



International Hybrid Conference

JOURNAL OF HEALTH SCIENCE AND MEDICAL RESEARCH

JHSMR

The 20th Postgraduate Forum on Health Systems and Policies

**“Strengthening Health Systems
For Global Health Security and Equity”**





Content

Welcome Address Asst. Prof. Dr. Niwat Keawpradub President, Prince of Songkla University	2
Welcome Address Asst. Prof. Kittipong Riabroi Dean, Faculty of Medicine, Prince of Songkla University	3
Welcome Address Prof. Tippawan Liabsuetrakul Head, Department of Epidemiology, Faculty of Medicine, Prince of Songkla University	4
Advisory and International Scientific Committee	5
The 20th Postgraduate Forum on Health Systems and Policies: "Strengthening Health Systems for Global Health Security and Equity"	7
Program Schedule	10
Speaker Biographies and Abstract Presentation	20
List of Abstract	43
Abstract of Oral Presentation	44
Abstract of Poster Presentation	52
JHSMR Information	139



Welcome Address

Asst. Prof. Dr. Niwat Keawpradub

President, Prince of Songkla University

On behalf of Prince of Songkla University (PSU), I would like to express our great honor and privilege in welcoming you all to the International Hybrid Conference, "The 20th Postgraduate Forum on Health Systems and Policies: Strengthening Health Systems for Global Health Security and Equity," held during 13–14 July 2026 in Hat Yai, here at PSU.

During 2015–2020, the Faculty of Medicine, PSU, established a collaborative agreement with Universiti Kebangsaan Malaysia (UKM) covering collaborative research, lectures and symposia, the exchange of scholars and researchers, student exchanges, and the sharing of information and materials in areas of mutual interest. Subsequently, during 2018–2023, PSU established another collaborative agreement with Universitas Gadjah Mada (UGM) focusing on the development and implementation of collaborative training programs, research collaboration in areas of mutual interest, exchanges of teaching staff and students, and double-degree programs.

I would also like to extend my sincere appreciation to our collaborative partners from Universitas Gadjah Mada, Indonesia, and Universiti Kebangsaan Malaysia, Malaysia, for their valuable cooperation in this international conference. My appreciation also goes to all participants from various countries for joining and contributing to this important academic gathering.

We believe that this conference provides an excellent opportunity for participants to exchange ideas and share knowledge among experts from diverse backgrounds in the fields of health systems and policy. Furthermore, we sincerely hope that this conference will enhance our understanding of the concepts, innovations, and skills required to further strengthen research and management in health systems, in alignment with the Sustainable Development Goals.

I trust that all participants will enjoy the conference activities and, through your active participation, contribute to making this conference a great success while gaining valuable and up-to-date knowledge.

Once again, on behalf of Prince of Songkla University, I warmly welcome you all and personally welcome you to Hat Yai, Thailand.



Asst. Prof. Dr. Niwat Keawpradub
President, Prince of Songkla University





Welcome Address

Asst. Prof. Kittipong Riabroi, M.D., M.Sc.

Dean, Faculty of Medicine, Prince of Songkla University

It is my great honor and privilege to welcome you to the International Conference, "The 20th Postgraduate Forum on Health Systems and Policies." This year's theme, "Strengthening Health Systems for Global Health Security and Equity," is especially timely and highly relevant. Recent global events have profoundly reminded us that health security and health equity are inseparable. A health system cannot be truly secure unless it is equitable, ensuring that vulnerable populations are protected and have access to quality care.

Over the next two days, we will explore innovative policies, share groundbreaking research, and discuss practical strategies for building resilient health systems that can withstand future crises while reducing health disparities and promoting equity. This conference provides an excellent opportunity to connect diverse perspectives and expertise from around the world. Let us take full advantage of this exchange of knowledge, experiences, and collaboration.

I would like to extend my deepest gratitude to the organizing committee for their tireless efforts in making this conference possible. I also sincerely thank our partner institutions, sponsors, and distinguished speakers for generously sharing their valuable time, knowledge, and expertise with us.

Finally, I wish all participants a productive, inspiring, and successful conference. I hope you will leave this forum with new insights, meaningful connections, and a renewed commitment to advancing global health.

Thank you, and once again, welcome to the 20th Postgraduate Forum on Health Systems and Policies.



Asst. Prof. Kittipong Riabroi, M.D., M.Sc.

Dean of Faculty of Medicine, Prince of Songkla University





Welcome Address

Prof. Tippawan Liabsuetrakul

Head, Department of Epidemiology, Faculty of Medicine, Prince of Songkla University

The Postgraduate Forum Conference on Health Systems and Policies not only showcases the academic achievements of postgraduate students but also highlights the scholarly productivity of academic professionals in the field of health systems and policy. This conference serves as a platform for strengthening human resource capacity to conduct high-quality research that addresses national and international needs. The Faculties of Medicine from three leading universities in Southeast Asia — Universiti Kebangsaan

Malaysia in Malaysia, Universitas Gadjah Mada in Indonesia, and Prince of Songkla University in Thailand — have established a collaborative network of postgraduate programs in health systems and policy.

The Department of Epidemiology, under the Faculty of Medicine at Prince of Songkla University, has been entrusted with the responsibility of organizing the 20th Postgraduate Forum Conference on Health Systems and Policies this year under the theme, "Strengthening Health Systems for Global Health Security and Equity." This theme was selected in recognition of the growing global health challenges, including emerging infectious diseases, health inequities, demographic transitions, climate-related health threats, and the increasing need for resilient and equitable health systems. The conference aims to provide a platform for academics, researchers, policymakers, and postgraduate students to exchange knowledge, share innovative research, and foster regional and international collaboration toward strengthening health systems and improving global health outcomes.

I would like to express my sincere gratitude to the two keynote speakers, Prof. Hao Li and Dr. Viroj Tangcharoensathien, as well as the three university networks in Malaysia, Indonesia, and Thailand for their support of this conference and for providing distinguished speakers. The Faculty of Medicine at Prince of Songkla University has generously provided financial support for hosting this year's international conference, in addition to the support from the three university partners.

Lastly, I would like to express my heartfelt appreciation to the organizing committee and all supporting staff at the Faculty of Medicine, Prince of Songkla University, for their dedication and hard work in organizing and facilitating this conference. On behalf of my colleagues, I warmly welcome all participants to the International Conference, "The 20th Postgraduate Forum on Health Systems and Policies: Strengthening Health Systems for Global Health Security and Equity," to be held during 13–14 July 2026 at the Conference Center, Faculty of Medicine, Prince of Songkla University.

Professor Tippawan Liabsuetrakul, M.D., Ph.D.

Chair of Organizing Committee





Advisory and International Scientific Committee

Advisory Committee	Institutes
1. Professor Syed Mohamed Aljunid, M.D., M.P.H., Ph.D., FAMM, FASc.	Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia
2. Professor Aznida Firzah Abdul Aziz, Ph.D.	Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia
3. Professor Yodi Mahendradhata, M.Sc., Ph.D., FRSPH	Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia
4. Professor Laksono Trisnantoro, M.Sc., Ph.D.	Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia
5. Professor Tippawan Liabsuetrakul, M.D., Ph.D.	Department of Epidemiology, Faculty of Medicine, Prince of Songkla University

Committee	Institutes
1. Professor Tippawan Liabsuetrakul, M.D., Ph.D.	Department of Epidemiology, Faculty of Medicine, Prince of Songkla University
2. Professor Virasakdi Chongsuvivatwong, M.D., Ph.D.	Department of Epidemiology, Faculty of Medicine, Prince of Songkla University
3. Associate Professor Rassamee Chotipanvithayakul, M.D., Ph.D.	Department of Epidemiology, Faculty of Medicine, Prince of Songkla University
4. Dr. Alan Geater, Ph.D.	Department of Epidemiology, Faculty of Medicine, Prince of Songkla University
5. Associate Professor Wit Wichaidit, Ph.D.	Department of Epidemiology, Faculty of Medicine, Prince of Songkla University
6. Assistant Professor Ponlagrit Kumwichar, M.D., Ph.D.	Department of Epidemiology, Faculty of Medicine, Prince of Songkla University
7. Assistant Professor Kasemsak Jandee, Ph.D.	Department of Epidemiology, Faculty of Medicine, Prince of Songkla University
8. Mr. Songyos Rajborirug, M.D., M.Sc.	Department of Epidemiology, Faculty of Medicine, Prince of Songkla University
9. Professor Boonsin Tangtrakulwanich, M.D., Ph.D.	Faculty of Medicine, Faculty of Medicine, Prince of Songkla University
10. Associate Professor Polathep Vichitkunakorn, M.D., Ph.D.	Faculty of Medicine, Faculty of Medicine, Prince of Songkla University
11. Professor Supasit Pannarunothai, M.D., Ph.D.	Health Innovation and Technology Assessment Program (HITAP), Thailand





