></p>
10:00 - 10:30	<p>Guest Lecture (I) Evidence of Climate Change and Its Impact to Health – The Hong Kong Case Prof. Emily Y. Y. CHAN <i>Director, Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response</i> <i>The Chinese University of Hong Kong</i></p>
10:30 - 11:00	<p>Tea Break</p> <p>Moderator: Prof. Chi Tim HUNG</p>
11:00 - 11:30	<p>Guest Lecture (II) What Can the Health Sector Contribute to Carbon Neutrality? Dr. Ching Choi LAM <i>Chairman, The Council for Carbon Neutrality & Sustainable Development</i> <i>Hong Kong Special Administrative Region</i></p>
11:30 - 12:15	<p>Free Papers Session</p> <p>Free Paper 1 Very Brief Smoking Cessation Advice in Community and Clinical Settings: Evidence, Practice and Challenges Prof. Derek Y. T. CHEUNG <i>The University of Hong Kong</i></p> <p>Free Paper 2 COVID-19 Vaccination Reduced SARS-Cov-2 Reinfection: A Population-Based Cohort Study in Hong Kong Dr. Wenhua LIN <i>Centre for Health Protection, Department of Health</i></p> <p>Free Paper 3 Dietary Inflammatory Potential and Incidence of Rheumatoid Arthritis: A Nine-Year Cohort Study among UK Biobank Participants Ms. Peipei HU <i>Jockey Club School of Public Health and Primary Care, The Chinese University of Hong Kong</i></p> <p>Free Paper 4 Incidence Distributions, Risk Factors and Trends of Vaginal Cancer: A Global Population-Based Study Prof. Junjie HUANG <i>The Chinese University of Hong Kong</i></p>

Programme

12:15 - 13:30	Lunch Break
	Moderator: Prof. Hong FUNG
13:30 - 14:15	Keynote Address (II) Delivering Net Zero Health Service Prof. Nick WATTS <i>Director, Centre for Sustainable Medicine National University of Singapore, Singapore</i>
14:15 - 15:00	Keynote Address (III) Ecology and Evolution of Human Infectious Diseases in a Changing Natural Ecosystems Dr. Serge MORAND <i>Visiting Professor, Faculty of Tropical Medicine of Mahidol and Faculty of Veterinary Technology, Kasetsart University, Thailand</i>
	Moderator: Dr. Albert K.W. AU
15:00 - 15:30	Guest Lecture (III) Environmental Dimension of Antimicrobial Resistance under One Health Framework Prof. Tong ZHANG <i>Chair Professor, Environmental Engineering in Environmental Microbiome Engineering and Biotechnology Laboratory Department of Civil Engineering The University of Hong Kong</i>
15:30 - 16:00	Guest Lecture (IV) From the Right to a Healthy Planet to the Planetary Right to Health Prof. Eric C. IP <i>Co-Director, Centre for Medical Ethics and Law The University of Hong Kong</i>
16:00 - 16:45	Keynote Address (IV) Pathways to a Healthy Climate Net Zero Emission Future Prof. Andrew HAINES <i>Professor, Centre on Climate Change and Planetary Health The London School of Hygiene & Tropical Medicine, United Kingdom</i>
16:45 - 16:50	Closing Ceremony

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

* Programme is subject to change without prior notice.

Abstracts for Keynote Addresses



Dr. Marina ROMANELLO

*Executive Director
Lancet Countdown*

Dr Romanello is the Executive Director of the Lancet Countdown: Tracking Progress on Health and Climate Change, an independent and multi-disciplinary research collaboration of almost 100 academic centres around the world, and headquartered at University College London's Institute for Global Health. Marina led a team of researchers in developing England's National Health Service's Net Zero commitments, and is a member of numerous advisory boards for projects focusing on health and climate change. Trained as a clinical biochemist in the Universidad de Buenos Aires, Argentina, and holds a PhD in biomedical sciences from the University of Cambridge, UK. Her research background spans from toxicology through to environmental health and climate change, and she has previously carried out her research in the Instituto Tecnológico de Buenos Aires, the University of Cambridge, and the Francis Crick Institute.

Abstract

Tracking the Latest Evidence Connecting Climate Change and Public Health

The continued growth of greenhouse gases (GHG) has already caused profound alteration on the environment on which good health depends. Delivering the necessary response to address climate change requires coherent transformation across most human systems. Such transformation could deliver immediate benefits to health from cleaner air, healthier diets, and more liveable cities – benefits that could vastly outweigh the cost of action.

The Lancet Countdown: Tracking Progress on Health and Climate Change is an international, multi-disciplinary research collaboration drawing on the expertise of over 100 leading researchers to annually monitor the world's response to this unprecedented challenge, and the health benefits that emerge from a human-centred response. Dr Romanello, Executive Director for the Lancet Countdown, will give an overview of its latest research. She will explore data showing the growing health threats of climate change, and the imperative to protect health by urgently limiting GHG emissions, and scaling up adaptation efforts. She will also present evidence on the immediate health benefits that climate action could deliver, and their potential to transform human lives for the better. Presenting evidence of its key indicators, it will point at the critical actions needed to enable a safe, thriving future for all.

Abstracts for Keynote Addresses



Prof. Nick WATTS

Director

Centre for Sustainable Medicine

National University of Singapore

Professor Watts is the Director of the Centre for Sustainable Medicine, leading NUS's efforts to accelerate the transition to net zero and resilient healthcare systems, across the world.

Prior to NUS, he worked as the Chief Sustainability Officer for the NHS in the UK, where he spearheaded their efforts to deliver low-carbon healthcare, leading the Greener NHS team with a budget of almost S\$1 billion. He is a medical doctor, a Fellow of the Royal College of Physicians' Faculty of Public Health, and has worked as the Executive Director of the Lancet Countdown, and as the founder of the Global Climate and Health Alliance and the UK Health Alliance on Climate Change.

Abstract

Delivering Net Zero Health Service

Climate change poses a significant threat to the core determinants of good health and the very foundations of our healthcare systems. Rising temperatures, extreme weather events, and shifting disease patterns are placing an increasing burden on health services, exacerbating existing health inequalities and threatening to overwhelm healthcare infrastructure. In response, the healthcare profession is actively working to address its own contribution to the problem, as the sector accounts for an estimated 4-5% of global carbon emissions—higher than both shipping and aviation combined.

This session will explore the urgency of healthcare decarbonization by addressing the 'why,' 'what,' and 'how.' It will begin by examining why healthcare needs to decarbonize, focusing on the direct link between climate change and negative health outcomes. The session will then cover what healthcare systems can do to reduce emissions, including energy-efficient infrastructure, sustainable procurement practices, and waste reduction strategies. Finally, it will explore how healthcare organizations can implement these changes, drawing on examples from Singapore, the UK, and other global contexts. The session aims to inspire action toward delivering a net-zero health service, ultimately improving health outcomes for both people and the planet.

Abstracts for Keynote Addresses



Dr. Serge MORAND

Visiting Professor

*Faculty of Tropical Medicine of Mahidol and Faculty of Veterinary Technology
Kasetsart University, Thailand*

Serge Morand is a disease ecologist with a background in evolutionary ecology and zoology. He is leading projects on the impacts of global changes (climate, land use, urbanization) on the links between biodiversity, health and societies in Southeast Asia.

Researcher at the CNRS, he is the Director of the new International Research Laboratory HealthDEEP[®] (Health, Disease Ecology, Environment and Policy) joining CNRS, Kasetsart University and Mahidol University in Thailand.

He is a member of the One Health High Level Expert Panel (OHHLEP) of the One Health quadripartite (WHO, WOA, FAO, UNEP), and lead Author of the ongoing IPBES report on the nexus "Biodiversity, agriculture, water, climate and health"

Abstract

Ecology and Evolution of Human Infectious Diseases in a Changing Natural Ecosystems

Humans have acquired their diseases in evolutionary and historical times as shown by studies in environmental history, anthropology, ecology and evolution. Humans have inherited pathogens and infectious microbes through descent (i.e. from a primate ancestor) or by acquiring them from animal species, either wild or domestic. The domestication of animals has played a major role. Hence, the building of shared pathogen communities between humans, domesticated and associated animals is related to domestication time. Domestication time not only increases the sharing of pathogens with humans but also pathogen sharing within the whole community of domesticated and associated animals. Nowadays, zoonotic diseases represent more than 60 per cent of human infectious diseases. Over the last decades, the number of outbreaks of zoonotic and vector-borne diseases has increased mostly in the intertropical zone. The observed changes in cropland, grassland, tree plantation, livestock, poultry, biodiversity at threat (Red List index) also mostly occurred in the intertropical zone. Significant relationships were observed between disease outbreaks, human demography, livestock (cattle and pigs), poultry (chickens), tree plantation and artificial land expansion as well as with increasing biodiversity at threat. While agricultural expansion is seen as a driver of biodiversity loss and potentially emerging infectious diseases, livestock and poultry expansion appear to enhance disease. The links observed between infectious disease outbreaks, human demography, agriculture, livestock, urbanization and biodiversity should help rethink the global food system in ways that minimize the risk of infectious diseases using a One Health approach, while preserving biodiversity and contributing to the Sustainable Goals.

Abstracts for Keynote Addresses



Prof. Andrew HAINES

*Centre on Climate Change and Planetary Health
The London School of Hygiene and Tropical Medicine
United Kingdom*

Andy Haines initially trained as a family doctor and was Professor of Primary Health Care at UCL between 1987-2000. He was Director (formerly Dean) of the London School of Hygiene & Tropical Medicine from 2001- October 2010 and was knighted in 2005 for services to medicine. He developed an interest in climate change and health in the 1990's and was a member of the Intergovernmental Panel on Climate Change for the 2nd, 3rd and 5th assessment exercises. He chaired the Rockefeller /Lancet Commission on Planetary Health (2014-15) and the InterAcademy Partnership (140 science academies worldwide) working group on climate change and health. He is currently co-chairing the Lancet Pathfinder Commission on health in the zero-carbon economy. He was awarded the Tyler Prize for Environmental Achievement in 2022.

Abstract

Pathways to a Healthy Climate Net Zero Emission Future

This presentation gives an overview of the health co-benefits of moving towards a net-zero economy, drawing on findings from the [Lancet Pathfinder Commission report](#) on pathways to a healthy, net-zero future.

The world is [not on track](#) to achieve the Paris Climate Agreement goal of limiting global temperature rise to 1.5°C above pre-industrial levels, and rapid reductions in global greenhouse gas emissions are needed to limit warming to below 2°C. The challenge of achieving net zero by 2050 at the latest also presents an opportunity to improve health in the near-term. Effective climate mitigation actions will not only reduce the health impacts of climate change, but also bring additional health co-benefits through pathways including: reduced air pollution from fossil fuel phase out and a transition to clean, renewable energy; shifting to healthier, more sustainable diets; and increased physical activity levels from the promotion of active travel.

The presentation highlights results from a review of evidence on the health co-benefits of climate mitigation, and case studies of implemented climate actions with measured climate and health benefits. Findings are also published on the Pathfinder Initiative Climate & Health Evidence Bank (climatehealthevidence.org).

Abstracts for Guest Lectures



Prof. Emily Y.Y. CHAN

Director

Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response

The Chinese University of Hong Kong

Professor CHAN Ying-Yang, Emily is an academic trained in clinical medicine and public health. As a global expert in public health and humanitarian medicine, Professor Chan has over a decade-plus of experience in global humanitarian health intervention research and frontline operation. She joined GX Foundation in 2019, while concurrently serving as Assistant Dean and Professor at CUHK Faculty of Medicine, and Directors of Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response (CCOUC), CUHK Centre for Global Health (CGH), and International Centre of Excellence (ICoE-CCOUC) of International Science Council's Integrated Research on Disaster Risk (IRDR) programme, Visiting Professor (Public Health Medicine) at Oxford University Nuffield Department of Medicine, Fellow at Harvard University FXB Center, Global Co-chairperson of WHO Thematic Platform for Health Emergency & Disaster Risk Management (Health-EDRM) Research Network, and a member of UN Office for Disaster Risk Reduction (UNDRR) Asia-Pacific Science Technology and Academia Advisory Group (APSTAAG).

Abstract

Evidence of Climate Change and Its Impact to Health – The Hong Kong Case

Climate change has led to temperature and precipitation abnormalities, sea level rise and the increases of extreme weather events for the past few decades. Globally, the resulted environmental consequences and human health impacts of these climate-related changes are multi-faceted and intertwined. Especially in urban contexts when population might rely its well-being on life-line infrastructures, the surging of both frequency and severity of climate-related disasters will matter to the survival of individual and communities. This presentation will provide an overview on the latest research findings of climate change and human health in Hong Kong SAR, China, an Asian subtropical metropolis. It also discusses the co-benefit implications of including health-risk related assessments in non-health sectors for climate change mitigation and adaptation policies.

Abstracts for Guest Lectures



Dr. Ching Choi LAM

Chairman

*The Council for Carbon Neutrality and Sustainable Development
Hong Kong Special Administrative Region*

Dr Lam is a specialist in paediatric and community medicine and is currently Chief Executive Officer of Haven of Hope Christian Service.

With his extensive knowledge of local public health policies and services, Dr Lam has sat on multiple statutory and advisory bodies. He is a non-official member of the Executive Council of the HKSAR Government and has been a member of the Steering Committee on Primary Healthcare Development of the Health Bureau since 2018. He also serves as the Chairman of the Council for Carbon Neutrality & Sustainable Development, a member of the Green Technology & Finance Development Committee as well as a member of the Supervisory Board and Nominating Committee of the Hong Kong Housing Society.

Recently, Dr Lam has also been appointed as the Chairman of the Advisory Committee on Mental Health, the Steering Committee on Review of Manpower for Healthcare Services in Residential Care Homes and the Healthcare & Wellness Training Board of the Vocational Training Council.

Dr Lam was honoured by the HKSAR Government with the Justice of Peace in 2003 and Silver Bauhinia Star in 2019. In 2018, apart from receiving Honorary Fellowship from Lingnan University, he also received the Ageing Asia Global Ageing Influencer Award (Special Recognitions) in recognition of his devotion to public services and his influence on policy-making for the global ageing trend.

Abstract

What Can the Health Sector Contribute to Carbon Neutrality?

As the world confronts the urgent need to combat climate change, the health sector plays a crucial role, both as a significant carbon emitter and as the guardian of public health. The interconnections between health, climate change, and the health sector are recognized in the United Nations' Sustainable Development Goals. Climate change manifestations, including rising global temperatures and more frequent extreme weather events, have direct and indirect impacts on health.

Our nation and Hong Kong have committed to carbon neutrality targets, necessitating action across all sectors. The health sector can contribute through initiatives such as adopting zero or low-carbon energy sources, implementing green building designs, transitioning to electric vehicles, promoting reusable clinical equipment, minimizing pharmaceutical waste, and instituting green procurement policies.

By championing sustainable health practices, the sector can play a transformative role in shaping a healthier, more sustainable future. Through these efforts, healthcare providers not only reduce their environmental impact but also set an example for other sectors, demonstrating the feasibility and the value of sustainable practices in achieving broader societal goals.

Abstracts for Guest Lectures



Prof. Tong ZHANG

Chair Professor

Environmental Engineering

Environmental Microbiome Engineering and Biotechnology Laboratory

Department of Civil Engineering

The University of Hong Kong

Professor Tong Zhang is a Chair Professor of Environmental Engineering in Environmental Microbiome Engineering and Biotechnology Laboratory, Department of Civil Engineering, at The University of Hong Kong. His researches include wastewater-based epidemiology (WBE), antibiotic resistance genes, microbiome engineering and biotechnology, biological wastewater treatment, etc. He got First-Class Award in Natural Science (China Ministry of Education) in 2015, Second-Class Award State Natural Science Award (China State Council) in 2016, Outstanding Research Student Supervisor Award of HKU in 2017, Outstanding Research Award of HKU in 2020, HKU Innovator Award in 2021, Golden Metals of the International Exhibition of Inventions of Geneva in 2021 and 2022, Medal of Honor 2021 by HKSAR Government, HKIE Grand Award in 2023. He has been listed as "Highly Cited Researcher" by Clarivate in the field of Microbiology.

Abstract

Environmental Dimension of Antimicrobial Resistance under One Health Framework

This presentation focuses on the environmental dimension of antimicrobial resistance (AMR) within the One Health framework, emphasizing the urgent need to address AMR as a critical public health threat. It highlights the role of the environment, particularly wastewater treatment plants (WWTPs), as hotspots for antibiotic resistance genes (ARGs) due to selective pressures, high microbial diversity, and density. The presentation outlines the advanced methodologies developed in my lab for ARG detection, including metagenomics and quantitative PCR, and introduces the ARGs-OAP 3.0 tool for comprehensive ARG analysis. It underscores the importance of systematic surveillance and the creation of a resistome map to understand ARG distribution across various environments in Hong Kong. The presentation also discusses the necessity of developing risk assessment frameworks and control strategies to mitigate ARG exposure. It advocates for a proactive approach to AMR management, emphasizing prevention over control and remedy. Collaborative efforts and standardized methods are essential for effective AMR monitoring and mitigation. The ultimate goal is to reduce the burden of antibiotic resistance and protect public health by implementing upstream solutions and fostering international cooperation.