Committee	Institutes
12. Dr. Walaiporn Patcharanarumol, Ph.D.	Office of the Permanent Secretary, Ministry of Public Health (MOPH), Thailand
13. Professor Quazi Monirul Islam, M.B.B.S., M.P.H., FRCOG	International Centre for Migration, Health and Development, Geneva, Switzerland
14. Associate Professor Haslina-Rani, Ph.D.	Universiti Kebangsaan Malaysia (UKM), Kuala Lumpur, Malaysia
15. Associate Professor Mohd Fairuz-Ali, M.D.	Universiti Kebangsaan Malaysia (UKM), Kuala Lumpur, Malaysia
16. Dr. Siti Athirah Zafirah-Abdul Rashid, Ph.D.	Universiti Pertahanan Nasional Malaysia (UPNM), Kuala Lumpur, Malaysia
17. Associate Professor Mohd Hafiz-Jaafar, Ph.D.	Universiti Sains Islam Malaysia (USIM), Kuala Lumpur, Malaysia
18. Professor Laksono Trisnantoro, M.Sc., Ph.D.	Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia
19. Professor Yodi Mahendradhata, M.Sc., Ph.D., FRSPH	Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia
20. Dr. Diah Ayu Puspadari, Apt., M.Kes, M.B.A.	Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia
21. Dr. Andreasta Meliala, D.P.H., M.Kes, M.A.S.	Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia
22. Professor Li Hao, Ph.D.	School of Public Health, Wuhan University, China
23. Professor Bin Yu, M.D., Ph.D.	School of Public Health, Wuhan University, China





International Hybrid Conference

The 20th Postgraduate Forum on Health Systems and Policies: "Strengthening Health Systems for Global Health Security and Equity"

Background

In an era of increasing global health challenges, strengthening health systems and policies has never been more critical. Resilient and effective health systems are essential for ensuring global health security and equity, particularly in the face of emerging infectious diseases, climate-related health risks, and persistent disparities in healthcare access. The COVID-19 pandemic further exposed vulnerabilities in health systems worldwide, underscoring the urgent need for sustainable policies, strong governance, and multi-sectoral collaboration to build more responsive and equitable healthcare systems.

The 20th Postgraduate Forum on Health Systems and Policies in 2026, themed "Strengthening Health Systems for Global Health Security and Equity", aims to address these pressing issues by providing a dynamic platform for knowledge sharing, policy dialogue, and research dissemination. This conference will bring together researchers, healthcare professionals, policymakers, and organizations to exchange insights on advancements in health system strengthening, policy effectiveness, and innovative solutions for equitable healthcare delivery.

By fostering cross-disciplinary discussions and evidence-based policymaking, the forum will support capacity building, cutting-edge research, and actionable strategies for addressing both current and future health challenges. Additionally, it will provide a valuable opportunity for educational institutions at national and international levels to showcase impactful research on health systems, ensuring that academic contributions translate into practical solutions for global health security. Through keynote and plenary sessions, interactive workshops, and collaborative discussions, participants will gain valuable insights into shaping more effective, inclusive, and resilient health policies that drive lasting improvements in global health systems.

Objectives

1. To share knowledge and disseminate findings of research in all aspects of health security, equity, and policy effectiveness.
2. To promote the engagement of academic institutions, public and private sectors, and civil society in shaping sustainable health system and policies.
3. To provide a platform for presenting cutting-edge research on health system for global health security and equity among educational institutions at national and international levels.





Venue

Conference Center and Health Science Library Building, Faculty of Medicine, Prince of Songkla University

Responsible Department

Department of Epidemiology, Faculty of Medicine, Prince of Songkla University

Date

13 – 14 July 2026

Important Dates

- First announcement: 15 October 2025
- Registration and abstract submission opening: 15 January 2026
- Abstract Submission Deadline: 31 March 2026
- Abstract Acceptance Notification: 15 May 2026
- Registration Deadline: 15 June 2026

Activities

1. Keynote Lecture/Plenary sessions/Symposiums
2. Oral Presentations
3. Poster Presentations
4. Presentation of Awards

Topics

- "The Future of Global Health Systems: A Vision for 2030 and Beyond"
- "Strengthening Primary Healthcare for Global Health Security"
- "The Role of Social Determinants in Health Equity and Policy Responses"
- "Health Policy Implementation: Success Stories and Lessons Learned"
- "Misinformation and Vaccine Hesitancy: How to Build Public Trust"
- "Human Resources for Health: Addressing Global Shortages and Retention"





Abstract Submission Guidelines

- Abstracts should report an original work that has not been previously published or presented in other conferences.
- All abstracts will be published in the supplementary issue of the Journal of Health Science and Medical Research.
<https://www.jhsmr.org/index.php/jhsmr>
- We encourage the presenter to be register as on-site attendance; however, on-line registration is optional if necessary.

Abstract categories

Scientific abstracts for oral or poster presentation of research related to the conference following topics are welcome:

- Health System Resilience and Pandemic Preparedness
- Health Equity and Universal Health Coverage
- Policy and Governance for Global Health Security
- Digital Health and Innovation in Health Systems
- Governance, Policy, and Health Systems Strengthening
- Health Financing for Sustainable Health Systems & Health Workforce



Program of International Hybrid Conference

The 20th Postgraduate Forum on Health Systems and Policies:

"Strengthening Health Systems for Global Health Security and Equity"

13-14 July 2026

Conference Center, Faculty of Medicine, Prince of Songkla University,
Hat Yai, Songkhla, Thailand

Day 1 Date: 13 July 2026		
Room: Atirek Na Thalang , Conference Center, Faculty of Medicine, PSU		
Time	Topics	Speakers
08.30–09.00	Registration	
09.00–09.20	Welcome and brief introduction	Prof. Tippawan Liabsuetrakul Head, Department of Epidemiology, Prince of Songkla University, Thailand
09.20–09.30	Opening session	Assist. Prof. Kittipong Riabroi Dean of Faculty of Medicine, Prince of Songkla University, Thailand
09.30–10.20	Keynote virtual session: "The Future of Global Health Systems: A Vision for 2030 and Beyond"	Prof. Hao Li School of Public Health, Wuhan University, China
10.20–10.40	Break	
10.40–12.00	Plenary session 1: "Strengthening Primary Healthcare for Global Health Security" - Primary Health Care Infrastructure for Health Security (20 min) - Preparedness of Primary Health Care Systems for Equity (20 min) - Community groups, structural vulnerabilities and pandemic readiness (20 min) - Q & A (20 min)	Assoc. Prof. Aznida Firzah Abdul Aziz Faculty of Medicine, Universiti Kebangsaan Malaysia, Malaysia Prof. Apichai Wattanapisit Faculty of Medicine, Prince of Songkla University, Thailand Prof. Yodi Mahendradhata Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia
12.00–13.00	Lunch	
13.00–16.00	Oral presentation session 1 (3 hours)	Conference center, Faculty of Medicine, PSU Room 1: Vichan Panich Room 2: Kasem Limwong Room 3: Atirek Na Thalang Room 4: Panthip Sanguancheua
14.00–15.00	Poster presentation (1 hour)	Medical Research, Innovation, and Technology Transfer Building, Faculty of Medicine, PSU Room 1: RS301, 3 rd floor Room 2: RS701, 7 th floor Room 3: Classroom 2, 6 th floor Room 4: Classroom1, 6 th floor
18.00–21.00	Welcome dinner	Crystal Hotel



Day 2 Date: 14 July 2026

Room: Auditorium, 1st floor, Medical Research, Innovation, and Technology Transfer Building, Faculty of Medicine, PSU

Time	Topics	Speakers
08.30–09.00	Registration	
09.00–09.50	Keynote virtual session: (Online) "Human Resources for Health: Addressing Global Shortages and Retention"	Dr. Viroj Tangcharoensathien International Health Policy Program (IHPP), Thailand
09.50–11.00	Plenary session 2: "The Role of Social Determinants in Health Equity and Policy Responses" - Addressing Health Equity: Social Determinants, Financial Protection, and Strategic Health Financing (20 mins) - Health Systems Responses to Social Determinants of Health in Southeast Asia (20 mins) - From Health to Social Policy: Building Equity Across Sectors (20 mins) - Q & A (10 mins)	Dr. Diah Ayu Puspendari Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada Prof. Tippawan Liabsuetrakul Faculty of Medicine, Prince of Songkla University Emeritus Professor Dato' Dr Syed Mohamed Aljunid School of Medicine, IMU University, Kuala Lumpur, Malaysia
11.00 –11.15	Break	
11.15–12.25	Plenary session 3: "Health Policy Implementation: Success Stories and Lessons Learned" - Implementing Primary Care Networks for Better Access: Lessons from Thailand (20 min) - Digital Transformation in Public Primary Care: Lessons from Malaysia (20 min) - Interoperable Health Information Systems to Support Continuum of Care in Primary Health Centers: Lessons from Indonesia (20 min) - Q & A (10 min)	Prof. Supasit Pannarunothai Centre for Health Equity Monitoring Foundation, Thailand Prof. Mohd Rizal Abdul Manaf Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia Dr. Lutfan Lazuardi Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia
12.25–13.30	Lunch	
13.30–14.00	Presentation of award & Closing session	



Program of International Hybrid Conference

The 20th Postgraduate Forum on Health Systems and Policies:

"Strengthening Health Systems for Global Health Security and Equity"

Oral presentations (Date: 13 July 2026 Time: 13.00-16.30)

Room 1: Vichan Panich, Conference Center, Faculty of Medicine, Prince of Songkla University

Time	ID	Topics
13.00-13.15	R1-OP1	Development and Validation of MindCare UKM: A User-Centred Mental Health Support Mobile Application for Outpatients in Malaysia <i>Adieza Farahain binti Ahmadi</i>
13.15-13.30	R1-OP2	Strengthening Digital Nutrition Information Systems for Stunting Prevention at the Primary Healthcare in Indonesia <i>Monita Destiwi</i>
13.30-13.45	R1-OP3	Feasibility and effectiveness of a multi-component self-care module in improving stroke knowledge, health state and physical performance among post-transient ischemic attack individuals in the Klang Valley, Malaysia <i>Ho Wei Sheng</i>
13.45-14.00	R1-OP4	AI-Based Communication to Support Premium Compliance in Health Insurance <i>Sensa Gudya Sauma Syahra</i>
14.00-14.15	R1-OP5	Predicting Prolonged Hospital Length of Stay in Stroke Patients Using Indonesian National Health Insurance Claims Data: A Machine Learning Classification Study <i>Ika Agustin Atika Putri</i>
14.15-14.30	R1-OP6	Digital Mood Tracking for Early Detection of Behavioral Disorders among Adolescents in Indonesia <i>Rahmi Amelia Lubis</i>
14.30-14.45	Afternoon break	
14.45-15.00	R1-OP7	Evaluating Multiple Large Language Models for SNOMED Clinical Terms Coding of Indonesian Clinical Notes: Introducing the Full Tuple Agreement Framework <i>Putu Gede Purwa Darmawan</i>
15.00-15.15	R1-OP8	Development of Usability Guidelines for Mobile Health Application Supporting Clinical Coding and Grouping in Casemix Systems <i>Shariffah Syazwana Aljunid</i>
15.15-15.30	R1-OP9	Evaluating the Impact of Prompting Strategies on Stroke Rehabilitation Care Plans Generated by Large Language Models <i>Annisa Ristya Rahmanti</i>
15.30-14.45	R1-OP10	The COMMBETT (Communicate Better! A Training Module for Healthcare Professionals): A mixed-methods feasibility study on communication skills training for nurses managing acquired communication disorders <i>Khairul Afiq</i>
15.45-16.00	R1-OP11	Preparing the Health Workforce for Learning Health Systems: A Mixed-Methods Study on Digital Competency Alignment <i>Hanifah Wulandari</i>
16.00-16.15	R1-OP12	Utilisation of the BalitaPRIMA Mobile Health in the Integrated Child Health Screening Services at a Rural Community Health Centre in Indonesia <i>Dzikri Fadhilah</i>





Oral presentations (Date: 13 July 2026 Time: 13.00-16.30)

Room 2: Kasem Limwong, Conference Center, Faculty of Medicine, Prince of Songkla University

Time	ID	Topics
13.00–13.15	R2-OP1	Through Mintzberg's Lens: Policy–Structure Misalignment in Indonesia's School–Based Feeding Program (MBG) in a Decentralized Governance System <i>Muhammad Hafiz Haunan</i>
13.15–13.30	R2-OP2	Bridging the Gap in Mental Healthcare: Primary Care Doctors' Attitudes Toward Patients with Mental Illness in Public Primary Care Clinics in Kuching, Sarawak <i>Syed Mohd. Taufiq Wan Obeng</i>
13.30–13.45	R2-OP3	Immunization Program Sustainability After GAVI Graduation: A Sub–National Risk Assessment Across Nine Provinces in Indonesia <i>Likke Prawidya Putri</i>
13.45–14.00	R2-OP4	Health system interventions to reduce treatment delays in acute ischemic stroke: An umbrella review of meta–analyses <i>Marcellino Maatita</i>
14.00–14.15	R2-OP5	Strengthening Mental Health Systems through Multisectoral Collaboration in Indonesia <i>Zulfendri Zulfendri</i>
14.15–14.30	R2-OP6	Spatial Analysis of Tuberculosis Incidence, Mortality, and Treatment Success in East Java, Indonesia, 2022 – 2024 <i>Siti Shofiya Novita Sari</i>
14.30–14.45	Afternoon break	
14.45–15.00	R2-OP7	Sustainability Capacity of Private Primary Care Engagement in District–Based Public–Private Mix for Tuberculosis Control: A Case Study from Indonesia <i>Dhea Keyle Fortunandha</i>
15.00–15.15	R2-OP8	Mapping Interventions to Improve Patient Safety Culture Among Nurses in Hospital Settings: A Scoping Review Based on the WHO Health System Building Blocks Framework <i>Nor Hanizah Abdul Gapal</i>
15.15–15.30	R2-OP9	Variation in kratom use by gender identity among secondary school students in Thailand <i>Manh Cuong Vu (Online)</i>
15.30–15.45	R2-OP10	Perceived treatment preferences for syphilis and associated factors among adult residents in a Southern province of Sri Lanka: A cross–sectional study <i>Sewwandi Kodituwakku (Online)</i>



Oral presentations (Date: 13 July 2026 Time: 13.00-16.30)

Room 3: Atirek Na Thalang, Conference Center, Faculty of Medicine, Prince of Songkla University

Time	ID	Topics
13.00-13.15	R3-OP1	Implementation Research on the Cardiovascular Network Fostering Programme: A Qualitative Case Study of Governance and Health System Strengthening in Indonesia <i>Nida Fauziah Sudrajat</i>
13.15-13.30	R3-OP2	Why Is Oral Health Still Missing from Diabetes Care? A Scoping Review of Integration Models and Implementation Challenges <i>Nor Najiah Shaari</i>
13.30-13.45	R3-OP3	Clinical Hypnosis as an Adjunct Intervention in Hospital-Based Geriatric Care: A Scoping Review <i>Siti Makhmudah</i>
13.45-14.00	R3-OP4	Cost Difference Analysis of Hepatitis C Virus Treatment Between Hospital-Based Care and Rapid Start Direct-Acting Antiviral Therapy in Malaysia <i>Amirah Azzeri</i>
14.00-14.15	R3-OP5	Reaching the Unreached: Exploring Needs and Community Engagement in Type 2 Diabetes Prevention within Primary Care Integration <i>Fransiska Pangesti. A</i>
14.15-14.30	R3-OP6	Effects of political instability and financial indicators on vaccine dropout of Diphtheria, Pertussis and Tetanus (DPT) and Measles-Containing Vaccine (MCV) coverage during 2000-2025 in Bangladesh <i>Kazi Salahin</i>
14.30-14.45	Afternoon break	
14.45-15.00	R3-OP7	Hidden Inequities in the Experience of Caring for Low Birth-Weight Infants in Indonesia <i>Abigael Ati</i>
15.00-15.15	R3-OP8	Exploring Barriers To Maternal-Health Seeking Behaviour Amongst Rohingya Refugee Women in Urban Malaysia <i>Walaa Abushama</i>
15.15-15.30	R3-OP9	Health Equity in Home-Based Palliative Care Under Universal Health Coverage Following Decentralization of Sub-District Health Promotion Hospitals: A Cross-Regional Study in Thailand <i>Pantitra Singkheaw</i>
15.30-14.45	R3-OP10	Factors of Cost of Illness Among Caregiver of Individual with Type 2 Diabetes Mellitus in Public Primary Healthcare in Malaysia <i>Siti Bazlina Mohd Rawi</i>
15.45-16.00	R3-OP11	Bridging Policy and Practice: Phased Implementation of the Stroke Rehabilitation Continuum Program (PKRS) in a Malaysian Healthcare Facility <i>Ahmad Hazri Bin Ilyas (Online)</i>
16.00-16.15	R3-OP12	Is Universal Health Coverage Truly Protective? Catastrophic Health Expenditure Among BPJS Households in Indonesia <i>Muhammad Zaidan Zianurrahman Ghozali (Online)</i>



Oral presentations (Date: 13 July 2026 Time: 13.00-16.30)

Room 4: Panthip Sanguancheua, Conference Center, Faculty of Medicine, Prince of Songkla University

Time	ID	Topics
13.00–13.15	R4–OP1	Resource Optimisation for Zoonotic Malaria Control: Evidence from a Comparative Cost–Effectiveness Study in Sabah, Malaysia <i>Misra Helma Firdaus</i>
13.15–13.30	R4–OP2	Health Insurance, Catastrophic Expenditure, and Poverty Deepening: Causal Evidence from Agricultural Households in Indonesia <i>Fitra Anas (Online)</i>
13.30–13.45	R4–OP3	Economic Evidence for Diabetes Remission Through Dietary Interventions: A Scoping Review with Implications for Low– and Middle–Income Health Systems <i>Zubalqiah Zulkifli</i>
13.45–14.00	R4–OP4	Engaging General Dental Practitioners in Strategic Purchasing for Publicly Funded Oral Care in Malaysia: A Qualitative Study <i>Muhammad Khairil Affandy Bin Rosli</i>
14.00–14.15	R4–OP5	Willingness to pay for dengue vaccine by income quintile of adults in the metropolitan area of Ho Chi Minh City, Vietnam: An imputation of income missing data <i>Giang Le Ba</i>
14.15–14.30	R4–OP6	The Economic Value of Employee Assistance Programs: A Scoping Review and Implications for Malaysia and Low– and Middle–Income Countries <i>Gar Loon Diong</i>
14.30–14.45	Afternoon break	
14.45–15.00	R4–OP7	Incident Reporting Practice, Factors, Challenges and Barriers among Public Primary Healthcare Workers in Perak: A Mixed–Methods Study <i>Hanis Abdul Rani</i>
15.00–15.15	R4–OP8	Effects of Vaccination Policy on Service Utilization and Well–Glycemic Control of Diabetic Patients in Primary Care Settings, Songkhla, Thailand: Lesson Learned from COVID–19 <i>Supakorn Suntudkan</i>
15.15–15.30	R4–OP9	Cultivating Adaptive Resilience through Hospital Service Delivery Transformation in Response to Shifting Health System Trends: A Benchmarking Study of Wellness Tourism in Indonesia and Thailand <i>Bestian Ovilia Andini</i>
15.30–14.45	R4–OP10	Impact of Preventive Tuberculosis Screening Policies on Case Detection and Treatment Outcomes: Evidence from Indonesia National Surveillance System, 2021–2024 <i>Agus Fitriangga</i>
15.45–16.00	R4–OP11	Associations of awareness, knowledge and attitudes with the intention to practice rabies prevention among adults living along the Bhutan–India border <i>Tshewang Dorji (Online)</i>