Abstracts for Guest Lectures



Prof. Eric C. IP

Co-Director

Centre for Medical Ethics and Law

The University of Hong Kong

Professor Eric C. Ip (DPhil, Oxford) is a public health bioethicist and Co-Director of the HKU Centre for Medical Ethics and Law. His work has appeared in *The Lancet Public Health*, *The Lancet Planetary Health*, *American Journal of Public Health*, *Journal of Medical Ethics*, and *Public Health Ethics*. He is the author of six books, including *The Law and Regulation of Public Health: Global Perspectives on Hong Kong*, the first scholarly text on Hong Kong public health law.

Ip is currently pioneering a new paradigm called planetary health law, which helps to develop a more coherent legal regime that addresses the climate crisis's implications on human health. Prior to joining HKU, he taught at University College London and the Chinese University of Hong Kong, where he was Assistant Dean of Law.

Abstract

From the Right to a Healthy Planet to the Planetary Right to Health

The health of our planet and its living organisms is at risk due to human-induced climate change, pollution, and loss of biodiversity, accompanied by severe weather events, heat waves, and wildfires. The emerging field of planetary health explores the relationship between human activities and the Earth's ecosystems, which are essential for human well-being. Despite limited research on the use of law as an instrument to promote and protect planetary health, this talk addresses this gap by outlining the fundamental principles of a planetary health law. This legal framework is currently scattered throughout various international environmental and global health laws, focusing on the right to a healthy environment and, to a lesser extent, the emerging rights of nature in some countries. It suggests ways to unify and strengthen international environmental and global health laws to prioritise the preservation of the planet's life-support systems.



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Abstracts for Free Paper Presentation

Free Paper 1

Very brief smoking cessation advice in community and clinical settings: Evidence, practice and challenges

Prof. Yee Tak Derek Cheung¹, Prof. Tai Hing Lam, Mr. Chi Wai Cheng

¹The University of Hong Kong

Purpose

To review the scientific evidence on the effectiveness of very brief advice (VBA, <3 minutes) for tobacco abstinence, and explore the implementation strategies of VBA.

Methodology

(1) A pragmatic randomized controlled trial (RCT) of 13,671 smoking patients in China Guangdong outpatient departments of hospitals comparing the tobacco abstinence due to 30-second quitting advice and 30-second advice on healthy diet. (2) A meta-analysis to synthesize the effectiveness of VBA from all published randomized controlled trials. (3) A systematic review to synthesize the implementation strategies of VBA.

Results

(1) RCT finding: By intention-to-treat, the intervention (versus control group) had greater self-reported 7-day abstinence [9.1 versus 7.8%, odds ratio (OR) = 1.14, 95% confidence interval (CI) = 1.03–1.26, P = 0.008] and 30-day abstinence (8.0 versus 6.9%, OR = 1.14, 95% CI = 1.03–1.27, P = 0.01) at 12-month follow-up. The group difference in biochemically validated abstinence was small (0.8 versus 0.8%, OR = 1.00, 95% CI = 0.71–1.42, P = 0.99). (2) Meta-analysis finding: Thirteen randomized controlled trials from 15 articles (n = 26,437) were included in the meta-analysis. There was moderate-certainty evidence that VBA significantly increased self-reported tobacco abstinence at ≥ 6 months in the adjusted model (adjusted risk ratio ARR 1.17, 95% CI: 1.07–1.27) compared with controls. (3) Implementation strategy 1: Clinicians only needed brief training of about an hour or less before delivering the intervention. (4) Implementation strategy 2: Clear and specific advice models (e.g., 2A1R model, ABC model, AWARD model) conceptualize what the key components in a VBA, and these models should help health professionals understand what the “must-do” advice is. (5) Implementation strategy 3: Other quitting support such as referral to SC services when available, printed resources, and follow-up boosters (e.g., phone calls) can be incorporated into VBA when some smokers want more quitting support.

Conclusion

VBA on quitting is effective, practical and scalable during brief medical interactions with patients who smoke. Customization of the delivery models and advice content are keys for implementation.

Abstracts for Free Paper Presentation

Free Paper 2

COVID-19 vaccination reduced SARS-CoV-2 reinfection: a population-based cohort study in Hong Kong

Dr. Wenhua Lin¹, Mr. Chung Lam Chan¹, Dr. Kin Hang Kung¹, Dr. Shuk Kwan Chuang¹
¹Centre for Health Protection, Department of Health

Purpose

Local studies showed the effectiveness of COVID-19 vaccination to prevent primary infection and severe outcomes. However, the effects of COVID-19 vaccination on reinfection in Hong Kong remain unknown. We aim to investigate the effect of COVID-19 vaccination on preventing SARS-CoV-2 reinfection.

Method

We performed a retrospective cohort study from the population-based dataset of confirmed COVID-19 cases maintained by the CHP of Hong Kong. Those cases who primarily infected COVID-19 from 31 December 2021 up to 31 May 2022 with available age and sex information and who did not die or got reinfection during this period were included into our study cohort. We followed up the cohort till 29 January 2023 for a COVID-19 reinfection event. The individual was censored if he died of COVID-19 during the study period or reached the end of the study period. We performed Cox regression to assess the risk of reinfection in the groups who received different vaccinated doses (0, 1, 2, 3 or above) and in those fully vaccinated (received at least two doses and had previous infection) individuals aged ≥ 50 years who received a booster or not after previous infection.

Results

The cohort consisted of 1,395,550 cases. Among them, 91,572 (6.6%) cases developed confirmed SARS-CoV-2 reinfection during the follow-up period. Cox regression analysis showed that COVID-19 vaccination before primary infection (e.g. 1 dose, Hazard Ratio [HR] 0.68, 95% Confidential Interval [CI] 0.67-0.70; 2 doses, HR 0.52, 95% CI 0.51-0.52) and additional vaccination after primary infection (HR 0.59, 95% CI 0.58-0.60) significantly reduced the risk of reinfection. Kaplan-Meier curve demonstrated clear dose-response effects of COVID-19 vaccination on prevention of reinfection. For fully vaccinated individuals aged ≥ 50 years, those who received the booster after the previous infection had a reduced risk of reinfection (HR 0.54, 95% CI 0.52-0.55).

Conclusions

COVID-19 vaccination before primary infection and additional vaccination after primary infection both remarkably reduced the risk of reinfection in previously infected COVID-19 cases. Booster vaccination can help those fully vaccinated high risk groups with a higher risk of severe diseases to prevent reinfection.

Abstracts for Free Paper Presentation

Free Paper 3

Dietary inflammatory potential and incidence of rheumatoid arthritis: A nine-year cohort study among UK Biobank participants

Ms. Peipei Hu¹, Prof. Benjamin Yip¹, Prof. Paul Poon¹

¹Jockey Club School of Public Health and Primary Care, The Chinese University of Hong Kong

Purpose

Diet plays an important role in modulating inflammation, which is crucial in the pathogenesis of rheumatoid arthritis (RA). This study aimed to investigate the associations between dietary inflammatory potential and risk of RA development.

Methodology

A total of 117,107 RA-free participants from the UK Biobank were included in 2006-2010 and followed for incident RA until 2021. Dietary information was collected by a validated 24-hour recall questionnaire (Oxford WebQ) on at least two occasions. Dietary inflammatory potential was assessed in two ways 1) using the Empirical Dietary Inflammatory Index (EDII) based on food groups, and 2) using the Dietary Inflammatory Index (DII) based on nutrients. Higher EDII and DII scores indicated a more pro-inflammatory diet. We examined the associations between dietary inflammatory potential and risk of RA using the Cox proportional hazards model.

Results

During a median follow-up of 9.42 years, 770 participants developed RA. Compared with the bottom quartile of the EDII score, the risk of RA increased in the highest quartile (adjusted hazard ratio (HR)=1.260, 95% CI=1.028 to 1.544). Per standard deviation increment of EDII score was associated with an elevated risk of RA (adjusted HR=1.086, 95% CI=1.007 to 1.172). The DII score did not show an association with the risk of RA.

Conclusion

A higher dietary inflammatory potential measured by EDII but not DII is associated with the risk of RA development. The finding indicates that reducing the intake of pro-inflammatory foods may be an effective measure to lower the risk of RA.

Abstracts for Free Paper Presentation

Free Paper 4

Incidence distributions, risk factors and trends of vaginal cancer: A global population-based study

Prof. Junjie Huang¹, Prof. Martin Wong¹

¹The Chinese University of Hong Kong

Purpose

This retrospective observational study aimed to investigate the incidence, risk factors, and trends for vaginal cancer.

Methodology

Data were collected from multiple global sources, including the Global Cancer Observatory, Cancer Incidence in Five Continents Plus, Global Burden of Disease, World Bank, and the United Nations. The age-standardized rate (ASR) of vaginal cancer was calculated for different regions and age groups. Multivariable and univariable linear regression analyses were performed to examine associations between risk factors and vaginal cancer incidence. Trend analysis was conducted using joinpoint regression to quantify the average annual percentage change (AAPC) in incidence over time.

Results

In 2020, there were 17,908 newly reported cases of vaginal cancer globally (ASR = 0.36, 95% CI 0.30-0.44), with the highest ASRs in South-Central Asia and Southern Africa. Risk factors associated with higher vaginal cancer incidence included higher prevalence of unsafe sex and HIV infection. The overall trend showed a rising incidence globally, with the most significant increases in Iceland (AAPC = 29.56%), Chile (AAPC = 22.83%), Bahrain (AAPC = 22.05%), and the UK (AAPC = 1.40%).

Conclusion

The study highlights regional disparities and risk factors for vaginal cancer, emphasizing the need for targeted interventions and education, particularly in regions with lower human development index and higher HPV prevalence. The increasing incidence trend underscores the importance of enhanced HPV vaccination to prevent vaginal cancer.

Abstracts for Poster Presentation



Poster 1

Randomized -19 booster shots in Chinese non-healthcare controlled trial of an enhanced educational intervention on the acceptance of COVID workers

Prof. Lap Ah TSE¹, Dr. Feng Wang¹, Prof. Phoenix Kit Han Mo¹, Miss Cherry Choi-miu Wan¹, Miss Natalie Hiu Yu Tang¹, Dr. Shuyuan Yang¹, Prof. Dong Dong¹, Prof. Kin Fai Ho¹, Prof. Samuel Yangshan Wong¹

¹JC School of Public Health and Primary Care, the Chinese University of Hong Kong, Sha Tin, Hong Kong SAR

Purpose

Despite vaccination and booster shots being shown more effective than workplace measures in control of the COVID-19 pandemic, hesitancy still exists for compulsory booster shots. This study aimed to evaluate the effectiveness of an enhanced educational intervention program in improving the acceptance of COVID-19 booster shots and reducing breakthrough infection among non-healthcare workers in Hong Kong.

Methodology

In this 9-month randomized controlled trial (RCT), workers were randomly allocated to the intervention or control group. The intervention group received educational intervention at both the baseline and 3-month covering general health plus evidence-based COVID-19 pandemic information on the efficacy and safety of COVID-19 vaccines and booster shots, while the control group only received general health information. All study participants were further followed up for 6 months. The primary outcomes were the intention and acceptance of booster shots and breakthrough infection. We used the DASS-21 scale to evaluate participants' mental health status and ANOVA to analyze the repeated measurements.

Results

Among 310 consenting workers, 282 (91.0%) of them completed the trial. At recruitment, a similar booster uptake rate was observed between the intervention and control groups (62.0% vs. 62.1%). After completion of the educational intervention at 3-month, the intervention group had a higher booster uptake rate (76.1% vs. 67.9%) but a lower rate of breakthrough infection (52.8% vs. 57.9%) and depression than the control group; however, no change in the intention to get booster shots were recorded for all subjects.

Conclusion

This enhanced educational intervention program not only improves booster uptake rate but also reduces COVID-19 breakthrough infection rates and mental health problems of non-healthcare workers. (Trial registration: ClinicalTrials.gov - NCT05197673)

Funding support: This study was supported by the Health and Medical Research Fund of Hong Kong (COVID190104, COVID1903008, and 18190471).

Abstracts for Poster Presentation



Poster 2

Ambient Cold Temperature-Related Attributable Risk for Emergency Asthma Hospitalizations in Hong Kong: a 16 years' Time-series Analysis

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Background

We aimed to examine the association of ambient temperature with emergency asthma hospital admissions and length of hospital stay and assessed the temperature-related disease burden changes.

Methodology

We collected the daily count of asthma hospital admissions through the Accident & Emergency Department and length of stay, daily mean temperature, relative humidity, and air pollution concentrations from January 2004 to December 2019 in Hong Kong. Time-series quasi-Poisson model integrated with the distributed lag nonlinear model was used to examine the exposure-lag-response relationship between temperature and asthma hospitalization after adjusting the time-varying confounders. Measures of the risk attributable to nonoptimal temperature were calculated to summarize the disease burden and hospital utilization for periods of 2004-2011 and 2012-2019, respectively, and compared the temporal change.

Results

Daily admission count increased from 40.5 in 2004-2011 to 43.5 in 2011-2019, and the corresponding length of stay increased from 59.3 to 62.9 bed days. The exposure-response relationship curves showed significantly higher risks at cold/cool temperatures for both asthma admission counts and length of stay. The temperature-related relative risk (RR) of asthma emergency hospitalization at the 1st, 10th, 25th, and 99th percentiles (relative to the optimal temperature of 28.6°C) over the 0-21 lag days revealed that the risk associated with cold appeared at a lag of 1-2 days and lasted for 2-3 weeks, whereas the risk associated with hot weather was not apparent and approached null. The total temperature-related attributable fraction (AF) for asthma emergency hospitalizations mainly occurred on cold days: the temperatures in the lower quartile accounted for around half of the total temperature-related attributable risk. Compared with the period of 2004-2011, the cold temperature-related AF in 2012-2019 decreased from 10.6% (5.8-14.3%) to 8.8% (3.9-12.8%) for emergency hospitalization counts but increased from 10.4% (4.3-15.4%) to 12.5% (6.8-17.0%) for bed days.

Conclusions

We found significant associations between ambient cold temperatures and asthma exacerbations, demonstrating that the cold temperature-related attributable risk decreased for emergency hospitalization count but increased for the length of hospital stay. Hospital utilization due to the longer hospital stays during cold days may play an adverse role in healthcare systems.

Abstracts for Poster Presentation



Poster 3

Cost-Effectiveness of HPV Self-sampling for Cervical Cancer Prevention in Hong Kong: A Modelling Study

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Introduction

HPV self-sampling test is an effective tool to increase screening coverage and treatment compliance for accelerating cervical cancer elimination. We assessed the cost-effectiveness of this strategy combining with different triage methods to inform accessible, affordable, and acceptable cervical cancer prevention strategies.

Methodology

We utilized a hybrid model which comprise a deterministic age-structured compartmental dynamic component and a stochastic individual-based cohort component to evaluate the cost-effectiveness of eight strategies combining HPV testing (self-sampling or physician-sampling), triage modalities (cytology [LBC] and HPV genotyping) and different time interval (5-yearly and 3 yearly). We considered a cohort of the female population as of the base year 2022. Life years, quality-adjusted life years (QALYs), and costs of screening and treatment were estimated from the healthcare provider's perspective and were discounted by 3% annually till the year 2050. Incremental cost-effectiveness ratios (ICERs) were compared to a willingness to pay (WTP) threshold of one gross domestic product per capita (US \$49,022). Probabilistic with 10,000 Monte Carlo simulation and one-way sensitivity analyses were conducted.

Results

Compared with 5-yearly physician-HPV sampling with LBC triage (the current strategy in Hong Kong), all strategies using self-sampling are cost-saving. The optimal strategy is 3-yearly self-sampling, resulting in the most incremental QALYs gained (298.7 and 328.4 per 100,000 individuals using LBC and HPV genotyping as triage, respectively) with less cost (savings of US\$0.8 million and US\$1.3 million per 100,000 individuals, respectively). Although 5-yearly self-sampling did not generate as many QALYs as 3-yearly self-sampling (207.1 and 226.5 per 100,000 individuals using LBC and HPV genotyping as triage, respectively), it incurred the least costs (savings of US\$3.4 million and US\$4.9 million per 100,000 individuals, respectively). At a WTP threshold of one time per-capita GDP, all self-sampling strategies had at least a 91.6% probability of being cost-effective.

Conclusion: Using HPV self-sampling as the primary screening strategy is likely the most cost-effective approach for cervical cancer prevention in Hong Kong.

Abstracts for Poster Presentation



Poster 4

Chatbot Intervention to Promote HPV Self-sampling Among Chinese Female Population in Hong Kong

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Purpose

Human papillomavirus (HPV) self-sampling is regarded as highly acceptable due to its privacy, convenience, cost-effectiveness, and user-friendly nature. It reduces embarrassment, pain, and anxiety, thereby increasing cervical screening rates, especially among hard-to-reach women. Yet, it is not widely promoted and adopted as part of cervical screening for women in Hong Kong. This study aims to test the efficacy of Chatbot intervention in promoting HPV self-sampling among local Chinese female population.

Methodology

This is a territory-wide longitudinal study in comparing the efficacy of two strategies in promoting HPV self-sampling. As a conventional strategy, invitation letters are posted to geographically randomly selected residential addresses. All sexually experienced adult household members were invited to fill out an online survey. Individuals who have indicated their willingness to participate in HPV self-sampling will receive a self-sampling kit right away. Female respondents who are reluctant to participate in self-sampling will be invited to join the Chatbot intervention. The Chatbot will proactively contact participants twice at monthly intervals through text messages. During interactions with the Chatbot, participants will randomly watch one out of four HPV self-sampling educational videos to address potential barriers and promote awareness. If end users express willingness to undergo HPV testing, a self-sampling kit will be sent to them. The response rate of each invitation strategy will be calculated.

Results

A total of 45,394 households were approached by conventional invitation method between May 2021 and March 2022. The response rate of self-sampling is 0.901% (N=409). Among the sample population, 237 females were included in the Chatbot intervention. The response rate of self-sampling is 9.282% (N=22). Chatbot intervention results a significantly higher response rate than the conventional invitation method (Fisher's exact test, $P < 0.001$).

Conclusion

Chatbot intervention is an effective strategy in promoting cervical screening among Chinese female population of initial reluctance to HPV self-sampling in Hong Kong.

Abstracts for Poster Presentation



Poster 5

Risk of Oesophageal Squamous Cell Carcinoma by Alcohol Consumption and Genetic Variants: A Systematic Review and Meta-Analysis

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Purpose

To assess the risk of oesophageal squamous cell carcinoma (ESCC), considering genetic variants and alcohol exposure.

Methodology

We searched English and Chinese language databases (Ovid EMBASE, Ovid-MEDLINE, Web of Science, PsycINFO, EBSCO/CINAHL, Cochrane Library, and Wanfang Med) for published reviews and original studies on alcohol intake, aldehyde dehydrogenase polymorphisms, and risk for oesophageal cancer in East Asia, published before 2024 March. After abstract and full paper screening, we finally identified 25 studies for systematic review and meta-analysis. We conducted random-effects meta-analyses to determine the pooled relative risk of oesophageal cancer for drinkers with the ALDH2*2 polymorphism, including subgroup analyses by genetic variants.

Results

Squamous-cell carcinoma (SCC) is the predominant histological type of oesophageal carcinoma worldwide (>85%), especially in East Asia. Previous genetic epidemiological studies have confirmed a so-called "gene-environment interaction" between the ALDH2*2 allele and alcohol consumption and assessed the causal relevance of alcohol intake for incidence of ESCC. The prevalence of ALDH2*2 allele varies in general samples of different Asian ethnic groups, approximately one-third of the population possessed at least one ALDH2*2 allele, and no significant difference was found between men and women. Our meta-analysis found that individuals with the ALDH2*2 polymorphism and higher level of alcohol exposure had a significantly greater risk of developing oesophageal cancer compared to individuals without the ALDH2*2 genotype who never consumed alcohol (ORs of no drinker: 1.21 [95% CI 0.97 – 1.52, light drinker: 2.57 [1.92 – 3.44], moderate drinker: 6.38 [4.21 – 9.67], and heavy drinker 36.00 [11.33 – 114.38]).

Conclusion

ALDH2*2 polymorphism and alcohol exposure are significant contributors to preventable oesophageal cancer incidence in adults, underscoring the need for a risk-tailored oesophageal cancer screening programme for people with the ALDH2*2 genotype in East Asia.

Abstracts for Poster Presentation



Poster 6

The situation of Creutzfeldt-Jakob Disease in Hong Kong 2008-2024

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Purpose

Creutzfeldt-Jakob Disease (CJD) is a rare degenerative brain disease with rapid progressive dementia and poor prognosis. Overseas studies showed increased incidences of CJD and CJD-associated deaths in recent decades. We conducted a review on the local epidemiology of CJD and examined its trend in Hong Kong.

Methodology

We reviewed data of all reported CJD cases recorded by the CHP since the disease became statutorily notifiable in 2008. We performed a descriptive epidemiological study in terms of sex, age, etiology and outcome, and also analyzed the trend over recent years.

Results

A total of 154 CJD cases (63 males and 91 females) were reported to the CHP from 2008 to April 2024. They were aged from 46 to 90 years (median: 68.5 years), mostly affecting persons aged 60-69 years (50/154, 32.5%), followed by 70-79 years (48/154, 31.2%). In terms of case classification, 118(76.6%) were classified as probable CJD with typical EEG patterns, 35 (22.7%) as possible CJD with clinical compatible symptoms, and the remaining one as a definite CJD case with brain biopsy of spongiform encephalopathy. Epidemiological investigations revealed all cases were sporadic, except one case was a probable familial CJD case with family members having similar clinical symptoms. No case of iatrogenic or variant CJD was identified. By April 2024, there were 141 fatal cases recorded, of which 119 (84.4%) died of CJD with the median duration from symptom onset to death of 189 days (range from 39 to 1070 days). The majority (86/119, 72.3%) of them died within one year from disease onset. The 5-year moving average of annual CJD cases steadily increased from 5.6 to 14.2 cases per year. CJD-associated deaths followed the trend of annual CJD cases. The median survival duration from symptom onset did not show remarkable changes over years.

Conclusion

Following the global trend, CJD has been increasing in Hong Kong since 2008, dominated by sporadic cases. In view of the aging population, the rising trend and poor prognosis of CJD may lead to increased public health burdens and call for research on disease prevention and treatment.

Abstracts for Poster Presentation



Poster 7

Association of Ambient Temperature with Social Connection among the Community-dwelling Chinese Older Adults: A Cross-sectional Study in Hong Kong

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Background

The adverse health impacts of ambient temperature have been evidenced, not only for the mortality and morbidity burden but also for mood and mental health disorders. The objective of the current study was to examine the potential associations between ambient temperature and social connections among the aging population.

Methodology

We took advantage of a cross-sectional survey conducted between January 2017 and November 2018 from a community service program special for older adults aged ≥ 60 who lived in a central community of Hong Kong. The personal social connection was assessed by the validated Lubben Social Network Scale-6 (LSNS-6). A score of ≥ 12 means a relatively high social connection without isolation. The environmental exposures, including ambient temperature, sunshine hours, and air pollution, were obtained from the nearby monitoring stations. The association was examined by the generalized linear models while adjusting the potential confounding from other environmental exposures and personal sociodemographic factors.

Results

Among the 1,616 participants, the distribution of LSNS-6 score was approximately normal and the mean score was a bit higher on cool days than on hot days (13.0 vs. 12.2). Compared with cool temperatures (14.4–19.5°C), the independent effect estimates of hot ambient temperatures (24.5–28.7°C) was associated with a 2.38 (95%CI: 1.63–3.13) decrease in LSNS-6 score and increased odds of social isolation (OR=1.89, 95% CI: 1.39–2.56). Meanwhile, we observed statistically significant associations of sunshine exposure, gender, health status, marital status, living alone, religion, and housing type with social connections. One hour increase in sunshine exposure was associated with a 0.28 (95% CI: 0.06–0.50) increment in the LSNS-6 score.

Conclusion

Our study demonstrated a distinct association between ambient cool temperatures and heightened social connection, as well as a negative association between hot temperatures and decreased social connection (increased social isolation) among Chinese older adults residing in the urban community of Hong Kong. The findings offer valuable insights for the government in terms of providing social services to the aging population during hot weather conditions. Implementing interventions centered around fostering social connections may contribute to public health and overall social well-being, facilitating the elderly's adaptation to hot climates.

Abstracts for Poster Presentation



Poster 8

Barriers and Facilitators for Implementing Direct Access Model to Physiotherapists: Using Implementation Mapping informed by Consolidated Framework for Implementation Research

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Purpose

In many Asian jurisdictions including Hong Kong, patients cannot consult physiotherapists without referrals from registered doctors, whereas countries e.g. the US, UK and Australia have implemented direct access model for physiotherapists in different health settings and for different conditions. This study aims to identify barriers and facilitators associated with implementing the physiotherapists direct access policy locally to inform the development of implementation strategies to achieve policy objective.

Methodology

The study employs key informant interviews/ focus groups involving policymakers, tertiary physiotherapy educational institutions, employers, physiotherapists, doctors and patients. Implementation mapping informed by Consolidated Framework for Implementation Research (CFIR) serves as the study framework. Consensus for implementation strategies will be achieved through Delphi Survey guided by the Expert Recommendations for Implementing Change (ERIC) taxonomy, considering the barriers and facilitators identified.

Results

This interim analysis presents findings from 20 key informant interviews conducted in December 2023-March 2024. The physiotherapists and patient groups emphasized the evidence supporting improved health outcomes, accessibility, and efficiency with direct access model [CFIR's evidence strength and quality construct]. Many countries implementing this model have not reported any adverse events. Educational institutions were confident in their students' readiness, as the curriculum has been continuously updated to equip them for this model. Patients supported increased choices and accessibility, but safety and quality assurance also need to be considered [patient needs and resources]. Physiotherapists are capable of identifying red flags as they will make a physical diagnosis upon seeing each new patient and refer patients back to doctors when appropriate and necessary, ensuring quality through continuous professional development [individual stage of change]. Doctors hold mixed views, emphasizing the need for a medical diagnosis to ensure safety [adaptability]. Policymakers acknowledged the model's alignment with the government's long-term primary care workforce development goal, but stressed the importance of considering different stakeholders' views [external policy and incentives, and planning].

Conclusion

Using the ERIC taxonomy, initial implementation strategies include educational programs and improved information to address knowledge-related barriers, developing quality monitoring systems for safety assurance, and fostering better engagement between physiotherapists and doctors for consensus discussion to enhance acceptability and increase the likelihood of adoption.

Abstracts for Poster Presentation



Poster 9

A Cluster of Invasive Group B Streptococcus ST283 Cases Linked to Freshwater Fish

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Background

ST283, with presence reported in freshwater fish, is among the more virulent strains of Group B Streptococcus (GBS). In September 2023, an upsurge of 29 invasive GBS cases were recorded, compared to a baseline average of 18 cases per month.

Purpose

We investigated to determine possible source for the upsurge, and identify route of transmission for prevention and control.

Methodology

A case was defined as a clinically compatible illness with laboratory result of GBS ST283, with onset from August to October 2023. Epidemiological and clinical information were collected through telephone interviews. Laboratory result was retrieved from January 2019. Environmental investigation was conducted to the freshwater fish market frequently visited by cases. Descriptive analysis was performed.

Results

The increase was attributed to the 17 cases under New Territories East Cluster hospitals. Eight were identified as ST283. Onset was between 17 September and 7 October, affecting 6 men and 2 women aged 49 to 85 (median: 66.5). Four resided in Sheung Shui, 2 in Fanling and 2 in Ma On Shan. One was a cook and 5 had underlying illnesses. Their presentations included meningitis, septic arthritis, sepsis, spondylodiscitis, pyelonephritis and necrotising fasciitis. Two died of the disease.

All except one case had either handled freshwater fish or ate undercooked freshwater fish before onset of symptoms. Three of them had pre-existing wounds or sustained injury in hands. All freshwater fish involved were related to a same wet market in Sheung Shui. No family member was affected.

Seven fish samples and 22 environmental swabs were collected on 1 November from the 2 freshwater fish stalls in the market concerned. Despite ST283 was not detected, the stalls had undergone thorough cleansing and disinfection. We also conducted active case finding and health education, and no additional case was identified.

Conclusion

The cluster could be related to handling or consumption of undercooked freshwater fish in September supplied in a wet market in Sheung Shui while environmental investigation did not reveal persistence. The outbreak has concluded as no new case was identified by end of year. Ongoing surveillance, close monitoring and public education were recommended and continued.

Abstracts for Poster Presentation



Poster 10

Global burden, risk factors, and temporal trends of ureteral cancer: a comprehensive analysis of cancer registries

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Background

Ureteral cancer is a rare cancer. This study aimed to provide an up-to-date and comprehensive analysis on the global trends of ureteral cancer incidence and its association with lifestyle and metabolic risk factors.

Methodology

The incidence of ureteral cancer was estimated from the Cancer Incidence in Five Continents Plus and Global Cancer Observatory databases. We analyzed the (1) global incidence of ureteral cancer by region, country, sex, and age group by age-standardized rates (ASR); (2) associated risk factors on a population level by univariable linear regression with logarithm transformation; and (3) incidence trend of ureteral cancer by sex and age group in different countries by Average Annual Percentage Change (AAPC).

Results

The global age-standardized rate of ureteral cancer incidence in 2022 was 22.3 per 10,000,000 people. Regions with higher human development index (HDI), such as Europe, Northern America, and East Asia, were found to have a higher incidence of ureteral cancer. Higher HDI and gross domestic product (GDP) and a higher prevalence of smoking, alcohol drinking, physical inactivity, unhealthy dietary, obesity, hypertension, diabetes, and lipid disorder were associated with higher incidence of ureteral cancer. An overall increasing trend of ureteral cancer incidence was observed for the past decade, especially among the female population.

Conclusion

Although ureteral cancer was relatively rare, the number of cases reported was rising over the world. The rising trends among females were more evident compared with the other subgroups, especially in European countries. Further studies could be conducted to examine the reasons behind these epidemiological changes and confirm the relationship with the risk factors identified.

Abstracts for Poster Presentation



Poster 11

Patient Experience in Hong Kong Public Healthcare: A Natural Language Approach

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Background

Unstructured text data provided by patients can inform healthcare systems but require substantial resources and time to process. Natural language processing (NLP) can significantly streamline this task and allow us to extract meaningful information.

Objective

Comments provided by patients in the Hong Kong Inpatient Experience Survey (HKIEQ) was assessed using sentiment analysis and the association between textual information and quantitative metric (Overall Care Rating) was tested via automated classification.

Methodology

2,455 patient comments across three years were retrieved, pre-processed and manually annotated by sentiment and patient care themes. Token frequency aggregated by age and sex was compared. Annotated data was used to train three unique supervised classifiers: Naïve-Bayes (NB), Support Vector Machines (SVM), and Decision Tree (DT). The performance for each classifier was evaluated and compared. Association between sentiment and Overall Care Rating was tested via Firth's penalized logistic regression to adjust for rare events.

Results

Token-level chi-square associations suggested that older patients prioritized the hospital environment and patient-provider relationships. Female patients prioritized communal aspects of care, while male patients prioritized on logistics and care effectiveness. NB, SVM, and DT achieved moderate to excellent performance with F-measures of 0.79, 0.88, and 0.60, respectively. Regression analysis found significant positive association between comment sentiment and Overall Care rating (OR 1.97, $p < 0.001$).

Conclusion

By leveraging machine learning, textual data was able to be evaluated in a more methodological manner and allow latent patterns to be more easily identified. Positive association was found between textual information and quantitative measures found in conventional paper-based surveys, suggesting that textual data can potentially be used to improve healthcare and inform policy. Further research should investigate how to implement computational technologies in standard patient experience survey programs.

Abstracts for Poster Presentation



Poster 12

Association Between The Use of Dipeptidyl Peptidase 4 Inhibitors and Risk of Dementia in Type 2 Diabetes Mellitus Patients in Primary Care: A Nested Case-Control Study

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Purpose

To investigate the association between dipeptidyl peptidase 4 inhibitors (DPP-4 inhibitors) use and incident dementia among Type 2 Diabetes Mellitus (T2DM) patients.

Methodology

This was a nested case-control study using data collected from the UK Biobank cohort. The study period was between 2008 and 2020. All UK Biobank participants with linked primary care prescription data were screened. Subjects with at least one prescription for Metformin during the study period were included. Data on subject's demographics, primary care prescription records, hospital diagnosis records, and date and causes of death were extracted. Cases were defined as subjects with documented hospital diagnosis of dementia or prescription of dementia medications in primary care settings. Exposure to DPP-4 inhibitors (Sitagliptin, Linagliptin, Saxagliptin, Vildagliptin, Alogliptin) was defined as record of DPP-4 inhibitors use prior to dementia incidence (for case) or record of DPP-4 inhibitors use during the study period (for control). Odds ratios and 95% confidence intervals were calculated using adjusted logistic regression models.

Results

A total of 13722 subjects met the eligibility criteria, including 660 cases and 13062 controls. The median age of the included subjects was 72 years (IQR, 65-76 years). There were 8414 (61.32%) male subjects, 291 (2.12%) subjects with Parkinson's Disease, 569 (4.15%) subjects with stroke, 3678 (26.80%) subjects with history of myocardial infraction, and 11368 (82.85%) subjects with hypertension. A total of 3222 (23.48%) subjects had exposure to DPP-4 inhibitors, including 111 (16.82%) cases and 3111 (23.82%) controls. After adjusting for age, sex, and comorbidities (history of Parkinson's Disease, myocardial infraction, stroke, and hypertension), DPP-4 inhibitors users showed lower rate of incident dementia (0.64 [95% CI 0.51-0.78]). Findings from subgroup analyses by excluding subjects with history of Parkinson's Disease, myocardial infraction or stroke (0.55 [0.40-0.72]), including subjects who aged 60 years or above only (0.66 [0.53-0.82]), and including subjects with hypertension only (0.69 [0.56-0.85]) were in line with the finding from primary analysis.