Poster presentations (Date: 13 July 2026 Time: 14.00-15.00)

Room 1: RS301, 3rd Floor, Medical Research, Innovation, and Technology Transfer Building, Faculty of Medicine, Prince of Songkla University

Time	ID	Topics
14.00-14.05	R1-PP1	Living arrangement as a barrier to oral healthcare among older population: a scoping review <i>Nurul Adila Mat Dait</i>
14.06-14.11	R1-PP2	Digital Twin Applications in Hospitals: A Scoping Review of Clinical Prevention Levels and Technology Maturity <i>Muhammad Shabri Putra Wibowo</i>
14.12-14.17	R1-PP3	Priorities of care in telehealth from older adults' perspective: A scoping review on roles, challenges and limitations <i>Mya Win Hnit</i>
14.18-14.23	R1-PP4	Maternal Nutritional Risk and Health Information Equity Among First-Time Mothers: Evidence from a Digital Health Platform in Indonesia <i>Dimas Sew Sumunar</i>
14.24-14.29	R1-PP5	Governance, Organisational and Behavioural Determinants of Pharmaceutical Strategic Purchasing in Public Health Systems: A Scoping Review <i>Wei Chern Ang</i>
14.30-14.35	R1-PP6	Integrating oral health into domiciliary medical care pathways in Malaysia: A research proposal <i>Afiqah Aiman Saperi</i>
14.36-14.41	R1-PP7	Beyond the Injury: A Systematic Review of Quality of Life Following Traumatic Dental Injury (TDI) in Adults <i>Farah Izzati Azmi</i>
14.42-14.47	R1-PP8	Navigating Reform: A Systematic Review of Health Governance and System Strengthening in Malaysia (2023-2026) <i>Nor Faiza Mohd Tohit</i>
14.48-14.53	R1-PP9	Food Safety, Aflatoxin Exposure, Zinc Deficiency, and Stunting: A Systematic Review <i>Anastu Regita Nareswara (Online)</i>



Poster presentations (Date: 13 July 2026 Time: 14.00-15.00)

Room 2: RS701, 7th Floor, Medical Research, Innovation, and Technology Transfer Building, Faculty of Medicine, Prince of Songkla University

Time	ID	Topics
14.00-14.05	R2-PP1	Development of a Massive Open Online Course "AI for Health" as a Digital Innovation to Enhance Artificial Intelligence Literacy in Healthcare <i>Muhammad Rizky Mangkuwidjaya</i>
14.06-14.11	R2-PP2	Characterising Smartphone Use Patterns in Malaysian Older Adults: Insights from a Pilot Study <i>Nurul Atikah Anuar</i>
14.12-14.17	R2-PP3	Determinants of Unmet Healthcare Needs among Children with Hearing and Speech Disabilities in Malaysia: A Mixed-Methods Study Using Structural Equation Modelling <i>Nur Fairuz Md Teridi</i>
14.18-14.23	R2-PP4	Test-retest Reliability of Occupation-based Well-being Assessment for Older Persons <i>Ker Ke Jun</i>
14.24-14.29	R2-PP5	Performance and Casemix Efficiency Assessments with Length of Stay Prediction for Ischemic Stroke Management <i>Mohd Hafiz Jaafar</i>
14.30-14.35	R2-PP6	Re-centering Primary Health Care in Indonesia: A Policy Analysis of Governance and Health System Strengthening <i>Indira Reva Annida (Online)</i>
14.36-14.41	R2-PP7	FHIR-First Architecture for Interoperable Health Indicator Metadata Registry: The Indonesia SATUSEHAT Metadata <i>Fadhilah Khairuna Larasati (Online)</i>
14.42-14.47	R2-PP8	The Impact of Low Birth Weight on Healthcare Utilization and Costs under Indonesia's National Health Insurance <i>Latifah Alifiana Rahmawati</i>



Poster presentations (Date: 13 July 2026 Time: 14.00-15.00)

Room 3: Classroom 2, 6th Floor, Medical Research, Innovation, and Technology Transfer Building, Faculty of Medicine, Prince of Songkla University

Time	ID	Topics
14.00–14.05	R3–PP1	Hospital Factors Associated with In–Hospital Mortality among Tuberculosis Patients: An Analysis of BPJS Kesehatan Claims Data <i>Fabian Qolby Multazam</i>
14.06–14.11	R3–PP2	Linking Perception to Practice: Determinants of Recycling Behavior in Putrajaya, Malaysia <i>Wan Farizatul Shima W Ahmad Fakuradzi</i>
14.12–14.17	R3–PP3	Assessment of Knowledge, Attitude, Practice related to Diabetic Foot Ulcer Care among Nurses in teaching hospital: A Cross– sectional Study <i>Shahiera Naziera Othman</i>
14.18–14.23	R3–PP4	Are Tuition Fees Sufficient to Fund Postgraduate Medical Education? Evidence from Postgraduate Medical Education Programs in Indonesia <i>Haryo Bismantara</i>
14.24–14.29	R3–PP5	Evaluation of Electronic Medical Records Compliance with Cancer Registry Standards at Dharmais Cancer Hospital <i>Sania Fitria (Online)</i>
14.30–14.35	R3–PP6	Village Midwife’s Perspectives on Primary Care Obesity Management in Indonesia: A Multi–Site Qualitative Study <i>Dian Puteri Andani (Online)</i>
14.36–14.41	R3–PP7	Resilience and empathy among healthcare professionals in the Emergency Department, Hospital Canselor Tuanku Muhriz, National University of Malaysia <i>Mohd Nurizam Bin Susof (Online)</i>
14.42–14.47	R3–PP8	Analysis of the utilization of non–emergency ambulance services in the special region of Yogyakarta <i>Setyawan Setyawan (Online)</i>
14.48–14.53	R3–PP9	The Hidden Bottleneck: Public Financial Management and Health System Responsiveness in Decentralized Settings <i>Muhamad Faozi Kurniawan (Online)</i>


Poster presentations (Date: 13 July 2026 Time: 14.00-15.00)

Room 4: Classroom 1, 6th Floor, Medical Research, Innovation, and Technology Transfer Building, Faculty of Medicine, Prince of Songkla University

Time	ID	Topics
14.00-14.05	R4-PP1	Inequitable Distribution of Mental Health Workforce and Its Implications for Health Equity in Remote Indonesia <i>Karlina Dewi Sukarno</i>
14.06-14.11	R4-PP2	Exploring Palliative Care Needs Among Older Adults with Chronic Diseases in Malaysian Primary Care <i>Vilzan Bin Momin</i>
14.12-14.17	R4-PP3	Bridging Policy Design and Local Reality: Primary Health Care Integration in Fragile and Remote Settings: A Case Study from Malaka District, East Nusa Tenggara, Indonesia <i>Via Angraini</i>
14.18-14.23	R4-PP4	Strategies to Enhance Adherence to Home Exercise Programmes Among Stroke Survivors: A Scoping Review <i>Pui Kei Chong</i>
14.24-14.29	R4-PP5	Navigating Fragmented Health Financing in Primary Health Centers of Banyumas Regency, Indonesia <i>Candra Candra</i>
14.30-14.35	R4-PP6	Developing a Sandbox Learning Environment for a Fragmented National Health Insurance System: The Open JKN Approach <i>Luluk Fadiah Sakinah (Online)</i>
14.36-14.41	R4-PP7	Regional Disparities in Healthcare Utilization and Economic Outcomes of Pediatric Acute Respiratory Distress Syndrome in Indonesia: Preliminary Insight from A Nationwide Claims Database <i>Alfarid Kurnialandi (Online)</i>
14.42-14.47	R4-PP8	Association Between Green Open Space (GOS) and Type 2 Diabetes Mellitus Prevalence: An Ecological Study in Yogyakarta, Indonesia <i>Renata Gita Cahyani Sese (Online)</i>



Speaker Biographies and Abstract Presentation



2026

The 20th Postgraduate Forum on Health Systems and Policies
"Strengthening Health Systems for Global Health Security and Equity"



**Professor Dr. Hao Li, M.B.A., Ph.D.****CURRENT ADDRESS**

School of Public Health, Wuhan University,

No.115 Donghu Road, Wuchang District, Wuhan, Hubei, China.

E-mail: h.li@whu.edu.cn

https://jszy.whu.edu.cn/haoli/zh_CN/more/429381/jsjgd/index.htm

Professor Hao Li is a Professor at the Department of Global Health, School of Public Health, Wuhan University, China. He had four years of working experience in the manufacturing industry before starting his doctoral study in management: Innovation, Service, and Sustainability in Scuola Superiore Sant'Anna of Pisa. He received his Ph.D. degree in December 2012. He joined Wuhan University School of Public Health in 2013 and is now a full professor, Head of the Department of Global Health of the School, and the Vice director of Wuhan University Global Health Institute. He has been teaching the Introduction to Global Health course and the Global Health Governance course for 12 years and is interested in global health system, governance and policy research.