Conclusion

The current study found a lower risk of dementia among T2DM patients who received DPP-4 inhibitors. A comparison study using Hong Kong data is ongoing.

Abstracts for Poster Presentation



Poster 13

Characterization of the Antimicrobial Resistance Landscape in Hong Kong Using a One-Health Approach

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Purpose

Antimicrobial resistance (AMR) poses escalating risks to food security and public health due to increasingly widespread antimicrobial use globally. Understanding the AMR profile of bacterial communities and the mechanisms driving AMR development and spread, particularly in relation to antibiotic exposure, is vital to minimize AMR-related health impact. This study aimed to characterize the phenotypic and genotypic AMR patterns of major bacterial species and investigate potential associations between AMR and antibiotic exposure, as well as the genomic relatedness of bacterial isolates from diverse ecological sectors.

Methodology

We conducted an observational study in Hong Kong from 2019 to 2022 collecting samples from community residents, food-producing animal farms (poultry and swine), food (primarily pork), and water (mostly from surface water adjacent to farms). Antimicrobial susceptibility (phenotype) was tested using broth microdilution for *E. coli*, *K. pneumoniae*, and *S. aureus*. Antibiotic residue concentrations were measured via liquid chromatography-tandem mass spectrometry (LC-MS/MS) to explore associations with minimum inhibitory concentrations (MICs) from antibiotic susceptibility testing (AST). Whole genome sequencing and phylogenetic analysis were conducted to investigate potential AMR transmission between human and non-human sectors.

Results

Our study investigated 6,622 bacterial isolates from 3,340 samples. *E. coli* displayed widespread multidrug resistance across all sectors (50.2%-92%), while *K. pneumoniae* and *S. aureus* from non-human settings, particularly farms, exhibited even higher resistance (69.4%-99.1%). These bacteria showed extensive resistance to commonly used antimicrobials. Dose-dependent associations between bacterial MIC and antibiotic residue concentrations were indicated, specifically for fluoroquinolone and tetracycline. Phylogenetic analyses revealed closely related bacterial genomes and gene cassettes among bacterial isolates from humans, animals, and farms, suggesting potential transmissions of AMR.

Conclusion

This study highlights the widespread AMR of potentially pathogenic bacteria, likely due to extensive antibiotic use. The possible AMR transmission across sectors implied by genomic analysis emphasizes the importance of further investigations on AMR dynamics and global preparation for mitigating AMR-related impact in the One-Health context.

Funding

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Abstracts for Poster Presentation



Poster 14

Knowledge, Perception and Behaviours Related to Antibiotic Use and Antibiotic Resistance among Community Residents in Hong Kong

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Purpose

This study aims to examine the knowledge and perceptions about antibiotic use and antibiotic resistance (AMR), and behaviours in antibiotic use and consumption of antibiotic-free food products among community-dwelling individuals, and to explore factors potentially associated with individuals' knowledge level and antibiotic-related behaviours.

Methodology

A questionnaire survey was conducted during 2020-2022 among adult individuals living in Hong Kong who were enrolled through a convenience sampling for a community study on AMR in commensal bacteria. The respondents were asked for their knowledge about AMR and antibiotics, behaviour in antibiotic use and antibiotic-free food products, and perception towards AMR-related health impact. Antibiotics and AMR-related knowledge score for each respondent, and their behaviours in antibiotic use and preferences for antibiotic-free food products were examined in regression models in relation to the demographics, sociodemographic status and general health.

Results

Of the 1,147 participants recruited, the median knowledge score on AMR and antibiotics was 13 (IQR: 9-17, full score 24), with the lowest awareness on purposes of antibiotics and potential impact of AMR. Female (coefficient: -0.95; 95% confidence interval (CI): -1.65, -0.26) and individuals aged ≥ 65 years (-1.91; -2.85, -0.98) had a relatively lower knowledge score. Over 94% antibiotic users reported strict adherence to prescriptions, while most of the non-compliant users disclosed previous experiences in keeping leftover antibiotics for future use (45/66, 68.2%). Presence of chronic diseases was associated with reported antibiotic use in the past year (OR: 1.65; 95% CI: 1.20, 2.29). A higher socioeconomic status and a higher knowledge score predicted a higher awareness of and preference for antibiotic-free food and a stronger belief in AMR-related threat to health. An older age appeared to be associated with a lack of awareness of antibiotic-free food and lower perceived risk of AMR.

Conclusion

The lack of AMR-related knowledge and a potentially higher exposure to antibiotics likely observed in older, less educated, socioeconomically and physically underprivileged individuals in Hong Kong highlighted the need for improving targeted education and risk communication for AMR in the public.

Abstracts for Poster Presentation



Poster 15

Patterns of positive and negative emotional eating among middle-aged Hong Kong adults

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Purpose

This study examines the prevalence and factors associated with positive and negative emotional eating (EE) among middle-aged Chinese adults.

Methodology

A random telephone survey was conducted on 785 Hong Kong Chinese residents (35-59 years of age) in 2023. The questionnaire included a modified Positive-Negative EE Scale, demographic factors, anthropometrics, and self-reported health. Multiple regression was conducted to test the association of overeating patterns with demographic/mood-related factors and health measures.

Results

The past-month prevalence of overeating behaviors was 26.1% for positive EE and 9.2% for negative EE. Positive EE was associated with nightshift work (OR: 1.86) and stress (OR: 3.50) in males and associated with younger age (OR: 1.68) and single status (OR: 2.19) in females. Among males, younger age (OR: 5.73), single status (OR: 3.14), and stress (OR: 8.43) were associated with negative EE while higher education (OR: 3.68) and anxiety (OR: 15.1) were associated with negative EE in their female counterparts. Obesity was associated with positive EE in males (OR: 1.66) and negative EE in females (OR: 2.26). Males and females who reported positive EE were more likely to have engaged in compensatory weight loss behaviors such as meal skipping in the past month (27.4% and 39.5%, respectively).

Conclusion

Positive and negative EE were influenced by different arrays of factors, with notable gender differences. Overweight middle-aged adults should be screened for EE in order to receive targeted dietary interventions. Mental health counselling for adults with dysphoric mood should include discussion of overeating patterns.

Abstracts for Poster Presentation



Poster 16

Addressing Fragmentation in Child and Family Health: A Holistic Approach in Singapore's Western Cluster

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Purpose

The Division of Community, Family, and Child Health (CFCH) within the National University Health System (NUHS) under National University Centre For Women And Children (NUWoC) presents a comprehensive approach to tackle fragmentation and enhance child and family health in Singapore's Western Cluster.

Method

Guided by the Ministry of Health's (MOH) Child and Maternal Health and Well-being Strategy and Action Plan (2021), CFCH emphasizes a life-course and whole-of-society approach to promote better health outcomes. Collaborating with government agencies, healthcare clusters, and community partners, CFCH aims to mitigate the rising prevalence of childhood obesity, mental health conditions, excessive screen time, and decreasing physical activity whilst maximising human potential among the 180,000 residents aged 18 years and below in the Western Cluster.

Results

Since its establishment in 2023, CFCH has supported various programs aimed at addressing the diverse needs of the community. These programs include anticipatory guidance sessions, such as those offered through Family & Child Health at NUP, which provide proactive advice and information to parents and caregivers on child development milestones and health behaviors. Additionally, CFCH has been supporting community health hubs like Family Nexus, accessible centers for health promotion activities, preventive screenings, and counseling services, with a special emphasis on vulnerable populations like the B20. Detailed analyses will be presented at the conference.

Conclusions

CFCH is committed to integrating care systems, engaging communities, and ensuring health equity. This involves redesigning the health system to enhance coordination and integration between different levels of care and between health and social services for family and children's health. Additionally, CFCH aims to boost health literacy, map patient journeys, and foster stakeholder engagement. Moreover, CFCH will establish a comprehensive repository of health indicators, support preventive health programs, and engage in translational research. By addressing health outcome differences and enhancing child and family health in Singapore's Western Cluster, CFCH endeavours to create a healthier future for generations to come.

Abstracts for Poster Presentation



Poster 17

A meta-analysis of breakthrough infection in healthcare workers received booster shots of COVID-19 vaccine

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Purpose

This study aims to synthesize the pertinent evidence on COVID-19 breakthrough infection (BTI) among HCWs after receiving booster shots with a special focus on the frontline healthcare workers (HCWs).

Methodology

A Systematic search strategy was used to collect current publications. Studies reported BTI or VE of COVID-19 in HCWs, part or all subjects received booster shots, and published from 01/01/2020 to 31/10/2023 were included. The quality of articles was assessed using the checklist developed by Downs and Black. Frontline HCWs were defined as physicians, nurses, nursing aids, healthcare assistants, etc. who worked at high risk of contracting SARS-CoV-2. Pooled BTI rates of HCWs and odds ratio (OR) of frontline HCWs were estimated by using the R package "meta". Predefined subgroup analyses and sensitivity analyses were also performed.

Results

Eleven studies were identified from Pubmed, Medline, and Embase. Nine of them were cohort studies. Overall, 27,811 BTI cases were identified from 183,290 HCWs and pooled BTI rate among HCWs was 10.72% (95%CI, 6.27-18.34%). The pooled BTI rate was 3.77% (95% CI, 1.25-11.39%) before the epidemic of the Omicron variant and it raised to 18.77% (95% CI, 12.66-27.85%) after the Omicron variant became the dominant strain. BTI rate decreased from 22.90% (95% CI, 14.58-35.97%) to 6.82% (95% CI, 3.07-15.13%) after HCWs received booster shots. The pooled BTI risk of frontline HCWs was the same as that of non-frontline HCWs (OR 1.00, 95%CI, 0.85-1.17). Frontline HCWs had a similar BTI risk as that of the non-frontline HCWs no matter after getting booster shots or in the epidemic period of the Omicron variant.

Conclusion

The risk of BTI among HCWs declined after booster shots of the COVID-19 vaccine. A similar BTI risk between the frontline HCWs and non-frontline HCWs indicates healthcare places do not play excessive roles in the SARS-CoV-2 transmission pathway after herd immunity by massive vaccination.

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Abstracts for Poster Presentation



Poster 18

Family History of Community-dwelling Older Adults with Alzheimer's Disease in Hong Kong

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Purpose

This study aims to investigate the family history (parents, siblings and children) among community-dwelling older adults with Alzheimer's disease (AD) in Hong Kong.

Methodology

A total of 69 older adults diagnosed with mild or major neurocognitive disorder (Clinical Dementia Rating ≥ 0.5) of AD or mixed AD and vascular type were recruited from the Hong Kong Mental Morbidity Survey for Older Persons. History of cognitive impairment and related disease (stroke, mood disorder, bipolar disorder, Parkinson's disease) among participants' parents, siblings and children were reported primarily by their caregivers and by participants per se, using Uniform Data Set 3.0. Descriptive analysis was performed on the family history of participants, and group differences by gender and disease subtype were examined using t-test and Chi-square tests by SPSS (version 27).

Results

Our preliminary results showed that the family history of participants with AD was 34.8% for their parents (Father only: 4.3%; Mother only: 24.6%; Both: 5.8%), 24.6% for siblings and 10.1% for children. The low prevalence of family history in participants' fathers might be explained by their higher proportion of premature deaths (age at death < 70 : 21.7%) than in mothers (10.1%). By gender, female participants' siblings (16.7%) and children (16.7%) were more likely to have psychiatric disorders than male participants' siblings (0.0%) and children (0.0%) ($P < 0.05$). By disease type, siblings of participants of mixed AD and vascular type had a higher proportion of stroke (12.9%), in comparison with participants of only AD type (0.0%) ($P < 0.05$).

Conclusion

Nearly a half of older adults diagnosed with AD in Hong Kong reported a family history. Gender and disease subtype were observed as important influencing factors in family history of elders with AD.

Abstracts for Poster Presentation



Poster 19

Increasing Staff Confidence and Competence in Orthopaedic Nursing Procedures Through Electronic-Based Learning Tools.

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Introduction

Electronic based learning tool as a program has its role in providing comprehensive and continuous education to nurses who have been working in high demanding environment. Orthopaedic nursing with its specific procedures requires continual education and skill enhancement to provide high quality of patient care.

Objective

This study aims to evaluate the confidence and competence of nursing staff in performing specialized orthopedic procedures, guided by the Hospital Authority Specialty Advisory Group (SAG) standards. It seeks to identify areas of low competence to inform the development of an online learning tool and assess its effectiveness and acceptance.

Methodology

Conducted in a HA Hospital, the study involved 49 nurses from an acute Orthopaedics and Traumatology ward. Staff confidence and competence were measured through satisfaction surveys and knowledge tests. The effectiveness of the electronic learning tool was evaluated using pre- and post-course satisfaction surveys and written tests. Data were analyzed using SPSS software and the Wilcoxon Signed Rank Test.

Results

Among 11 SAGs, Halo Ring Traction was identified as the area with the lowest confidence and competence. Significant knowledge gains were observed post-training ($p < 0.05$), though no significant correlations with staff profiles were found. Qualitative evaluation of E-learning acceptance highlighted key elements for online tool development.

Conclusion

E-learning is an effective tool for continuous staff education and should be considered for developing specialized electronic programs in hospitals.

Abstracts for Poster Presentation



Poster 20

Deprivation is Associated with Increased Anxiety and Stress Among Adults in Hong Kong: a Longitudinal Household Survey

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Purpose

Mental health has become an increasing concern worldwide. However, longitudinal study investigating the association of poverty with anxiety and stress is limited in current literature, especially in Asian context. This study aims to explore the cross-sectional and longitudinal association of poverty with anxiety and stress in Hong Kong.

Methodology

This is a longitudinal study, of which data were obtained from three waves of household survey since 2014-2015 (T1). 508 participants were followed-up in the third wave (T3). Equivalized household income and Deprivation Index were assessed. Anxiety and depression were assessed using the Depression, Anxiety and Stress Scale-21 items (Chinese) version.

Results

Our results showed that being deprived is significantly associated with increased anxiety score (beta-coefficient 1.41, 95% CI 0.59 – 2.24) and stress score (beta-coefficient 1.77, 95% CI 0.59 – 2.94) as compared to being non-deprived in T3. Income status did not show significant association with anxiety and stress score. Being able to afford one less basic necessity from T1 to T3 is significantly associated with increased anxiety score change (beta-coefficient 0.30, 95% CI 0.17 – 0.43) and stress score change (beta-coefficient 0.31, 95% CI 0.12 – 0.50) from T1 to T3.

Occasional deprivation is significantly associated with increased stress score (beta-coefficient 1.62, 95% CI 0.22 – 3.02) longitudinally. Increased deprivation since baseline is significantly associated with increased anxiety score (beta-coefficient 1.44, 95% CI 0.47 – 2.42) and stress score (beta-coefficient 2.43, 95% CI 1.02 – 3.84) in T3. Persistent and reduced deprivation, and income status change, however, did not show significant association with anxiety and stress score in the long run. Subgroup analysis further showed that income-poor young adults (18 to 59-year-old) had higher risk of anxiety than their non-income poor counterparts while older adults (60-year-old or above) with income poverty did not show significant relationship with risk of anxiety and stress.

Conclusion

Many current healthcare and social policies mainly consider income as eligibility criteria, which neglects the important non-monetary material and social aspects of poverty that directly impact mental health. Policymakers should consider deprivation, in addition to income-poverty, in policymaking to address the problem of health inequality.

Abstracts for Poster Presentation



Poster 21

"Supporting me on my diabetes journey": Factors associated with self-management behaviors among Type 2 diabetes patients in Hong Kong

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Purpose

This study aimed to explore the psychosocial factors influencing self-management behaviors among Type 2 Diabetes Mellitus (T2DM) patients in Hong Kong, hypothesizing that social support enhances self-management behaviors through increased post-traumatic growth (PTG) and self-care self-efficacy.

Methodology

A cross-sectional survey was conducted with 416 T2DM patients recruited from hospitals and clinics in Hong Kong. The survey measured perceived social support, self-management behaviors, PTG, and self-care self-efficacy. Multiple mediation analysis was used to assess the indirect effects of social support through PTG and self-care self-efficacy on self-management behaviors. Multiple mediation models were constructed using Model 4 of the SPSS PROCESS Macro to test the mediation hypotheses.

Results

The analysis revealed significant indirect effects of social support from friends, family, and others on physical activity, general diet, and vegetable consumption behaviors through self-care self-efficacy (β s = 0.05, 0.06, and 0.05 respectively; 95% CIs = 0.01, 0.09, 0.01, 0.11, and 0.01, 0.09). However, the indirect effect through PTG was not significant (β = -0.01; 95% CI = -0.03, 0.01). Only the direct effect of support from others on physical activity remained statistically significant (β = 0.28, P < 0.05) after considering the covariates and mediators.

Conclusion

Increasing social support, particularly from friends and others, can improve self-management behaviors in T2DM patients through enhanced self-care self-efficacy. Interventions targeting social support and self-efficacy could be effective in improving diabetes self-management among patients in Hong Kong.

Abstracts for Poster Presentation



Poster 22

Factors associated with social-care related quality of life among older adults in Hong Kong: a cross-sectional study

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Purpose

The rapidly ageing population in Hong Kong is driving an increasing need for long-term care (LTC). Quality of life (QoL) is an essential outcome for quality assessment and economic evaluation in LTC. The Adult Social Outcome Toolkit (ASCOT) designed for measuring LTC-related QoL has recently been translated into Hong Kong Chinese. This study, with the use of ASCOT, aims to identify factors influencing QoL among LTC users in Hong Kong.

Methodology

A cross-sectional study was conducted from June 2023 to April 2024 on a convenience sample of older adults aged 60 or above in receipt of home and community care and support services. Data were collected on participants' socio-demographics (age, gender, living condition, income to meet basic needs, education, religion), chronic conditions, limitations in performing (instrumental) activities of daily living (ADL), depression (assessed by patient health questionnaire-9), and presence of formal/informal caregivers. In the absence of HK-specific value set, the utility index for ASCOT was calculated based on UK preference values. Independent sample t-test or ANOVA were used to detect the differences in ASCOT index values across factors. Multivariate linear regressions were used to evaluate significant factors associated with ASCOT index values.

Results

The survey involved 306 participants with a mean age of 76.1 years; 29.4% were males, and 34.6% were living alone. The mean ASCOT index value was 0.74. Univariate analyses showed participants with difficulty meeting basic needs, having more than three chronic conditions, having problems in performing (instrumental) ADL, and with depression tended to have lower ASCOT index values. Multivariate linear regressions identified inability to meet basic needs and depression as significant predictors of lower QoL.

Conclusion

The findings suggest that older adults who were unable to meet basic needs and those suffering from depression were at a higher risk of lower QoL. These insights are valuable for policymakers and care providers in developing targeted interventions to improve QoL of older adults in Hong Kong. Further research should focus on establishing causal relationships, and on a routine collection of QoL data for a more accurate measurement and evaluation of the effects of LTC services.

Abstracts for Poster Presentation



Poster 23

Climate change distress and its correlation with depressive and anxiety symptoms in young populations

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Purpose

To examine whether climate-related emotions are associated with an increased risk of developing depression and anxiety among the youth.

Methodology

A cross-sectional study in aged 14-24 youth was conducted from June 27, 2023, to January 4, 2024. A self-report questionnaire was used to collect sociodemographic information, climate concern, climate agency, pro-environmental behaviour, and the intensity of 10 climate emotions (negative emotions: afraid, anxious, helpless; positive emotions: hopeful, courageous). The Patient Health Questionnaire-9 (PHQ-9) was used to assess the major depression and PHQ ≥ 5 was defined as mild to severe levels of depression. Generalized anxiety was examined by the Generalized Anxiety Disorder-7 item (GAD-7). GAD ≥ 5 was defined as anxiety. Multivariate logistic regression analysis was conducted to investigate the association between each climate emotion with depression and anxiety, adjusted for sociodemographic and climate change concern related variables. Analysis was conducted using SPSS 28.0. Ethics approval: SBRE-22-0698

Results

Among 760 participants, there were 364 (47.9%) males and 396 (52.1%) females. The average age of participants was 17 ± 3 years old. 243 (32%) and 398 (52%) of participants were with mild to severe levels of depression and anxiety, respectively. All 8 types of negative climate emotions were significantly associated with depressive and anxiety symptoms. Feeling afraid was the strongest predictor for both depressive (OR=1.51, 95% CI: 1.28, 1.77) and anxiety symptoms (OR=1.68, 95% CI: 1.41, 2.00) in the mild to severe levels. Feeling lonely also strongly predicts mild to severe levels of depression (OR=1.45, 95% CI: 1.25, 1.69) and anxiety (OR=1.56, 95% CI: 1.33, 1.83). Feeling anxious about climate change greatly associated with comorbidity of both symptoms (OR=1.73, 95% CI: 1.45, 2.06), followed by feeling afraid (OR=1.66, 95% CI: 1.39, 2.00) and helpless (OR=1.58, 95% CI: 1.32, 1.88). In contrast, no significant association was found between positive emotions and the mental health outcomes.

Conclusion

Intense feeling of climate distress is associated with depressive and anxiety symptoms. Prompt efforts are required to help individuals cope with climate-related emotions and mitigate the impact on mental health.

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Abstracts for Poster Presentation



Poster 24

Examining Risk Profiles of Patient Segmentations for Older Patients with Readmission Risk: A Novel Application of Machine-learning-based Unsupervised Clustering

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Purpose

As hospital readmissions are widely used as a measure of quality of health care worldwide, readmission risk assessment develops to help target the delivery of resource-intensive readmission reduction programs to the patients at greatest risk, but poor precision on identification of patient segmentation remains a challenge. The aim of this study is to realize patient identification by defining the risk profile with clinically meaningful interpretations for each clustering-algorithm-captured patient segmentation with readmission risk.

Methodology

This retrospective population-based cohort study included all older acute patients above age of 65, who admitted to general medical wards and had 30-day readmission from emergency department after discharge between January 1, 2010 and December 31, 2018 based on electronic health records of Hong Kong public health care system. A machine-learning-based unsupervised clustering algorithm was implemented to segmenting patients with clinical, social-economic and health-utilization-related factors. Follow-up measures included all-caused readmission and mortality by short-term (30-to-90 days) and long-term (90-to-180 days) follow-up after discharge by patient segmentations.

Results

In the sample, the optimal clustering analysis yielded 8 patient segmentations. Of note, a patient segmentation with potential hidden risk got statistically significantly lower comorbidity score, but greater health service utilization, higher readmission risk (short-term OR[95%CI]=2.54[2.48-2.61]; long-term OR[95%CI]= 1.58[1.54-1.62]) and mortality (short-term OR[95%CI]=4.86[4.70-5.02]; long-term OR[95%CI]= 1.32[1.26-1.37]) compared to non-readmitted. A frail elder segmentation was captured by features of highest medications/ procedures and having longest hospital length of stay (mean[SD]=39.2[24.9] days) and second highest mortality (short-term OR[95%CI]= 8.00[6.99-9.17]; long-term OR[95%CI]= 1.62[1.36-1.93]). A patient segmentation of elderly home residents (12,706[83.85%]) with dementia(7,344[48.47%]) and CVA(5,379[35.50%]) was detected. The rest five patient segmentations featured by specific disease combinations, including cardiopulmonary disease (heart failure[%]:8,080[74.43%]); cardiopulmonary disease[%]:3,640 [33.53%]), diabetes with renal diseases (diabetes without complications[%]:5,592 [77.70%]; diabetes with complications[%]:4,465 [62.04%]; renal disease[%]:4,494[62.44%]), CVA with hemiplegia (CVA[%]:2,636[95.54%]; hemiplegia[%]:2,759[100.00%]), advanced malignancy (history of cancer[%]:2,698[85.38%]; metastatic solid tumors[%]:3,158[99.94%]) and liver diseases (mild symptoms [%]:2,557[58.90%]; moderate or severe symptoms [%]:2,534[58.37%]).

Conclusion

The findings suggest that older patients at risk of readmission could be categorized into patient segmentations having diverse risk profiles with clinical meaning interpretations, allowing suggestions for tailoring care within a public health care system.

Abstracts for Poster Presentation



Poster 25

Association of mental-physical chronic disease sequences with mortality and healthcare utilization: a territory-wide retrospective cohort study

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Purpose

We aimed to compare the impact of mental-physical (men-phy) versus physical-mental (phy-men) multimorbidity sequences on mortality and healthcare utilization among patients with mixed mental-physical multimorbidity.

Methodology

We conducted a retrospective cohort study using data from the Clinical Data Analysis and Reporting System (CDARS) of the Hospital Authority (HA) in Hong Kong. The cohort included patients first diagnosed with either a mental or physical disorder in 2003 and subsequently developed multimorbidity. Mental disorders considered in this study included alcohol misuse, bipolar disorder, depression, and schizophrenia. The primary outcome was all-cause mortality, while secondary outcomes included all-cause hospitalizations, length of hospitalization stay, and emergency room visits. Conditional Poisson regression was used to estimate incidence rate ratios (IRRs) and rate ratios (RRs) respectively for mortality and healthcare utilization, adjusting for sex, age, and time interval between conditions.

Results

The study included 12,835 participants, with 2,839 in the phy-men group and 9,996 in the men-phy group. The overall mortality rate was 29.3% in the men-phy group and 31.6% in the phy-men group. After adjustment, there was no significant difference in mortality between the two groups (adjusted IRR: 1.05, 95%CI 0.97 to 1.15). However, the men-phy group had higher rates of hospitalizations (adjusted RR: 1.21, 95%CI 1.16 to 1.26) and emergency room visits (adjusted RR: 1.07, 95%CI 1.03 to 1.11) but shorter lengths of stay (adjusted RR: 0.88, 95%CI 0.87 to 0.90). Younger patients (age \leq 45) and those with longer intervals between conditions (\geq 10 years) in the men-phy group also showed higher healthcare utilization. Subgroup analyses further revealed disease-specific differences, with patients in the men-phy group having higher hospitalization rates and emergency room visits among patients with depression but lower rates among patients with schizophrenia.

Conclusion

The sequence of mental-physical multimorbidity did not significantly impact mortality but was associated with differences in healthcare utilization. These findings highlight the need for tailored and integrated healthcare strategies to manage patients effectively and warrant further research to delineate the mechanisms driving these differences.

Abstracts for Poster Presentation



Poster 26

Evaluation of Integrated Care Model for Post-discharged High-risk Elderly Patients on Hospital Readmission, Mortality, Accident and Emergency Department Visit and Enrollment of New Residents in Elderly Home

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Purpose

In response to aging populations and increasingly complex healthcare needs, health and social care systems are reconfiguring services to better serve patients with poor functional status and multi-morbidity. The aim of this study is to evaluate the association of the Integrated Care Management (ICM) program with hospital readmissions, emergency department (ED) visits, mortality, length of stay, and institutionalization in residential care homes among elderly patients post-discharge in Hong Kong.

Methodology

A population-based matched cohort study using propensity score matching was conducted to compare outcomes among community-dwelling patients aged 60 or above who received Integrated Care Model (ICM) services post-discharge from public hospitals in Hong Kong from 2012 to 2019. The ICM program includes comprehensive discharge planning, post-discharge rehabilitation, home support services, and caregiver training, coordinated by link nurses and a multidisciplinary team. Primary outcomes included post-discharge readmissions, mortality, and ED visits at 30-, 90-, and 180-days post-discharge. Secondary outcomes included the length of stay of index admissions and subsequent institutionalization in residential care homes.

Results

A total of 47,190 ICM patients were matched with 1,182,129 non-ICM patients. The ICM program was associated with significant reductions in 30-day readmissions (adjusted OR = 0.45; 95% CI 0.43-0.46) and ED visits (adjusted OR = 0.53; 95% CI 0.51-0.55), but not in 30-day mortality (adjusted OR = 1.03; 95% CI 1.01-1.04). Significant reductions in mortality were observed at 90 days (adjusted OR = 0.87; 95% CI 0.82-0.92) and 180 days (adjusted OR = 0.84; 95% CI 0.80-0.87). The program also resulted in a slight increase in the length of stay (IRR = 1.03; 95% CI 1.01-1.04) and a lower incidence of institutionalization in residential care homes within six months post-discharge (adjusted OR = 0.73; 95% CI 0.71-0.75). Subgroup analyses indicated that mortality benefits were primarily observed in patients aged 80 and above.

Conclusion

The medical-social integrated transitional care program was associated with reductions in healthcare utilization, institutionalization in nursing homes, and mortality within six months. The comprehensive design, involving coordinated social and health services and targeted interventions for high-risk patients, likely contributes to these outcomes. Further research is warranted to validate these findings.

Abstracts for Poster Presentation



Poster 27

A Local Cluster of Mycobacterium Abscessus Cases Associated with Cosmetic Injections, Oct – Nov 2023

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Background

Mycobacterium abscessus belongs to rapidly growing mycobacteria which is found in environment, associated with skin and soft tissue infections after trauma, and rarely cause disseminated infection. It has been associated with outbreaks related to contaminated medical equipment in healthcare settings. In 2012, a local cluster of M. abscessus infection related to cytokine-induced killer cell therapy was recorded affecting 4 persons.

This paper reports a local cluster of M. abscessus cases reported to Centre of Health Protection in Oct-Nov 2023 related to cosmetic injections in 4 beauty salons.

Methodology

A probable case was defined as persons who developed persistent rash, induration or abscess after receiving injections at any of the 4 involved premises between May and Nov 2023. A confirmed case was defined as a probable case with clinical sample positive for M. abscessus. Case detection was performed through reporting by clinicians, active case finding through client list provided by sales agent of the premises and setting up of hotline. Cases were interviewed by telephone or face-to-face for demographic, epidemiological and clinical information. Descriptive analysis was performed. The procedure of administering injections was reviewed. Environmental investigation was performed. All environmental samples were tested for M. abscessus.

Results

19 cases with onset between July and Nov 2023 were recorded between Oct and Nov 2023, affecting females from 22 to 53 years (median 29.5). All cases except 1 received injection of Lipolytic solution (the remaining case received collagen bio-stimulator). They developed rash (9; 47.4%), induration (17; 89.5%) and abscess (6; 31.6%) with onset 1 day to 3 weeks after last injection. No case developed disseminated infection. 13 were confirmed cases with sequence based typing showing a mix of ST1, ST23 and ST324 types. Not all injections were performed by registered medical practitioners. Lapses in infection control included reuse of syringes without disinfection and improper storage of injection components. All environmental samples were tested negative for M. abscessus.

Conclusion

The outbreak was stopped after public announcement and closures of the concerned premises. Risk of M. abscessus outbreak persists as there is increasing trend of invasive cosmetic procedure. Infection control needs to be reinforced.

Abstracts for Poster Presentation



Poster 28

Enhancing the efficiency of colorectal cancer screening program for residents in Hong Kong

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Objectives

A multi-disciplinary team at the Chinese University Medical Centre (CUMC) pioneered solutions for the Government Colorectal Cancer Screening Program (CRC) in private hospital setting. Streamlining the CRC Program at the Wellness Centre through large-scale promotion, an e-registration portal, nurse's briefing video, doctor's consultation and one – stop service upon enrolment. CUMC aims to increase CRC Program's enrolment and satisfaction rate, ultimately promoting early detection of colorectal cancer.

Methodology

Statistics were drawn over one year to measure the number of enrolments, satisfaction rate, number of patients with a positive FIT Test and the percentage of patients treated thereafter.

Target of promotion directed towards all residents with a valid HKID between the age of 50 – 75, who met the criterion for the CRC programme.

Results

From January 2023 to May 2024, 2,871 participants enrolled, with 10% (294) detected positive FIT, and 5% (15) from positive results were later confirmed colorectal cancer.

A mean satisfactory score of 4.9 on a scale from 1-5 and an average of 1.5-week processing time was recorded. The number of patients enrolled contributes to around 3% of total participants in Hong Kong each year, based on the statistics drawn in 2022 by the Centre of Health Protection (CHP) of the Department of Health in Hong Kong. According to CHP, 1,870 clinics were registered for CRC program, averaging 38 patients enrolled in each location in one year, as opposed to 2,023 patients enrolled at CUMC in one year. Waiting time according to CHP in 2022 was 17 days, while CUMC achieved 7-14 days waiting time. Among all participants, 17 patients (0.6%) had adenoma detected, and 12 of patients (0.4%) had adenocarcinoma detected.

Conclusion

The preliminary results indicated beneficial outcomes from targeted large-scale promotions and innovative solutions for CRC program. This showcases the benefits of early detection in a private hospital setting, reaching out to a larger population. This potentially paves the way for private hospitals, bridging the gap between public and private sectors while simultaneously alleviating the burden on public hospitals in Hong Kong.

Abstracts for Poster Presentation



Poster 29

Healthcare Service Utilization at the End-of-life Stage of Patients with Different Causes of Death

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Purpose

This study aims to analyse the trend of utilization of different healthcare services, including general out-patient clinics (GOPCs), specialist out-patient clinics (SOPCs), emergency room, and inpatient admission, among end-of-life patients with different causes of death over a long period from 2002 to 2019.

Methodology

A retrospective analysis was conducted based on the electronic health records of public hospitals in Hong Kong. All deceased adults (age ≥ 18 years) who died of cancers, heart diseases, cerebrovascular diseases, renal diseases, and chronic lower respiratory diseases (CLRDs) during 2002-2019 were included. For outpatient setting, number of attendances of GOPC, SOPC, and community outreach services were calculated. For inpatient setting, number of inpatient admission and annual length of stay in acute wards and rehabilitation wards were included. Number of emergency room visits was included as well. The service utilization indicators at different time prior to death were described and compared across causes of death and death year of the patients using ANOVA test. Multiple generalized linear regression was used to examine the association between service utilization and causes of death as well as year of death.