Prof. Li has been appointed by the school to work as the Director of International Programs at School of Public Health and assists the Dean of the School to develop international collaborations. Moreover, Prof. Li was the co-founding managing editor of the Global Health Research and Policy and now he serves as the Editor in Chief. He has advocated affordable, equitable and sustained global health publishing.



**Keynote Session 1**

The Future of Global Health Systems: A Vision for 2030 and Beyond

Hao Li, M.B.A., Ph.D.

Department of Global Health, School of Public Health, Wuhan University, Wuhan, Hubei, China.

As the 2030 SDG deadline draws near, rising geopolitical conflicts, frequent extreme weather and lingering post-pandemic economic pressures have slowed progress on almost half the SDGs and eroded developing nations' early gains in health system strengthening. Persistent funding shortages, mounting sovereign debt and insufficient international aid etc. further hinder SDG delivery, which has significant impact on global health systems. In this lecture, we start from the discussion of a commentary entitled "Functions of the global health system in a new era" by Rasanathan et al. (2015) published in Nature Medicine, which analyses urgent reforms for the global health system amid sharp declines in international health development aid ahead of the 2030 SDG deadline. Three core debates are discussed: developing countries' pursuit of national health sovereignty against excessive external intervention, adaptive measures to tackle drastic funding cuts, and structural overhaul of global health governance and financing frameworks. Five core global health functions are mapped across four distinct settings: humanitarian zones, stable low- and lower-middle-income nations, upper-middle and high-income countries, plus cross-border global domains. The authors hold that external service substitution is justified only temporarily in crisis-stricken humanitarian regions rather than stable developing states, where local health ownership should prevail. While shrinking overseas aid reduces direct financial and technical support, global public goods including disease surveillance, health norms and shared research emerge as the priority global function. Critical cross-cutting obstacles remain unresolved: sustainable transition of vertical disease programmes targeting HIV, malaria and tuberculosis, constrained domestic healthcare financing worsened by sovereign debt burdens in low-income nations, and widening within-country health inequities aggravated by the pandemic. Based on above discussion, the lecture then explores how China has transformed its health systems through both domestic reforms and international cooperation to address the challenges and discuss how China has changed its role from a recipient to a donor country and contributing to health system strengthening at global level through bilateral and unilateral economic and health cooperation. In conclusion, the global health stands at a critical crossroads. Future global health systems for 2030 and beyond will put a premium on self-reliant domestic health system and highlight equity and justice for bilateral and unilateral health cooperation based on their needs. The long-standing scenario where recipient countries are dominantly led by donor nations will be substantially improved. Every country has accumulated their special experience in health system that can be shared and learned from each other.



**Professor Dr. Aznida Firzah Abdul Aziz****M.Med. (Fam Med), M.B.B.S., Ph.D. (Public Health)****CURRENT ADDRESS**

Department of Family Medicine, 14th Floor Preclinical Block,
Faculty of Medicine, Universiti Kebangsaan Malaysia,
Jalan Yaacob Latif, 56000 Kuala Lumpur, Malaysia.
E-mail: draznida@hctm.ukm.edu.my, draznida@gmail.com

Professor Dr. Aznida Firzah Abdul Aziz is a Family Medicine Specialist, health systems researcher, and health economics expert at Universiti Kebangsaan Malaysia (UKM). She is Malaysia's first Family Medicine Specialist to obtain a PhD in Public Health and the country's first Professor of Family Medicine and Health Economics. Since joining the Department of Family Medicine, Faculty of Medicine UKM in 2003, she has held several leadership positions, including Head of Department (2015–2017) and Head of the department's Research Unit since 2019. She is Malaysia's country convenor for the South East Asian Research Collaboration in Health (SEARCH) on Strategic Purchasing, since 2022, a collaborative effort hosted by the Saw Swee Hock School of Public Health Singapore and funded by the Gates' Foundation.

Her research focuses on strengthening primary healthcare through innovative service delivery models, health financing reforms, strategic purchasing, and integrated care for ageing populations. She is best known for developing the Integrated Care Pathway for Post-Stroke Patients (iCaPPS®), a model that bridges hospital and community-based care for home-bound stroke survivors. Her work spans health services evaluation, economic analyses, shared care models, dementia care, and the integration of oral and systemic health.

Professor Aznida actively collaborates with policymakers, healthcare providers, and international partners to translate research into practice and inform evidence-based health policy. A respected academic leader and sought-after speaker, she regularly contributes to national and international discussions on primary healthcare transformation, health financing, and sustainable health systems.





Plenary Session 1: Strengthening Primary Healthcare for Global Health Security

Primary Health Care Infrastructure for Health Security

Aznida Firzah Abdul Aziz, Ph.D., M.Med., M.B.B.S.

Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

The COVID-19 pandemic highlighted a critical global lesson: health security begins not in hospitals, but within strong and resilient primary health care (PHC) systems. As the frontline of prevention, early detection, risk communication, and continuity of care, PHC plays a pivotal role in protecting populations and maintaining societal stability during health emergencies. This plenary session examines the strategic importance of PHC infrastructure in advancing both national and global health security, with particular emphasis on the ASEAN region and the Malaysian experience. The session will explore how investments in PHC workforce capacity, digital health systems, community engagement, and integrated service delivery contribute to system resilience and economic sustainability. Comparative ASEAN case snapshots, including Malaysia, Thailand, Indonesia, and Singapore, will illustrate varying approaches to PHC organisation, financing, and preparedness. Malaysia's extensive public primary care network and rapid COVID-19 response demonstrate how strong PHC foundations can support equitable access and large-scale public health interventions. Framed from a health economics and policy perspective, this plenary emphasises that PHC should not be viewed merely as a healthcare service, but as a strategic investment in health security, economic resilience, and sustainable development.



**Professor Dr. Apichai Wattanapisit, M.D., Ph.D.****CURRENT ADDRESS**

Department of Family and Preventive Medicine,
Faculty of Medicine, Prince of Songkla University,
15 Karnchanavanich Road, Hat Yai, Songkhla 90110, Thailand.

E-mail: apichai.w@psu.ac.th

Phone: +6674-451-330

Professor Dr. Apichai Wattanapisit is a family medicine physician and academic at the Faculty of Medicine, Prince of Songkla University. He completed his medical training and family medicine residency in Thailand, and later obtained an Academic Fellowship in Family Medicine at the University of Toronto, Canada. He also undertook a Ph.D. from Keele University, United Kingdom.

Prof. Wattanapisit is currently a Professor of Family Medicine, with interests in primary care research, physical activity, and health promotion. His work focuses on integrating evidence into routine clinical practice and supporting the development of research in primary care settings. He has published extensively on physical activity counseling, primary care policy, and the integration of generative AI in medicine. His notable work includes global health system analyses in Global Transitions, systematic reviews on clinical counseling in Health Promotion Perspectives, and recent frameworks on AI in academic medicine.





Plenary Session 1: Strengthening Primary Healthcare for Global Health Security

Preparedness of Primary Health Care Systems for Equity

Apichai Wattanapisit, M.D., Ph.D.

Department of Family and Preventive Medicine, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.

Primary health care (PHC) is the foundation of healthcare systems and plays important roles across the spectrum of care, including health promotion, disease prevention, curative care, rehabilitation, and palliative care. The functions of PHC extend beyond individual patient care to population-based approaches. Health inequity remains a global challenge and is an important consideration in improving population health and strengthening equitable healthcare systems. PHC is a crucial mechanism for reducing health inequities. This plenary subtopic will emphasize the importance of preparedness of PHC systems in promoting equity and strengthening resilient health systems.



**Professor Dr. Yodi Mahendradhata, M.Sc., Ph.D., FRSPH**

CURRENT ADDRESS

Faculty of Medicine, Public Health and Nursing,
Universitas Gadjah Mada, Sekip Utara, Yogyakarta 55281, Indonesia.
E-mail: ymahendradhata@ugm.ac.id

Professor Dr. Yodi Mahendradhata is Dean and Professor in Health Policy and Management at the Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia. He leads the Southeast Asia Regional Training Center for Health Research, supported by the Special Programme for Research and Training in Tropical Diseases (TDR). Prof. Mahendradhata serves as Commissioner for the NUS–Lancet Pandemic Readiness, Implementation, Monitoring, and Evaluation Commission and the WHS–Lancet Commission for Academic Responsibility. He is a member of the Partnership Advisory Council of the Department of International Health, Johns Hopkins University Bloomberg School of Public Health and a member of the BMJ Asia Pacific Regional Advisory Board. He has recently been elected as Co–Chair of the CUGH Research Committee. His research interests are knowledge translation, implementation science, tropical medicine, global health, health policy and management.

Prof. Mahendradhata is a Fellow of the Alexander von Humboldt Foundation (Germany) and Fellow of the Royal Society of Public Health (UK). He has authored and co-authored numerous articles published in high impact journals. He also serves as Editor in Chief of the ASEAN Journal of Disaster Health Management and Editorial Board member for PLoS Global Public Health, Frontiers in Tropical Diseases and BMC Health Services Research.