Results

There were 352,682 patients recorded dead due to the five conditions during 2002-2019. Number of attendance/admission to SOPC and inpatient acute ward in the last year before death increased through 2002-2013, while the changes were mild for utilizations of emergency room, GOPC, and inpatient rehabilitation ward. Number of emergency room attendance, SOPC, and inpatient acute ward increased through the last five years of death, and the increase was particularly larger for cancer and renal diseases. The number of GOPC attendance maintained stable or decreased through the last five years prior to death for all five causes of death.

Conclusion

The findings highlighted the importance of SOPCs in meeting the needs for EOL patients, while there was an increasing reliance on inpatient acute ward services and a relatively lower usage of rehabilitation wards and GOPC services. It suggested that the role of rehabilitation and post-acute care at primary care, inpatient, and home- and community-based setting can be emphasized to alleviate the burden of acute inpatient services.

Abstracts for Poster Presentation



Poster 30

The impact of syndrome differentiation on the effectiveness and safety of Chinese herbal medicine treatments for digestive disorders: Expert consensus and network meta-analysis

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Background

Traditional Chinese Medicine (TCM) is widely practiced worldwide, yet the integration of syndrome differentiation (SD) into TCM research, particularly in randomized controlled trials (RCTs) evaluating Chinese herbal medicine (CHM), remains limited. A meta-epidemiological study found no overall improvement in treatment outcomes or reduction in side effects with SD, but subgroup analysis in gastrointestinal disease-focused RCTs revealed increased side effects, prompting questions about the necessity and alignment of SD in CHM treatment for digestive diseases. To address this gap, a two-part study comprising a Delphi study and a network meta-analysis (NMA) of RCTs was conducted.

Method

In Part 1, a two-round Delphi study prioritized clinically significant digestive disorders guided by the GRADE Evidence to Decision framework. The study involved a panel comprising conventional physicians with Chinese medicine training (n=4), Chinese medicine practitioners (n=6), and clinical research methodologists (n=2). Gastroesophageal reflux disease (GERD) emerged as the focus for Part 2: network meta-analysis (NMA). We systematically searched nine databases for relevant RCTs up to July 2023. NMA assessed the comparative effectiveness and safety of CHM treatments with different SD statuses. Primary outcome was symptom relief rate, with secondary outcomes including change in symptom scores from baseline, adverse event rate, and recurrence rate. NMA results were interpreted using a minimally contextualized framework, with quality of evidence assessed using the GRADE approach.

Results

In Part 1, Delphi participants expressed varied viewpoints on the relevance of SD, influenced by factors such as prevalent TCM diagnoses and comparative efficacy of TCM versus conventional treatments, with GERD as chosen as the focus for NMA. In Part 2, 34 eligible RCTs involving 4,226 participants and 28 different CHMs were analyzed. NMA suggested CHMs prescribed without SD may be more effective across all measured outcomes except GERDQ score changes. However, these findings had low certainty of evidence.

Conclusions

Divergent viewpoints among Delphi participants highlight uncertainties regarding the importance of SD. NMA findings suggest CHM treatments prescribed without SD may be more effective for GERD across various outcomes. Further empirical studies are needed to evaluate the prognostic value of prevalent TCM diagnoses in guiding tailored CHM treatments for GERD patients.

Competing interest: None.

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Abstracts for Poster Presentation



Poster 31

The Impact of Syndrome Differentiation on Treatment Effects and Side Effects in Randomized Controlled Trials of Chinese Herbal Medicine: A Meta-Epidemiological Study

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Background

The potential impact of incorporating syndrome differentiation in randomized controlled trials (RCTs) on the treatment effects and side effects of Chinese herbal medicine (CHM) remains uncertain. To address this gap, we conducted a meta-epidemiological study comparing the treatment effects and side effects of CHM in RCTs that incorporated syndrome differentiation versus those that did not.

Methodology

A comprehensive search was conducted across seven electronic databases to identify systematic reviews and meta-analyses that pooled RCTs evaluating CHM's treatment effects or side effects. The search covered publications from January 2021 to September 2022. Meta-epidemiological analyses were performed using a two-step method. Subgroup analyses were conducted based on clinical conditions, outcome types, and funding support. Adjustments were made in the meta-regression models to control for potential confounders, including sample size, funding support, and the risk of bias in RCTs.

Results

The study included 137 systematic reviews, comprising 2,064 RCTs. RCTs incorporating syndrome differentiation showed slightly smaller binary treatment effects ($P=0.04$) than RCTs that did not incorporate this approach. The two groups had no significant difference in continuous treatment effects ($P=0.26$) or side effects ($P=0.66$). Subgroup analyses focusing on circulatory diseases and meta-analyses pooling subjective outcomes revealed slightly smaller binary treatment effects of CHM in RCTs that incorporated syndrome differentiation compared to those that did not. These findings remained consistent after adjusting for sample size, funding support, and the risk of bias in RCTs.

Conclusion

Incorporating syndrome differentiation in RCTs does not appear to substantially alter the overall treatment effects and side effects observed in the evaluation of CHM. Further research is needed to validate and expand upon these findings, to gain a comprehensive understanding of the role of syndrome differentiation in rigorous scientific evaluation of CHM.

Acknowledgement

Competing Interests: None.

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Abstracts for Poster Presentation



Poster 32

Association between patient-perceived quality of primary care and self-reported hospital utilization in China: a cross-sectional study

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Background

Reducing avoidable hospital admissions is a global healthcare priority, with optimal primary care recognized as pivotal for achieving this objective. However, in developing systems like China, where primary care is evolving without compulsory gatekeeping, the relationship between patient-perceived primary care quality and hospital utilization remains underexplored.

Objective

This study aimed to explore the association between patient-perceived primary care quality and self-reported hospital utilization in the context of China.

Methodology

Data was collected from 16 primary care settings. Patient-perceived quality of primary care was measured using the Assessment Survey of Primary Care scale across six domains (first-contact care, continuity, comprehensiveness, accessibility, coordination, and patient-centredness). Hospital utilization included patient self-reported outpatient visits, hospital admissions, and emergency department (ED) visits in the last six months. Logistic regression analyses were used to examine associations between self-reported hospital utilization and perceived primary care quality adjusted for potential confounders.

Results

Of 1,185 patients recruited, 398 (33.6%) reported hospital utilization. Logistic regression analyses showed that higher total scores for patient-perceived quality of primary care were associated with decreased odds of hospital utilization (adjusted odds ratio (AOR): 0.417, 95% confidence interval (CI): 0.308-0.565), outpatient visits (AOR: 0.394, 95% CI: 0.275-0.566) and hospital admissions (AOR: 0.496, 95% CI: 0.276-0.891). However, continuity of care was positively associated with ED visits (AOR: 2.252, 95% CI: 1.051-4.825).

Conclusion

Enhanced patient-perceived quality of primary care in China is associated with a reduction in self-reported overall hospital utilization, including outpatient visits and hospital admissions. However, better continuity of care may be potentially associated with increased ED visits. Further research is warranted for precise insights and validation of these findings.

Abstracts for Poster Presentation



Poster 33

Association of multimorbidity intervals with mortality among people living with diabetes: a territory-wide nested case-control study

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Purpose

Multimorbidity interval, referred to as the time interval from the first chronic condition diagnosis to the occurrence of multimorbidity. Multimorbidity is highly prevalent among people with diabetes and associated with a greater risk of mortality. However, there is little research quantifying the association of multimorbidity intervals with mortality risk among people with diabetes. The study aims to examine whether, and to what extent, the time interval between first-diagnosed diabetes and a second chronic disease may be associated with the risk of mortality. In this study, we hypothesize an inverse association between the multimorbidity interval and mortality risks.

Methodology

We conducted a territory-wide nested case-control study with data from Hong Kong. The death of participants with multimorbidity is adopted as the outcome of the study. The underlying cohort included patients first diagnosed with diabetes from January 1, 2010 to December 31, 2012 and subsequently diagnosed with another chronic condition as of December 31, 2019. Patients with any chronic conditions 2 years before the diabetes diagnosis were excluded.

We extracted those who died after developing multimorbidity as case participants. We defined the time interval from the date of developing multimorbidity to the death date as survival period of case participants. We randomly selected 4 patients with the same age, sex, and second chronic condition who had not died after going through the same survival period of the case participants as the control participants.

Conditional logistic regression was used to estimate the adjusted odds ratio of death. Sub-group analysis was conducted in men, women, those aged 65 years or more, and those were younger than 65 years. Stratified analysis was conducted for each of the second chronic conditions.

Results

Overall, the risk of mortality reduces by 19% with the extension of multimorbidity interval by one year [95% CI 17%-21%]. Similar associations were estimated in sub-group analysis and stratified analysis.

Conclusion

Our findings suggest that clinical management of diabetes should focus on mitigating and lowering the risk of developing multimorbidity to reduce further complications and mortality.

Abstracts for Poster Presentation



Poster 34

Association between Temperature Variation and Mortality during Extreme Cold Events in Hong Kong

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Background and Aim

Numerous studies have demonstrated that variations in ambient temperature negatively impact health outcomes during extreme temperatures. However, the impact of inter-day and intra-day temperature variations (TVs) on mortality during cold spells in subtropical regions remains under-investigated. This study aims to elucidate how these temperature variations influence overall and cause-specific mortality in Hong Kong during extreme cold conditions.

Methodology

A case-crossover design, stratified by space and time, was employed to evaluate the effects of inter-day and intra-day temperature variations on overall and cause-specific mortality in Hong Kong from 2000 to 2020. Conditional logistic regressions were utilized to determine the odds ratio associated with temperature variations.

Results

Significant associations were observed between increased TVs and all-cause mortality during extreme cold days. Specifically, the intra-day TV had an adverse impact at one-day lag (OR: 1.19, 95% CI: 1.14 to 1.24), diminishing over time, whereas the inter-day TV showed no significant effects on the outcomes. Adverse impacts of TV were significantly associated with mortality due to respiratory and cardiovascular diseases, at 1-day (OR: 1.14, 95% CI 1.06 to 1.23) and 2-day lags (OR: 1.43, 95% CI: 1.10 to 1.86) respectively. In addition, the impact of intra-day temperature variation on cardiovascular mortality persisted for up to 6 days (OR: 1.25, 95% CI: 1.03 to 1.53).

Conclusion

The varying effects of temperature variations on mortality during extreme cold weather indicate different acclimatization responses, particularly among individuals with chronic conditions .

Abstracts for Poster Presentation



Poster 35

Prevalence and Associated Factors of Overweight in Chinese Adolescents: a cross-sectional study

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Background and Aim

Obesity has been a global public health issue due to the increasing mortality rate and prevalence among children. However, there are scarce studies on obesity prevalence in Hong Kong children. The study aims to identify the risk factors of obesity among primary and secondary school students by assessing the relationship between sociodemographic factors, health-related behaviours, and social relationships.

Methodology

Self-administrated surveys were collected from 30 primary schools and 25 secondary schools participating in the "Quality Education Fund Thematic Network on Health Schools" project. Descriptive analysis was conducted to examine the proportions of different characteristics and to compare the disparity between primary and secondary school students with obesity.

Results

A total of 4,884 responses were collected. A larger proportion of primary school students with obesity were male (aOR: 2.55, 95% CI: 1.77-3.67, $p < 0.001$) and actively gamed (aOR: 1.64, 95% CI: 1.07-2.51, $p = 0.024$). Secondary school students with obesity were male (aOR: 1.61, 95% CI: 1.21-2.13, $p = 0.001$), had poor self-perceived academic performance (aOR: 1.51, 95% CI: 1.10-2.08, $p = 0.011$) and expressed higher life satisfaction (family) (aOR: 1.13, 95% CI: 1.01-1.26, $p = 0.032$). There were negative associations found between obesity and physical activity, high consumption of sugary drinks, chocolate or candies, and insufficient consumption of vegetables.

Conclusion

Male sex, physical inactivity, low self-perceived academic performance, and poor dietary behaviours were the risk factors for obesity among primary and secondary school students. The findings highlighted the importance of identifying younger individuals who were at risk of becoming clinically obese. Further studies should explore the effectiveness of various interventions through longitudinal study.

Abstracts for Poster Presentation



Poster 36

Associations between adoption of eHealth management module and optimal control of HbA1c in diabetes patients

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Purpose

This study aims to compare the level of glycaemic control between users of the eHealth App and non-users in Hong Kong.

Methodology

Type 2 diabetes patients who have joined the Electronic Health Record Sharing System (eHRSS) with existing haemoglobin A1c (HbA1c) level records were recruited. Correlations between predictors (use of eHealth App, use of eHealth Management Module) and optimal HbA1c control (<7%) were examined using logistic regression analyses.

Results

A total of 109,823 participants were included, with 76,356 non-users of eHealth App, 31,723 users of eHealth App, and 1,744 users of the eHealth Management Module together with the App. Users of the eHealth Management Module were found to have more optimal HbA1c levels across all subgroups, with the strongest effect observed in younger females (aOR = 1.66, 95% CI = 1.27–2.17). eHealth App usage was also positively associated with optimal HbA1c levels, particularly amongst younger females (aOR = 1.17, 95% CI = 1.08–1.26).

Conclusion

Overall, users of eHealth App and eHealth Management Module demonstrate more optimal HbA1c levels when compared with non-users, particularly among younger adults and females. These findings support the potential adoption of eHealth interventions in diabetes patients. Future studies should examine the impact of eHealth interventions on other clinical targets and diabetes complications.

Abstracts for Poster Presentation



Poster 37

Associations between GoSmart Channel, health literacy and health behaviours in adolescents: A population-based study

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Purpose

To assess the health literacy level among Hong Kong adolescents; to evaluate the association between access of an online health information platform (GoSmart Channel) and health literacy level; and to examine the association between health literacy level and various unhealthy behaviours.

Methodology

This study recruited students from 10 local secondary schools in Hong Kong to assess the health literacy level among adolescents. Participants were required to complete a self-administered questionnaire on health behaviours and health literacy using the Health Literacy Measure for Adolescents (HELMA). Data were analysed using descriptive statistics and multivariate regression modelling.

Results

A total of 777 responses were collected. Overall, most (74.4%) of the adolescents in Hong Kong have limited health literacy (HELMA score <66). The majority (63.7%) of adolescents relied on their parents for health information, while 11.4% of the respondents sought information from the GoSmart Channel. The intervention of GoSmart Channel was significantly associated with better health literacy in almost all aspects among adolescents. Desired levels of health literacy were significantly associated with better perceived health (adjusted odds ratio: 2.04, $p = .001$) and negatively associated with a range of unhealthy and risky behaviours including unhealthy dietary habits, poor hygienic measures and physical inactivity.

Conclusion

This study highlights the importance of improving health literacy among Hong Kong adolescents and the potential of technology-based interventions. The findings suggest the need for continued efforts to promote health literacy and healthy behaviours among adolescents, especially given the limited health literacy levels observed in the study.

Abstracts for Poster Presentation



Poster 38

Factors associated with physical inactivity among the pre-school children: A cohort of 1681 participants

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Aim

To investigate the risk factors associated with physical inactivity of young children in Hong Kong.

Methodology

This follow-up study was part of a prospective cohort study named Studying Impact of Nutrition on Growth (SING) initiated in 2015. Subjects were recruited from randomly selected local nurseries and kindergartens in Hong Kong. Self-administrated questionnaires were distributed to parents in 2016–2017 to collect information on: (i) socio-economic background; (ii) health-related factors, including gestation at time of birth, and hospitalisation of the child since birth; (iii) types of leisure activities, including time spent on electronic games and physical activity.

Results

A total of 1681 responses were collected. A higher likelihood of physical inactivity on weekdays was associated with being female, not being the firstborn, having been hospitalised three or more times since birth, and having physically inactive care givers. Meanwhile, children whose mother was unemployed/retired, and who spent more than 1 h on electronic games per day were significantly less likely to be physically inactive. Similarly, being female, being the secondborn or the thirdborn, and having a care giver with low physical activity level were associated with a higher chance of physical inactivity on weekends.

Conclusion

Parental support could play a pivotal role in determining a child's physical activity level. Public health policies should be implemented to promote family-based physical activities.

Abstracts for Poster Presentation



Poster 39

Experiences of Participants with Undiagnosed Diseases and Hereditary Cancers during the Initial Phase of the Hong Kong Genome Project: A Mixed-Methods Study

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Purpose

The Hong Kong Genome Project (HKGP) was launched in 2019 as the first population-wide whole genome sequencing (WGS) programme in Hong Kong to integrate genomic medicine into the healthcare system. We assessed participant satisfaction and experiences in the initial phase of HKGP covering 2,000 cases of undiagnosed diseases and hereditary cancers (5,000 genomes).

Methodology

HKGP participants were recruited from three partnering centres at public hospitals during June-September 2023. The survey covered four domains that assessed: (1) overall satisfaction with HKGP, (2) informed consent process, (3) genetic counselling and (4) attitude towards HKGP. Focus group interviews were held to collect qualitative feedback.

Results

Among 422 eligible participants, 341 completed the survey (response rate of 80.8%) with twenty-one participants in five focus group interviews. We found 89.8% (95% CI: 86.1-92.7) were satisfied with their experience of the HKGP. Almost all believed that taking part in HKGP could benefit others (86.8%, 95% CI: 82.7-90.0) and advance genomic research in Hong Kong (88.9%, 95% CI: 85.0-91.9). The lowest agreement at 73.5% (95% CI: 68.5-78.0) was feeling that taking part in HKGP could improve their personal/child's medical treatment. Logistic regression analyses found no associations between most indicators with demographic or socioeconomic characteristics. Focus group participants cited helping scientific advances and shortening diagnostic odyssey of future patients as key reasons for participating in the project. Participants hoped for a shorter turnaround time for reporting, additional medical follow-up after reporting, and allowing referral of relatives.

Conclusion

Participants were overall highly satisfied the HKGP roll-out of whole genome sequencing for undiagnosed diseases and hereditary cancers. Reported satisfaction levels were comparable to genomic programmes overseas and mature healthcare services provided locally. It is crucial to provide tailored genetic counselling approaches that address the individual clinical and scientific information needs, preferences, and expectations of diverse participant groups of varying educational backgrounds. Emphasizing the long-term value of genomic research and its potential to inform personalized treatments may help address any perception gaps and increase participant engagement, ultimately leading to more meaningful contributions to the research endeavour.

Abstracts for Poster Presentation



Poster 40

Selecting Performance Indicators to Evaluate the Initial Phase of Breast Cancer Screening Programmes: Evidence From Hong Kong

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Purpose

Evaluation of a new population-based screening programme is vital to ensure its benefits outweigh the harm, is acceptable to the public, and offers value for money. Choosing the right outcome measures for evaluation is crucial but challenging in the initial implementation phase due to factors such as limited data and follow-up period, small numbers, first-round harvesting of cases, and lead-time bias. We aimed to identify key performance indicators with stakeholders for evaluation of the early phases of the Breast Cancer Screening Pilot Programme launched in 2021.

Methodology

Performance indicators were selected through a multi-stage process. First, potential indicators were compiled from a scoping review of the published literature, grey literature, and programme websites to identify existing indicators used to assess the performance of breast cancer screening programmes in other regions. Second, the selection of indicators was conducted by a stakeholder panel composed of clinical experts (relevant colleges of the Hong Kong Academy of Medicine, nursing) and patient support groups. We applied the Delphi method to achieve consensus in two rounds: 1) stakeholder survey rating each potential indicator on appropriateness; 2) stakeholder panel review of survey findings and agreement on a final list of performance indicators.

Results

We identified 71 KPIs from the scoping review that were grouped into six domains (attendance, cancer detection rate, invasive cancer, sensitivity/specificity, further assessment, treatment). After removing for removing duplicate, unavailable and irrelevant, 45 KPIs were presented to the stakeholder panel. After two rounds of Delphi study, 20 indicators were selected as the final list of KPIs for evaluation of the initial phase of the breast cancer screening programme. Seven indicators reached unanimous consensus among respondents: participation rate, screening coverage, breast cancer detection rate, positive predictive values of mammography/screening tests, detection of invasive cancers, and sensitivity of the screening test.

Conclusion

A high level of consensus on performance indicators was achieved among a stakeholder panel of clinical experts and patients. These indicators will be vital to monitor and evaluate the early phase of implementing a breast cancer screening programme in Hong Kong and thus inform health policymakers on future phases of implementation.

Abstracts for Poster Presentation



Poster 41

A Case Report on the First Human Case of B Virus Infection in Hong Kong

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Background

B virus, also known as herpes simiae virus, is an alphaherpesvirus prevalent in macaque monkeys commonly found in Hong Kong. Most infected macaques have no or mild symptoms, but the virus is highly pathogenic to humans if infected. B virus human infection was rare with only about 50 cases globally since 1932, often resulted from scratches or bites from infected macaques, mucosal contact with infected macaques' body fluid or tissue, or injury from contaminated materials.

Purpose

This paper reports the first local case of B virus human infection in Hong Kong.

Methodology

Centre for Health Protection (CHP) conducted epidemiologic investigation of the case through telephone interview of the case's relatives and friends upon receiving report of the case. Active case finding with support from Agriculture, Fisheries and Conservation Department (AFCD) was carried out. CHP also included B virus as a reportable disease. Descriptive analysis was performed.

Results

A 37-year-old gentleman with good past health first presented to a general practitioner on 18 March 2024 with fever and coryza. He was sent to casualty department of a public hospital on 21 March for decreased consciousness, and was transferred to the Intensive Care Unit on 22 March. Lumbar puncture was positive for B virus DNA by Public Health Laboratory Centre on 3 April. He remained unconscious despite antiviral treatment for B virus encephalitis.

According to informants, patient sustained fresh bite over upper limbs after feeding monkeys at Kam Shan Country Park accompanied by person with relevant AFCD's permit at around end of February. No further cases were identified after active case finding and making the disease reportable. Public was alerted via press release on 3 April on the risk of B virus infection and advised against touching or feeding wild monkeys.

Conclusion

This was the first local confirmed case of B virus human infection likely acquired during injury inflicted by macaque monkeys resulting in neurological deficit which has persisted for over 2.5 months since diagnosis as of reporting date. Public education should be enhanced and possible legal actions should be considered to prevent the community from touching or feeding wild monkeys.

Abstracts for Poster Presentation



Poster 42

Public Education on the Prevention of Mosquito-Borne Diseases – Insights from a Knowledge, Attitudes, and Practice (KAP) Survey in Hong Kong

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Purpose

To inform health promotion strategy, the Department of Health commissioned a territory-wide Knowledge, Attitudes, and Practice (KAP) Survey of Mosquito-borne Diseases (MBDs) Prevention in Hong Kong.

Methodology

A telephone survey with dual sampling approach involving landline and mobile phone numbers was conducted between January to February 2024 for Hong Kong residents aged 18 or above. Socio-demographic data, KAP regarding the transmission and prevention of MBDs were collected. The data were weighted to align with the sex and age distribution of the Hong Kong population. We used multivariable logistic regression to identify socio-demographic factors associated with KAP on MBDs.

Results

2,002 eligible respondents were successfully interviewed (response rate: 21.3%). Awareness for being a mosquito-borne disease was higher for dengue fever (92.7%), Japanese encephalitis (83.0%), and malaria (68.6%); while lower for Zika virus infection (50.3%) and chikungunya fever (12.0%). Only 29.9% recognised that asymptomatic individuals infected with dengue fever can transmit the virus to mosquitoes, and 17.7% knew that sexual contact is one of the transmission routes of Zika virus.

While 64.7% of the respondents believed that insect repellents can protect them against mosquito bites and MBDs, only 22.4% and 1.2% were aware of the effective ingredients and the recommended concentration of DEET, respectively. Respondents with primary or below education level (adjusted OR: 2.339, 95% CI: 1.493 – 3.664) and those who were living in public rental housing (adjusted OR: 1.504, 95% CI: 1.143 – 1.979) were more likely to be unaware of any effective insect repellent ingredients. Besides, only 30% of the respondents would check the ingredients when purchasing insect repellents, 49.8% never applied it to exposed body parts and clothing and 69.7% never applied it for 14 days when returning to Hong Kong from affected areas of dengue fever to prevent mosquito bites.

Conclusion

While there is general awareness of MBDs and a positive attitude towards the use of insect repellents among the population, a gap exists between their knowledge/ attitude, and the utilisation of insect repellents. These findings highlight the need of prioritising education on appropriate use of insect repellents in future MBDs health promotion campaigns.

Abstracts for Poster Presentation

Poster 43

A Local Case of Dengue Fever in 2024

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Background

The global incidence of dengue fever (DF) has substantially increased in the last two decades. As of 30 April 2024, over 7.6 million dengue fever cases have been reported to the World Health Organization this year in over 90 territories/ countries. DF is not endemic in Hong Kong, but its vector *Aedes albopictus* is highly prevalent. In 2023, Hong Kong reported 62 imported dengue cases. As of 26 April 2024, Hong Kong reported 19 imported dengue cases. In mid-April 2024, CHP received the first report of confirmed local dengue case in four years.

Purpose

To investigate and identify possible source of acquisition, assess risk of transmission and to formulate control measures for preventing secondary cases.

Methodology

A confirmed case is a clinically compatible case that fulfils specified laboratory criteria . Extensive epidemiological investigations, including active case finding (telephone interview, hotline, online questionnaire and face-to-face interview), serological screenings, site visits and vector surveys, were conducted. Descriptive analysis was performed.

Results

A 28-year-old male living in Siu Sai Wan who works at a private hospital at Causeway Bay developed fever and rash since 20 April. Blood taking on 24 April was positive for Dengue virus IgM, RNA and NS1 antigen on 25 April by the Public Health Laboratory Centre. 3050 residents from 1110 households of the index residence were successfully reached and no one had developed compatible symptoms so far. 3 asymptomatic household members, 6 health talk participants with non-specific symptoms, and one symptomatic person detected via hotline were all screened and tested negative for recent dengue fever infection. Environmental survey conducted by the Food and Environmental Hygiene Department to patient's residence, workplace and areas visited by index identified vectors in all places. 26 vector samples collected were all tested negative for DF.

Conclusion

This was the first local DF case in 2024 since 2020. Heightened public alertness and intensive vector control might have prevented secondary transmission.

Abstracts for Poster Presentation



Poster 44

Evaluation of Clinical Research Services of Queen Elizabeth Hospital Using Donabedian Framework

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Objective

To assess the clinical research services at Queen Elizabeth Hospital (QEH) and highlights the areas of strength and opportunity for improvement in research capacity and culture (RCC).

Methodology

Using Donabedian Model as a guiding framework to assess structure, process, and outcome measures. Mixed-methods surveys, focus groups and organisation data were analysed using thematic analysis and statistical analysis methods. Survey was used to measure the services awareness, satisfaction rate, RCC in individual and organization domains via a validated RCC tool, and identifying barriers and enablers in undertaking research. Focus groups included service users, non-service users and policy makers.

Interim Results

350 completed surveys (70 online, 280 paper) were received from QEH doctors, nurses and allied health professionals, representing an 8.6% response rate. Service users(n=110) were satisfied with present research services, with a mean score over 3.3 out of 5. The research culture in individual domain (mean=5; range 4-6) and organization domain (mean=4.8) were deemed moderate. Common constraints for low research participation were inadequate time (85.1%), lack of suitable manpower support (58.6%), and other work taking priority (53.7%). Reasons for research engagement were career advancement (60.6%) and acquiring new skills (44.3%).

Suggestions for improving research culture include expanding communication plans, increasing focus on research time and building partnerships with academic institutions. Institutional support is crucial for building a strong and supportive research environment, with recommendations to extend the study to other hospitals for analysis.

Comprehensive data analysis will be completed by Aug 2024.

Conclusion

This is the first study to report on the research culture of healthcare professionals in QEH and the first service evaluation project of the KCC Research Committee. The findings are in par with previous literatures signifying that the research culture is moderate at both the individual and organizational level. Organizations should identify the key barriers and enablers for research and introduce specific strategies to enhance capacity and improve research culture.

Abstracts for Poster Presentation



Poster 45

Survey on antimicrobial resistance showed knowledge deficit among the elderly

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Background

The World Health Organization (WHO) declares antimicrobial resistance (AMR) as one of the top ten global public health threats facing humanity. We have conducted a Knowledge, Attitude and Practice (KAP) survey, aimed to assess the information with respect to AMR among general public of different age groups, and hence to inform health promotion strategies on raise their awareness.

Methodology

The Centre for Health Protection (CHP) of the Department of Health conducted the survey from 27 November 2023 to 8 January 2024 through landline and mobile telephone interviews via random sampling. The target population of the survey was non-institutional Hong Kong residents aged 15 or above who could speak Cantonese, Putonghua or English (excluding foreign domestic helpers). The questionnaire design took reference from the WHO Antibiotic resistance: Multi-country public awareness survey with local modification, focusing on current public awareness and common behaviors related to antibiotics. A pilot study was conducted from 20 to 25 October 2023 before launching the fieldwork. Statistical analysis was performed using Chi-squared test.

Results

A total of 1,083 successful interviews were conducted, with a response rate of 50.1%. The proportion of female respondents (52.9%) was slightly greater than that of male respondents (47.1%) while those 65 years old or above accounts for 25.1% of all respondents. Fewer respondents aged 65 or above were found to answer correctly on whether antibiotics are needed in health conditions including headache, body aches, cold and flu, bladder infection and urinary tract infection, and skin or wound infection. Besides, they were less aware that resistant bacteria can be spread from person to person (28.5% in ≥ 65 years old vs 42.8% in <65 years old, $p < 0.01$). Furthermore, they were found less likely to recognize antibiotics are not anti-inflammatory drugs (50.2% in ≥ 65 year olds vs 70.1% in <65 year olds, $p < 0.01$).

Conclusion

Elderlies are found to have knowledge deficit on AMR. Tailor-made, easy to understand health promotion activities should be conducted to empower them against AMR.

Abstracts for Poster Presentation



Poster 46

Modelling the Excess Mortality attributable to Heat Waves in Hong Kong: 2014-2023

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Background

Heat waves have become more frequent, and studies have linked heat waves to increased risk of death in Hong Kong. However, there are no estimates of the total excess mortality during heat waves in Hong Kong.

Objective

To estimate the excess mortality associated with heat waves in Hong Kong from 2014 to 2023.

Methodology and Data

We obtained daily mortality and population data from the Hong Kong Life Tables and the Hong Kong Census and Statistics Department, the daily temperature from Hong Kong Observatory, and mortality relative risk from previous exposure-response relationship established by Liu et al. (2020). We made an operational definition of a heat wave as a 20-day period starting with a day reaching 30.6°C or higher. Each heat wave had to be separated by at least 20 days. Excess mortality was estimated using two different metrics: excess deaths (number), and age-standardized excess death rate per 100,000 population.

Results

From 2014 to 2023, we estimated 1,746 excess deaths (95% confidence interval, CI: 1,451-2,042) attributable to heat exposure in Hong Kong. The excess death rate ranged from 1.07 (CI: 1.05-1.10) to 3.13 (CI:3.06-3.21) per 100,000 population, nearly tripled from 2014 to 2023, peaking in 2023. Heat wave excess mortality fluctuated due to local climate trends, with notable increases in 2015, 2016, and particularly in 2022 and 2023. Excess mortality was higher among males, who accounted for two-thirds of the total, and was concentrated in the 75-84 and 60-74 age groups.

Conclusion

Over 1700 excess deaths occurred in the recent ten years. Given the rise in recent years, extreme heat would rank as the 11th leading causes of death in Hong Kong if it were considered an independent condition, with mortality rates approaching those of diabetes. However, these preventable excess deaths are unrecognized because decedents present with exacerbations of underlying illnesses rather than classic heat stroke during heat waves. Proper planning to protect vulnerable populations from high temperatures could have prevented many of these excess deaths.

Keywords: Extreme Heat, Excess Deaths, Relative Risk, Hong Kong

Abstracts for Poster Presentation



Poster 47

Evaluation of VAS-Track Program to Assess Potential COVID-19 Vaccine Allergy: A Cost-Effectiveness Analysis

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Purpose

Concerns about new COVID-19 vaccines played a key role in vaccine hesitancy and hampered population uptake. A Vaccine Allergy Safety Track (VAS-Track) program to assess high risk individuals using a 'Hub-and-Spoke' model of non-specialists could meet overwhelming demand with limited specialists. We assessed the cost-effectiveness of VAS-Track compared to usual care for individuals at high risk of COVID-19 vaccine-related allergy.

Methodology

An individual-level decision-analytical model was constructed using data from VAS-Track participants supplemented by published estimates. Medical records of 1799 patients (18-49 years: 48.3%; 50-69 years: 46.1%; ≥ 70 years: 10.1%) from the VAS-Track Hub and Spoke clinics between March 2021 to August 2021 were reviewed and followed-up after clinical assessment. Analyses were from a health service provider perspective over 12 months. We calculated the incremental cost-effectiveness ratio (ICER) to estimate the cost per quality-adjusted life years (QALYs) gained. Willingness-to-pay threshold was based on local GDP per capita (US\$ 49,590). Sensitivity analyses examined robustness of findings.

Results

Cost-effectiveness varied widely across age groups. VAS-Track was cost-saving for older adults (dominant strategy for age ≥ 50) compared with standard practice across a range of sensitivity analyses. VAS-Track was not cost-effective for younger groups (age 18-49: ICER: US\$ 360,405/QALY for pre-vaccination and US\$ 187,182/QALY for post-vaccination assessments). COVID-19 infection rate, cost of treating severe COVID-19 infection, and vaccination rate were most influential on cost-effectiveness estimates.