Plenary Session 1: Strengthening Primary Healthcare for Global Health Security

Community, Vulnerabilities and Pandemic Readiness: Lessons from Indonesia

Yodi Mahendradhata, M.Sc., Ph.D., FRSPH, Riris Andono Ahmad, Likke Prawidya Putri, Dwi Rizki Ananda, Putri Ardhani

Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

The COVID-19 pandemic demonstrated that pandemic preparedness is shaped not only by health system capacity but also by the conditions that determine who is protected and who is left behind during crises. Drawing on lessons from Indonesia, a large and diverse middle-income country that implemented extensive whole-of-government COVID-19 responses, we argue that vulnerabilities and community agency should be central pillars of pandemic preparedness, prevention, and response. Indonesia's experience revealed that many vulnerable populations, including people living in street situations, informal workers, and socially marginalized groups, faced greater risks from income loss, food insecurity, and exclusion from social protection than from infection itself. At the same time, community groups, civil society organizations, informal solidarity networks, and local leaders played critical roles in supporting livelihoods, facilitating access to services, promoting public health measures, and reaching populations often beyond the effective reach of formal institutions. While Indonesia demonstrated strong multisectoral mobilization during the pandemic, many successful collaborations remained reactive, temporary, and heavily dependent on individual leadership. The experience highlights a broader lesson for preparedness: resilience depends not only on surveillance systems, laboratories, emergency operations centres, and medical countermeasures, but also on inclusive governance, adaptive social protection systems, trusted community networks, and sustained cross-sector collaboration. We argue that pandemic preparedness, prevention, and response should move beyond a predominantly health-sector focus toward a whole-of-society approach that systematically addresses vulnerabilities and institutionalizes community participation. Lessons from Indonesia suggest that preparedness should be assessed not only by the ability to detect and respond to outbreaks, but also by the capacity to protect vulnerable populations, sustain social cohesion, and mobilize community resilience. Integrating equity, social protection, and community engagement into preparedness frameworks will be essential for building more inclusive and resilient societies capable of facing future pandemics and other complex crises.





Dr. Viroj Tangcharoensathien, Ph.D.

CURRENT ADDRESS

21 Mooban Panya, Patanakan Road,
Suanluang, Bangkok 10250, Thailand.

E-mail: viroj@ihpp.thaigov.net

Dr. Viroj Tangcharoensathien is a medical doctor who dedicated 10 years to serving in rural hospitals in Thailand, earning the Best Rural Doctor Award in 1986. He completed his PhD at the London School of Hygiene and Tropical Medicine in 1990, where he was awarded the Woodruff Medal for an outstanding thesis. He co-founded the International Health Policy Program (IHPP) in 2001, a leading institute for health policy and systems research. His work has significantly shaped Thailand's health system and Universal Health Coverage (UHC) policies, contributing to over 369 international peer-reviewed publications.

Dr. Tangcharoensathien's contributions are globally recognized. He received the Edwin Chadwick Medal in 2011 from London School of Hygiene and Tropical Medicine for his efforts to improve health systems, the Sam Adjei Distinguished Public Service Award in 2018 from the Alliance for Health Policy and Systems Research, and the WHO Director-General's Health Leaders Award in 2019 for outstanding leadership in global health. He was the first Mahidol Jongjet Metheewit awardee for outstanding researcher in 2025. From 2022 to 2025, he served as Vice-Chair of the Bureau of the Intergovernmental Negotiating Body responsible for negotiating the WHO Pandemic Agreement. He currently continues his leadership role as Vice-Chair of the Intergovernmental Working Group tasked with drafting and defining negotiation for the Pathogen Access and Benefits Sharing (PABS) Annex of the Pandemic Agreement.





Keynote Session 2

Human Resources for Health: Addressing Global Shortages and Retention

Viroj Tangcharoensathien, M.D., Ph.D.

International Health Policy Program Foundation, Suanluang, Bangkok, Thailand.

Global shortages and retention challenges of health workforce are critical threats to functioning health delivery systems and hamper achievement of Universal Health Coverage (UHC) and health related SDGs. Adequate number of competent and committed health workforce forms the foundation of effective healthcare systems and ensures service provision. However, persistent workforce deficits due to inadequate training and education, deployment and enabling factors for retention, inequitable distribution, increasing internal and international migration, and high attrition rates continue to undermine healthcare access and quality, particularly in low- and middle-income countries. World Health Organization, projected to face a global shortage of approximately 11 million health workers by 2030, with the greatest burden concentrated in Sub-Saharan Africa and parts of South Asia. Contributing factors include limited training capacity, inadequate financing, poor working conditions, burnout, aging populations, and the effects of the COVID-19 pandemic. International migration from lower-income to higher-income countries further exacerbates staffing inequities and weakens already fragile health systems in low- and middle-income countries. This presentation examines the major drivers of global health workforce shortages, both "push and pull factors" in source and destination countries. Evidence-based retention strategies aimed at strengthening workforce sustainability will be synthesized as well as Thailand case study on national retention strategies and outcome. Solutions include long-term workforce demand planning, training and education, deployment, task shifting, effective retention including application of digital health technologies. Addressing global health workforce shortages requires coordinated investment, sustainable policy reforms, international collaborations and implementation of WHO Global Code of Practice on International Recruitment of Health Personnel 2010.



**Dr. Diah Ayu Puspandari, Apt., M.Kes., M.B.A., A.A.K.****CURRENT ADDRESS**

Director, Center for Health Financing Policy and Health Insurance
Management (KPMAC)

Department of Health Policy and Management,

Faculty of Medicine, Public Health and Nursing,

Universitas Gadjah Mada, Yogyakarta 55281, Indonesia.

E-mail: diah.ayu.puspandari@ugm.ac.id

Dr. Diah Ayu Puspandari is a senior lecturer and researcher in the Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada (UGM), Indonesia. She also serves as Director of the Center for Health Financing and Health Insurance Management at UGM. With an academic background in pharmacy, health policy, and business administration, her expertise encompasses health economics, health financing, health insurance, health technology assessment (HTA), and economic evaluation.

Dr. Puspandari has led and contributed to numerous national and international studies on health financing reform, universal health coverage, cost-effectiveness analysis, and pharmaceutical policy. Her work supports evidence-informed policymaking and sustainable health system development, particularly in strengthening equitable access to quality healthcare services and improving the efficiency of health financing mechanisms in Indonesia.





Plenary Session 2: The Role of Social Determinants in Health Equity and Policy Responses

Addressing Health Equity: Social Determinants, Financial Protection, and Strategic Health Financing

Diah Ayu Puspendari, Apt., M.Kes., M.B.A., A.A.K.

Department of Health Policy and Health Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

National Health Account 2024 evidence shows Indonesia has strengthened public financing and expanded insurance coverage, yet health equity remains fragile. The system is increasingly strained by (1) hospital centric and pharmaceutical intensive spending; (2) rising NCD and referral costs that amplify fiscal pressure; and (3) persistent OOP and access gaps among the poorest and in underserved regions. Social determinants (urbanization, regional fiscal capacity, primary care access) mediate both need and financial risk, so financing alone without strategic realignment will risk inefficiency and inequitable outcomes. Shifting resources toward primary care, prevention, and smarter procurement will reduce costly hospitalizations and pharmaceuticals, lowering household out of pocket spending and protecting the poorest households. Stronger gatekeeping, targeted subnational funding and timely NHA and Health Technology Assessment guided choices will improve equity of access, stabilize National Health Insurance (JKN) finances, and enhance regional outbreak responsiveness. Together these changes yield better population health outcomes per IDR fewer severe cases, preserved household livelihoods, and a more sustainable, resilient health system.





**Professor Dr. Tippawan Liabsuetrakul, M.D.,
Diploma of OB-GYN, Ph.D.**

CURRENT ADDRESS

Faculty of Medicine, Prince of Songkla University

Center for Global Health Research and Innovation (C-GHRI)

Hat Yai, Songkhla 90110, Thailand.

E-mail: tippawan.l@psu.ac.th, ltippawa@yahoo.com

https://medipe2.psu.ac.th/newwebsitemedipe/medipe2/pages/about/faculty_directory.php

Professor Dr. Tippawan Liabsuetrakul is a Professor at the Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Thailand. She trained as a physician and earned her Diploma in Thai Board of Obstetrics and Gynecology followed by her Ph.D. in Epidemiology. In addition, Prof. Liabsuetrakul undertook short-term training in International Community Health and Optimal allocation and Economic Evaluation for Health Resources and Health Technologies. She also has served as an international consultant on healthcare reform and reproductive health, evidence-based medicine, surveillance system on maternal and newborn health, proposal development, and data analysis in various countries, including Bhutan, Cambodia, China, Indonesia, Malaysia, Myanmar, Maldives, Mongolia, Nepal, Sri Lanka, and South Africa. She has been the recipient of the Outstanding Royal Golden Jubilee Alumni Award, the Exemplary Researcher Award of Prince of Songkla University, and the Exemplary Award for Academic Services of the Faculty of Medicine.

Currently, Prof. Liabsuetrakul is the Head of the Department of Epidemiology, the Director of WHO Collaborating Centre for Research and Training on Epidemiology, and Center for Global Health Research and Innovation (C-GHRI), Prince of Songkla University. She was listed among Elsevier's World's Top 2% Scientist List in 2021 & 2022. So far, she has more than 200 international publications on maternal health, adolescent health, communicable diseases, non-communicable diseases, quality of care, cost estimation, economic evaluation, as well as health system and services and global health.





Plenary Session 2: The Role of Social Determinants in Health Equity and Policy Responses

Health System Responses to Social Determinants of Health in Southeast Asia

Tippawan Liabsuetrakul, M.D., Diploma of OB-GYN, Ph.D.

Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.

Social determinants of health (SDOH), including demographic change, migration, socioeconomic conditions, and behavioral factors, are major drivers of health outcomes and health inequities. Although many health systems have expanded access to healthcare through universal health coverage (UHC), their responsiveness to the broader social and structural determinants of health remains a critical challenge. Understanding how health systems can identify and respond to these determinants is essential for achieving equitable and sustainable improvements in population health. This presentation draws upon evidence from population health, health systems, and policy research conducted in Southeast Asia. Findings demonstrate that demographic and migration pressures significantly influence health system performance and population health outcomes. Migration pressure was associated with stronger health system capacity and improved UHC performance, whereas demographic pressures posed challenges to sustaining equitable access to healthcare. Additional evidence highlights the important roles of age, sex, and social vulnerability in shaping disease risks and health outcomes across populations. The findings suggest that responsive health systems must move beyond treatment-oriented models toward proactive, prevention-focused approaches that address the root causes of health inequities. Key responses include strengthening primary healthcare, implementing targeted disease prevention strategies, enhancing community engagement, promoting health equity, and fostering multisectoral collaboration to address social and structural determinants. Continuous monitoring of sociodemographic changes, together with sustained investments in health system capacity and UHC, is essential for improving population health and reducing inequities. In conclusion, a responsive health system is therefore not only one that delivers healthcare services efficiently, but also one that recognizes, anticipates, and acts upon the social determinants that shape health and well-being.



**Professor Dr. Syed Mohamed Aljunid,****M.D., M.P.H., Ph.D., FAMM, FASc.****CURRENT ADDRESS**

Department of Public Health and Community Medicine,
School of Medicine, IMU University, Bukit Jalil Campus,
Kuala Lumpur, Malaysia.

E-mail: syedmohamed@imu.edu.my, saljunid@gmail.com

Professor Emeritus Dato' Dr. Syed Mohamed Aljunid is a distinguished Public Health Medicine Consultant and Professor of Health Economics, Policy and Management in Department of Public Health Medicine in Faculty of Medicine UKM. He also serves as a Professor of Community Medicine in the Department of Public Health and Community Medicine, IMU University. He has a rich academic background including a Ph.D. in Health Economics and Financing from the London School of Hygiene and Tropical Medicine, an MD from the National University of Malaysia, and a Master of Science in Public Health from the National University of Singapore. He was the first Malaysian to obtain Ph.D. in Health Economics and Financing from the London School of Hygiene and Tropical Medicine in 1995. With over 30 years of expertise in research and development in health policy, economics and financing, he has held prominent positions such as Founding Head of the International Centre for Casemix and Clinical Coding at the Faculty of Medicine UKM, Senior Research Fellow at the United Nations University International Institute for Global Health and Founding Chair of Health Policy and Management, Faculty of Public Health, Kuwait University. Notably, he was honoured with the title of Emeritus Professor in Public Health by the Faculty of Medicine at the UKM in November 2022.

Prof. Aljunid's international impact is evident through his consultancy work for prestigious organizations including the WHO, World Bank, AUSAID, GIZ and Asian Development Bank, where he has contributed to the development and implementation of casemix systems/DRGs for provider payment methods in National Health Financing programs across 20 countries globally. Moreover, his involvement as Co-chair of the Morbidity Technical Advisory Group for the ICD-11 Revision underscores his significant contributions to global health classification standards. Currently he is appointed by the Minister of Health Malaysia as a member of National Committee for Implementation of DRGs for Provider Payment and the Technical Advisory Group for DRGs in MOH. He was the developer of a number of DRG groupers including MY-DRG, MY-CBG, UNU-CBG and INA-CBG. With a prolific publication record exceeding 300 journal articles, books, book chapters, and scientific reports, along with over 350 presentations at local and international conferences, and more than 150,000 citations with h-index of 88, Dr. Aljunid continues to be a leading figure in advancing the field of public health and health economics on a global scale. He has conducted more than 55 research projects, supervised 50 Ph.D. candidates and more than 250 Master students. He is recognised as one of the top 2% most cited scientists by Stanford University in 2024 and 2025. His recent book is "How much is the Cost of Coding Errors? A Study on Factors Influencing Quality of Clinical Coding in Implementation of Casemix System in Hospital Services"





Plenary Session 2: The Role of Social Determinants in Health Equity and Policy Responses

From Health to Social Policy: Building Equity Across Sectors Through Social Determinants of Health

Syed Mohamed Aljunid, M.D., M.P.H., Ph.D., FAMM, FASc.

Department of Public Health and Community Medicine, School of Medicine, IMU University, Kuala Lumpur, Malaysia.

Achieving true health equity requires looking beyond the clinical setting to address the foundational conditions in which people are born, grow, live, work, and age—collectively known as the Social Determinants of Health (SDOH). Despite significant advancements in medical technology, pervasive health disparities persist, largely driven by systemic inequalities in housing, education, income, and environmental quality. It is crucial to explore the critical transition from health to social policy since sustainable health equity cannot be achieved through healthcare systems alone; it demands a paradigm shift toward comprehensive, multi-sectoral social policy integration. This presentation examines the limitations of traditional, siloed health policies that often treat downstream medical symptoms rather than underlying socio-economic root causes. By adopting a "Health in All Policies" (HiAP) framework, governments and institutions can effectively bridge the gap between public health and other critical sectors. We highlight the mechanisms of cross-sector collaboration, demonstrating how affordable housing initiatives, equitable education funding, and inclusive economic policies directly translate to improved population health metrics. Furthermore, the discussion analyzes the structural and political barriers to implementing multi-sectoral policies, including misaligned funding streams, fragmented data systems, commercialization of health services, and competing legislative agendas. To overcome these challenges, it is proposed that actionable policy responses that foster interagency cooperation, utilize integrated data to track SDOH outcomes, and incentivize community-led, place-based interventions. In conclusion, ultimately, this analysis emphasizes that health is fundamentally a social construct. By recognizing social policy as health policy, stakeholders can dismantle systemic barriers and mitigate the disproportionate burden of disease on vulnerable populations. Building equity across sectors is not just a public health imperative, but a societal necessity to ensure that optimal health is an accessible right for all, rather than a privilege for the few.





**Dr. Supasit Pannarunothai, M.D., DTM&H.,
M.Sc. (Public Health), Ph.D.**

CURRENT ADDRESS

Centre for Health Equity Monitoring Foundation,
Mueang, Phitsanulok 65000, Thailand.

E-mail: supasitchem@gmail.com

Professor Dr. Supasit Pannarunothai is Chair of the Centre for Health Equity Monitoring Foundation (CHEMF), an independent organization undertaking research on health systems and policy. After earning Doctor of Medicine degree from the Faculty of Medicine, Ramathibodi Hospital, Mahidol University, his early 10-years experiences were a surgeon and a community physician at a regional Buddhachinaraj Hospital. Postgraduate educations of Diploma in Tropical Medicine (Faculty of Tropical Medicine, Mahidol University), Master of Science in Public Health (National University of Singapore) and Doctor of Philosophy in Health Planning and Financing (London School of Hygiene and Tropical Medicine) then advanced his works to the Ministry of Public Health (as a health planner and researcher) and Faculty of Medicine, Naresuan University (as professor in community medicine and Dean) respectively.

Prof. Pannarunothai maintains his active research contributions through CHEMF focusing on health care financing, casemix systems, universal health coverage and welfare systems for underprivileged children after retirement. He has served as the editor of the Journal of Health Systems Research for 10 years, and the member of Khon Kaen University Council since 2025.





Plenary Session 3: Health Policy Implementation: Success Stories and Lessons Learned

Implementing Primary Care Networks for Better Access: Lessons from Thailand

Supasit Pannarunothai, M.D., DTM&H., M.Sc. (Public Health), Ph.D.

Centre for Health Equity Monitoring Foundation, Mueang, Phitsanulok, Thailand.

The major primary care system (structural network with financing flows) reforms in Thailand have occurred over the past three decades. The 2002 National Health Security Act set a clear structure of primary care network (PCN) using the term 'contracting unit for primary care' (CUP) with extended 'primary care units' (PCUs) and funding by prepayment capitation. The set up of National Health Security Office (NHSO) with capitation budget from government has provided leverages to innovate PCNs in many forms (warm-wish private clinics as PCUs, quality pharmacies, physical therapists, nurses home visitors, etc., telemedicine, telepharmacy, up to outpatient anywhere policy) to increase better access and deliver advanced outputs, outcomes and impacts. PCNs initiatives of other organizations (Primary Care Office of Ministry of Public Health as endorsed by the 2019 Primary Care System Act, the Royal College of Family Physicians, etc.) have proven limited effective coverage. Healthcare decentralization policy implementations to local governments warrant uniformed PCN monitoring and evaluation for better access and health equity. In conclusion, asking primary care networking questions raises fundamental uniformed versus diversified networking arrangements for health delivery, financing, monitoring and evaluation issues to fit with health systems ecosystems in challenging artificial intelligence epoch.





**Professor Dr. Mohd Rizal Abdul Manaf,
M.D., M.P.H., Ph.D.**

CURRENT ADDRESS

Department of Public Health Medicine, Faculty of Medicine,
Universiti Kebangsaan Malaysia, Jalan Yaacob Latif,
Bandar Tun Razak, Cheras, 56000 Kuala Lumpur, Malaysia.
E-mail: mrizal@hctm.ukm.edu.my

Professor Dr. Mohd Rizal Abdul Manaf is a Professor and Public Health Consultant in the Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia (UKM). He graduated with a degree of Medical Doctor from UKM in 1994, a Master of Community Health (Hospital and Health Management) from UKM in 2001 and subsequently obtained a Doctor of Philosophy in Public Health in 2009. He was appointed as one of the committee members in reviewing health care reform and the 1Care Technical Committee of the Ministry of Health Malaysia at the national level. He was also involved in the Fairness of Financial Contribution committee of the Ministry of Health Malaysia. His main areas of research are health economics and quality of life. He is involved in a number of studies on public health in Malaysia. These include understanding risk factors, prevalence, and elements of trajectories among adolescents involved in poly-drugs and ATS abuse at selected hot spots in Malaysia, a diagnostic study on the development of integrated and sustainable long-term care for the elderly in Malaysia, a profile of non-communicable disease risk factors among Universiti Kebangsaan Malaysia staff, and the effectiveness of a mobile application on mental health.