Conclusion

VAS-Track was cost-effective both as a pre- and post-vaccination assessment service for adults over 50. A 'Hub-and-Spoke' allergy service model for older adults using non-specialists supported by the allergist hub could be cost saving and boost public vaccine confidence.

Abstracts for Poster Presentation



Poster 48

Seroprevalence of measles antibodies among non-local born university individuals in Hong Kong 2024

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Purpose

There has been global resurgence of measles cases following the COVID-19 pandemic. The Centre for Health Protection of the Department of Health conducted a study to estimate the seroprevalence of anti-measles Immunoglobulin G (IgG) antibodies among non-locally born individuals studying or working in local universities, to identify possible immunity gap in Hong Kong.

Methodology

We recruited participants and collected their blood samples on a voluntary basis via 1)outreach blood donation events in collaboration with Hong Kong Red Cross Blood Transfusion Service, and 2)setting up blood collection booths at three local universities. We also collected information (demographic and vaccination status) by standardised questionnaire. Anti-measles IgG antibody were first measured using immunoassay. Those with equivocal or negative IgG results were further evaluated using plaque reduction neutralization test (PRNT). Samples tested positive by any test will be considered seropositive, while those tested negative by PRNT will be considered seronegative.

Results

A total of 142 (96M, 46F) non-local born university individuals aged 18–62 (median 23) years, originated from 21 countries/areas (dominated by Mainland, 71.1%), were included in the study. The overall seroprevalence was 99.3% (95% CI, 96.1 –100.0). Among the 142 participants, 49 (34.5%) recalled receiving measles vaccination before, yet more than half failed to recall details such as number of doses received; Majority of the participants were not sure if they had received any measles vaccination before (86, 60.6%), and 7 (4.9%) recalled not vaccinated. One (0.7%) individual recalled history of measles infection in the past, 114 (80.3%) recalled never infected and remaining (19.0%) were unsure.

Conclusion

The anti-measles IgG seropositivity among non-local university students and staff from this study was very high, well above the herd immunity threshold of 92% to 94% required for measles. No immunity gap was identified in this target group.

Abstracts for Poster Presentation



Poster 49

Burden of Bacterial Bloodstream Infections in Hong Kong Inpatients, 2012-2021

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Purpose

To evaluate the incidence and mortality in inpatients with bloodstream infections (BSIs) caused by bacterial pathogens in Hong Kong in 2012-2021.

Methodology

We analyzed electronic medical records from public hospitals provided by the Hospital Authority to identify BSI episodes between January 1, 2012, and December 31, 2021. A BSI episode was defined as a detection of a unique bacterial species identified from blood sample(s) collected within 14 consecutive days during an admission. Occurrence of BSIs and in-hospital mortality were analyzed in relation to patients' characteristics, clinical conditions and causative pathogens.

Results

A total of 164,765 BSI episodes were identified among 116,504 patients over the ten years in the study, with the annual incidence rates ranging from 190 to 245 episodes per 100,000 person-years. Notably, the BSI incidence showed the largest increase from 1,860 to 2,171 episodes per 100,000 person-years in patients aged ≥ 80 years over the study period. Male has a higher incidence rate than female in each age group. The primary pathogens detected from blood samples for the identified BSI episodes were *Escherichia coli* (40.5%), *Klebsiella pneumoniae* (12.0%), and *Staphylococcus aureus* (10.8%), while there was a slight increase in the annual BSI incidence of these three bacterial species. Moreover, around 64% of the patients with BSI episodes died in-hospital. The in-hospital mortality of patients with hospital-onset BSI episode (78.0%) was higher than those who suffered from community-onset BSI (62.1%). Higher proportion (about 80%) of death cases could be observed in patients with BSI episodes attributable to *Pseudomonas aeruginosa* and *Acinetobacter* species during our study period.

Conclusion

Our study revealed a substantial disease burden associated with BSIs burden in Hong Kong particularly in patients with hospital-onset BSI and BSI caused by non-fermentative bacteria, highlighting the importance in improving patient care in an aging population.

Abstracts for Poster Presentation



Poster 50

Characterization of Pediatric Inpatients Infected with SARS-CoV-2 or Seasonal Human Coronaviruses in Hong Kong in 2021-2024

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Purpose

To examine the characteristics of hospitalized pediatric patients who were infected with SARS-CoV-2 and four common human coronaviruses (hCoVs) in Hong Kong during 2021-2024.

Methodology

Pediatric inpatients were tested the multiplex RT-PCR for SARS-CoV-2 and 229E, NL63, OC43, and HKU1 in two public hospitals in Hong Kong between 1 May 2021 and 3 February 2024 were recruited. Detection patterns of SARS-CoV-2, 229E, NL63, OC43, and HKU1 in patients hospitalized during the study period were described. Characteristics of the patients testing positive for either SARS-CoV-2 or hCoVs in comparison with those testing negative for coronaviruses were examined, including age, sex, SARS-CoV-2 infection history, and COVID-19 vaccination status, and compared between groups of patients infected with SARS-CoV-2 and hCoVs in comparison with those not infected with coronaviruses.

Results

Among 14167 pediatric inpatients, 2921 (20.6%) tested positive for SARS-CoV-2, 420 (3.0%) for hCoVs, and the remaining 76.5% tested negative for all coronaviruses. SARS-CoV-2 positive proportions in the study individuals showed three peaks from 2021 to 2024, in March and December 2022 lasting 4 and 8 weeks, respectively and a small peak in May 2023 remaining at a low level till the end of the year. The majority of the hCoVs infections were attributed to OC43 (53.6%) primarily detected from late 2023 onwards although four types of hCoVs remained at a low level before November 2023. Compared with patients without infection with coronaviruses, those testing positive for SARS-CoV-2 were relatively younger, and less likely to have COVID-19 vaccination or be infected with SARS-CoV-2 previously. The patients with an infection with hCoVs were largely comparable to those without infection of coronaviruses except for having a slightly higher frequency in COVID-19 vaccination and previous infection with SARS-CoV-2.

Conclusion

Our findings revealed distinct temporal patterns of infection with different coronaviruses in pediatric inpatients in Hong Kong. The varied characteristics of patients with different etiology of infection suggested that further studies are needed to explore underlying mechanisms driving the epidemiological patterns of the virus infection.

Abstracts for Poster Presentation



Poster 51

Narrative review of scientific evidence on the effectiveness of health-EDRM primary preventive interventions against insect infestation

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Purpose

This narrative review aims to investigate primary preventive measures against insect infestations associated with health-related issues using the Health-EDRM framework.

Methodology

Statistical tests were done to assess the patients and their family member's knowledge and attitudes about HT before and after delivering an interactive session. Wilcoxon's Signed-Rank test was performed to test for the differences between pre- and post-intervention responses.

The survey questions were set to test participants' of health knowledge and awareness levels. For our null hypothesis H₀ "There is no improvement in the knowledge/awareness of the participants after the health education session."

Results

11 participants were involved in this study. For knowledge of hypertension, test results showed significant improvement (2-tailed p-value = .025) of the participants comparing pre- and post-intervention total scores over 4 MCQs. This demonstrates the effectiveness of our field-based intervention in enhancing participants' basic knowledge of HT, including the prevalence of HT in Laos, how to prevent HT, and complications of poorly-controlled HT. The positive results also exemplified the potential of promoting a larger scale of field-based health education to enhance individuals' knowledge levels. Regarding awareness of preventing hypertension, test results showed no significant improvement (2-tailed p-value = .564) in health awareness on preventing HT on a scale of 5. 90.9% of the individuals chose 5 (strongly agree) as the pre-intervention score, a high pre-intervention health awareness on preventing HT might be the reason for the insignificance, on top of small sample sizes and possible response bias in question design.

Conclusion

The participants have a strong baseline health awareness for HT. Educational health interventions are effective in improving knowledge retention on hypertension.

Abstracts for Poster Presentation



Poster 52

Evaluating Effectiveness of Educational Health Interventions for Improving Knowledge Retention on Hypertension in Pakse

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Purpose

The objective of this research paper was to analyze the pre-evaluation and post-evaluation findings related to a health intervention targeting hypertension (HT) in Pakse, Laos. With nearly 30% of the population affected by HT, poor health literacy exacerbates this health issue. The long-term health problems associated with HT, including acute coronary syndrome, renal failure, and stroke, further strain Laos' healthcare services. Given the inadequate healthcare resources, we aim to implement a health intervention within a local community to raise awareness about HT.

Methodology

Statistical tests were done to assess the patients and their family member's knowledge and attitudes about HT before and after delivering an interactive session. Wilcoxon's Signed-Rank test was performed to test for the differences between pre- and post-intervention responses.

The survey questions were set to test participants' of health knowledge and awareness levels. For our null hypothesis H₀ "There is no improvement in the knowledge/awareness of the participants after the health education session."

Results

11 participants were involved in this study. For knowledge of hypertension, test results showed significant improvement (2-tailed p-value = .025) of the participants comparing pre- and post-intervention total scores over 4 MCQs. This demonstrates the effectiveness of our field-based intervention in enhancing participants' basic knowledge of HT, including the prevalence of HT in Laos, how to prevent HT, and complications of poorly-controlled HT. The positive results also exemplified the potential of promoting a larger scale of field-based health education to enhance individuals' knowledge levels. Regarding awareness of preventing hypertension, test results showed no significant improvement (2-tailed p-value = .564) in health awareness on preventing HT on a scale of 5. 90.9% of the individuals chose 5 (strongly agree) as the pre-intervention score, a high pre-intervention health awareness on preventing HT might be the reason for the insignificance, on top of small sample sizes and possible response bias in question design.

Conclusions

The participants have a strong baseline health awareness for HT. Educational health interventions are effective in improving knowledge retention on hypertension.

Abstracts for Poster Presentation



Poster 53

Knowledge, Perceptions, and Practices of Mosquito-borne Disease Control Among Cataract Surgery Patients in Fatick, Senegal

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Introduction

Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response (CCOUC) and GX Foundation organised a field trip to Senegal in June 2024. Surveys were conducted to understand the knowledge and behaviours of mosquito-borne diseases of Senegalese.

Methodology

Participants were adult patients attending cataract surgery provided by GX Foundation in a hospital in Fatick and their relatives. Face-to-face interviews were conducted, and verbal consent was obtained. Demographic characteristics were recorded while general health and mosquito-related knowledge and behaviours were assessed using standard structured questionnaires.

Results

Forty-five valid responses were collected. The mean age was 64 years, 53.3% were male, 60% were illiterate, and 51.1% were farmers. The median household size was 13 members, with a median of 2 family members under 5 years old and 1 family member over 60 years old.

Most respondents (95.6%) considered mosquitoes a significant concern in their living area, and all knew that mosquitoes could lead to diseases. While the majority of the respondents had heard of yellow fever (91.1%) and malaria (100%), only 40% knew about dengue fever. Most respondents recalled fever and shivering as symptoms of malaria (88.9% and 73.3% respectively), but fewer could recognise dark urine and yellow eyes as symptoms (28.9% and 15.6%).

Compared to educated individuals, illiterate individuals were significantly less likely to obtain knowledge of mosquito-borne diseases from TV ($p=0.005$) and school ($p<0.001$) (chi-square tests); instead, they obtained knowledge from family and friends, radio, and NGOs or governmental interventions.

Over half of the participants (53.3%) intended to seek medical care but were eventually declined due to accessibility and affordability constraints.

Conclusion

While participants were well-informed of certain mosquito-borne diseases, including malaria, dengue fever was identified as a knowledge gap. Mosquito preventive measures, such as bed nets, are widely used, but accessibility and affordability fluctuate. Results of the survey are supported by our observation during household and hospital visits. Health-seeking behaviours varied, with financial constraints being the primary barrier. Targeted public health interventions are suggested to improve knowledge, accessibility of control measures, and availability of healthcare services to effectively address mosquito-borne diseases in the local community.

Abstracts for Poster Presentation



Poster 54

Effectiveness of Vector-Borne Disease Health Intervention in Laos

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Purpose

This study aims at evaluating the effect of the health intervention (in the form of a poster presentation) on improving the understanding and awareness of vector-borne diseases among the Laotian population.

Methodology

To assess the effectiveness of the intervention aimed at improving the understanding of vector-borne diseases among the Laotian community, the researchers conducted a questionnaire-based study with a pre-intervention and post-intervention component. The questionnaire consists of 15 questions, among which 5 are related to vector-borne diseases. There are 4 knowledge-type multiple-choice questions and 1 qualitative attitude-type question.

The questionnaire was first performed with 11 Laotian individuals who just underwent cataract surgery to establish the baseline knowledge level. On the next day, the researchers performed health education to educate the participants about vector-borne diseases, including their transmission, symptoms, and preventive measures. The same questionnaire was then redone with the same participants to assess any changes in their knowledge and understanding of vector-borne diseases. By comparing the scores from the pre-intervention and post-intervention questionnaires, the researchers were able to evaluate the effectiveness of the intervention in improving the participants' understanding of vector-borne diseases.

Results

The responses were scored (1 mark for correct response, 0 marks for incorrect or incomplete response) and the pre- and post-intervention responses were compared using the Wilcoxon sign-rank test. There was an insignificant difference between pre- and post-intervention responses for both the 4 knowledge-type questions (2-tailed p-value = 0.887) and the attitude-type questions (p = 0.317).

Conclusion

In conclusion, although the vector-borne disease health intervention did not yield statistically significant improvements in the targeted health outcomes, it can still help optimise future public health initiatives aimed at addressing vector-borne diseases in Laos. The Laotian population, despite having limited understanding of the vector-borne disease, generally has a positive attitude towards treating the disease upon onset of suspicious symptoms. Therefore, further education focusing on reinforcing such knowledge will be particularly helpful.

Abstracts for Poster Presentation



Poster 55

A narrative review on the role of medical humanitarian assistance in view of surging cataract incidence in the era of climate change

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Purpose

This narrative review discusses existing evidence on the impact of climate change on the incidence of cataract, and explores how medical humanitarian assistance plays a role in resolving the accumulated backlog of patients suffering from cataract in countries vulnerable to climate change, using a medical humanitarian project in Djibouti as an example.

Methodology

A keyword-based search was conducted using databases PubMed, Medline and Science Direct, using keywords related to climate change, cataract and cataract surgery. An observational study of the implementation of a cataract blindness elimination project in Djibouti was conducted on-site.

Results

The review indicated that climate change is closely related to the increase in incidence of cataract. Ozone depletion has increased the ultraviolet B (UV-B) component in the solar ultraviolet radiation reaching the Earth surface. Exposure to UV-B has been strongly associated with cortical and subcapsular cataracts. Recent literature identified annually average maximum temperatures as a risk factor, while annual volume of rainfall as a protective factor of cataract incidence in people aged 60 years old and over. Hence, countries at high annual temperature and with dry climate are at risk of higher cataract incidence.

In view of the increased number of cataract patients but limited surgical trainings of ophthalmologists and equipment, providing additional cataract surgery service as a means of humanitarian assistance to countries vulnerable to climate change would help mitigate the problem of surgical backlog. The model of a Hong-Kong based cataract blindness elimination project in Djibouti serves as a successful example of international medical humanitarian project that provides cataract surgery services.

Conclusion

Climate change has numerous impact on human health, and the resource disparity put some countries at a more vulnerable position in coping with increased demand of medical service, especially for conditions like cataract that requires surgeries with adequate technological support and adept medical personnel. Hence, medical humanitarian assistance may play a role in equipping the countries at risk with the capacity to cope with potential patient surge and backlogs. Long term benefits and environmental impacts could be evaluated.

Abstracts for Poster Presentation



Free Paper 56

Vaccination is protective against post-Covid-19 multimorbidity incidence: a territory-wide retrospective cohort study

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Introduction

Previous research suggests that the clinical sequelae of Covid-19 are persistent long after the infection, which may be associated with an elevated risk of multimorbidity in people with a pre-existing chronic condition.

Purpose

To examine the association of Covid-19 with multimorbidity incidence among people with one chronic condition and quantify the absolute and relative incidence rates of multimorbidity after Covid-19 with or without prior full vaccination.

Methodology

We conducted a retrospective cohort study with territory-wide public healthcare records from Hong Kong. From patients with only one chronic disease before January 1, 2020, we selected patients infected with Covid-19 as the exposed group. We randomly selected 4 individuals of the same age, sex, and with the same first chronic condition without Covid-19 at that point as the comparison group. Poisson regression was used to calculate the adjusted incidence rate ratio of multimorbidity between those with or without Covid-19, as well as those who were fully vaccinated (3 doses or more) before infection. Sub-group analysis was conducted in men, women, those who were younger than 65 years, older people. A series of sensitivity analyses were conducted to test for the robustness of the results.

Results

Covid-19 was associated with 26%-increased rates of multimorbidity [95% CI 23%-29%], and Covid-19 with prior full vaccination was associated with only 8%-increased rates. Similar associations were estimated in sub-group analyses and sensitivity analyses.

Conclusion

Fully vaccination reduces the risk of multimorbidity in people contracting Covid-19 who already have one pre-existing chronic disease. An early roll-out of vaccines is essential in reducing the long-term burden among this population.

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Dr LEE Ha Yun Libby

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