Prof. Manaf is a member of the Public Health Specialist Association of Malaysia. He is an editor of the International Public Health Research Journal and also served as a reviewer for PLOS One Journal, Journal of Complementary and Alternative Medicine, Malaysian Journal of Medicine and Health Sciences, Medical Journal of Malaysia, and Community Health Journal. He had published numerous articles in local as well as international peer-reviewed journals.





Plenary Session 3: Health Policy Implementation: Success Stories and Lessons Learned

Digital Transformation in Public Primary Care: Lessons from Malaysia

Mohd Rizal Abdul Manaf, M.D., M.P.H., Ph.D.

Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Digital transformation in healthcare has evolved from a secondary policy objective to a core pillar of national resilience. This abstract examines the trajectory of Malaysia's public primary care sector as it navigates the transition from fragmented legacy systems to a unified digital health ecosystem. Historically anchored by the 1997 Telemedicine Act, Malaysia's digital journey reached a critical inflection point during the COVID-19 pandemic. The rapid scaling of the MySejahtera application – moving from a contact-tracing tool to a comprehensive personal health record – serves as a global case study in leveraging high-adoption "super-apps" to bridge the gap between citizens and public health services. The presentation details the structural shifts within the Klinik Kesihatan (public health clinics) network, focusing on the implementation of the Teleprimary Care – Oral Health Clinical Information System (TPC-OHCIS) and the strategic vision for a cloud-native Lifetime Health Record (LHR). Central to this discussion is the "People-First" approach, which posits that successful transformation is 10% technology and 90% change management. We explore the dual challenges of the "last mile" connectivity in rural Borneo and the complexities of ensuring data interoperability across a dual-tier healthcare system. Key lessons extracted from the Malaysian experience include the importance of embedding digital health within national legislative frameworks (such as the Health White Paper 2023), the efficacy of incremental scaling, and the necessity of public-private integration to alleviate public sector congestion. Attendees will gain insights into how a middle-income nation balances technological ambition with fiscal prudence and data sovereignty. Ultimately, the Malaysian model demonstrates that digital transformation is not merely a technical upgrade, but a socio-technical evolution aimed at achieving health equity through data-driven primary care.



**Lutfan Lazuardi, M.D., M.P.H., Ph.D.****CURRENT ADDRESS**

Head, Department of Health Policy and Management,
Faculty of Medicine, Public Health and Nursing,
Universitas Gadjah Mada, Yogyakarta 55281, Indonesia.

E-mail: lutfan.lazuardi@ugm.ac.id, lutfan.lazuardi@gmail.com

Dr. Lutfan Lazuardi is Head of the Department of Health Policy and Management at the Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada (UGM), Indonesia. His expertise spans health policy, health information systems, digital health transformation, and sustainable healthcare. He leads research and innovation initiatives on interoperable health information systems, digital twins for health system planning, climate-resilient healthcare, and the application of artificial intelligence to strengthen health systems. His work focuses on leveraging digital technologies to advance integrated, patient-centered, sustainable, and future-ready healthcare services.

Dr. Lazuardi has extensive experience in health systems research, health informatics, and capacity building, working closely with government agencies, academic institutions, and international organizations. He has contributed to numerous national and regional projects aimed at improving health data governance, digital innovation, and evidence-informed policymaking. Through his research and leadership, he continues to promote resilient, equitable, and technology-enabled health systems that address emerging public health challenges in Indonesia and beyond.





Plenary Session 3: Health Policy Implementation: Success Stories and Lessons Learned

Interoperable Health Information Systems to Support Continuum of Care in Primary Health Centers: Lessons from Indonesia

Lutfan Lazuardi, M.D., M.P.H., Ph.D.

Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Continuity of care is a fundamental principle of primary healthcare and a critical component of Universal Health Coverage (UHC). However, fragmented health information systems often hinder the seamless exchange of patient information across providers and levels of care. Indonesia has embarked on a national digital health transformation agenda to strengthen integrated healthcare delivery through interoperable health information systems. This transformation represents a progression from facility-based Electronic Medical Records (EMRs) to interoperable Electronic Health Records (EHRs), patient-centered Personal Health Records (PHRs), and ultimately Electronic Longitudinal Health Records (ELHRs) that capture an individual's health journey across the life course. Supported by national interoperability standards, including Fast Healthcare Interoperability Resources (FHIR) and the national health data exchange platform, these initiatives aim to improve care coordination, strengthen referral systems, and support evidence-informed decision-making. This presentation highlights Indonesia's experience in implementing interoperable health information systems to support continuity of care in primary health centers and discusses key policy lessons learned. In conclusion, Indonesia's digital health transformation demonstrates how interoperable health information systems can strengthen continuity of care through the evolution from EMRs to EHRs, PHRs, and ELHRs. Continued investments in interoperability, governance, digital infrastructure, and workforce capacity are essential to achieve integrated, patient-centered, and sustainable healthcare services.



Abstract of Oral and Poster Presentation



2026

The 20th Postgraduate Forum on Health Systems and Policies
"Strengthening Health Systems for Global Health Security and Equity"





Abstracts of Oral Presentations

The 20th Postgraduate Forum on Health Systems and Policies: "Strengthening Health Systems for Global Health Security and Equity"

Abstracts of Oral Presentations		
R1-OP1	Development and Validation of MindCare UKM: A User-Centred Mental Health Support Mobile Application for Outpatients in Malaysia <u>Adieza Farahain binti Ahmadi</u>¹, Mohd Rizal bin Haji Abdul Manaf¹, Faiz bin Daud¹, Maziah binti Ahmad Marzuki² ¹Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Department of Nursing, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.	58
R1-OP2	Strengthening Digital Nutrition Information Systems for Stunting Prevention at the Primary Healthcare in Indonesia <u>Monita Destiwi</u> Center for Health Policy and Management Universitas Gadjah Mada, Yogyakarta, Indonesia.	59
R1-OP3	Feasibility and Effectiveness of a Multi-Component Self-Care Module in Improving Stroke Knowledge, Health State and Physical Performance among Post-Transient Ischemic Attack Individuals in the Klang Valley, Malaysia <u>Ho Wei Sheng</u>¹, Nor Azlin Mohd Nordin¹, Aznida Firzah Abdul Aziz², Nor Haty Hassan³ ¹Centre for Rehabilitation & Special Needs Studies, Faculty of Health Science, The National University of Malaysia, Kuala Lumpur, Malaysia. ²Department of Family Medicine, Faculty of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia. ³Department of Nursing, Faculty of Medicine, Chancellor Tuanku Ja'afar Medical Education Complex, Kuala Lumpur, Malaysia.	60
R1-OP4	AI-Based Communication to Support Premium Compliance in Health Insurance <u>Sensa Gudya Sauma Syahra</u>¹, Annisa Ristya Rahmanti^{3,4}, Anis Fuad^{1,5}, Bagas Suryo Bintoro², Putu Gede Purwa Darmawan⁴, Ariefan Dipokusumo Wibowo⁶, Dedy Revelino Siregar⁷, Wan Aisyah Baros⁷, Ulil Albab⁷, Candra Nurcahyo⁷, Arif Budiman⁷, Lukman Heryawan⁶, Firdaus Hafidz⁴, Annisa Maulida Ningtyas⁶, Guntur Budi Herwanto⁶, Hendri Kurniawan Prakosa¹, Guardian Yoki Sanjaya^{1,4}, Annisa Novanda Maharani Utami², Sarah Dewi⁷ ¹Center for Health Policy and Management, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Center of Health Behavior and Promotion, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ³Faculty of Science and Technology, Middlesex University, London, United Kingdom. ⁴Department of Health Policy and Management, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ⁵Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ⁶Department of Computer Science and Electronics, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia. ⁷BPJS Kesehatan (Social Security Agency on Health), Indonesia.	61





Abstracts of Oral Presentations

R1-OP5	Predicting Prolonged Hospital Length of Stay in Stroke Patients Using Indonesian National Health Insurance Claims Data: A Machine Learning Classification Study <u>Ika Agustin Atika Putri</u>, Annisa Ristya Rahmanti Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	63
R1-OP6	Digital Mood Tracking for Early Detection of Behavioral Disorders among Adolescents in Indonesia <u>Rahmi Amelia Lubis</u>¹, Zulfendri², Vita Camellia³ ¹Department of Nutrition, Faculty of Public Health, Universitas Islam Negeri Sumatera Utara, Medan, Indonesia. ²Department of Health Administration and Policy, Faculty of Public Health, Universitas Sumatera Utara, Medan, Indonesia. ³Department of Psychiatry, Faculty of Medicine, Universitas Sumatera Utara, Medan, Indonesia.	64
R1-OP7	Evaluating Multiple Large Language Models for SNOMED Clinical Terms Coding of Indonesian Clinical Notes: Introducing the Full Tuple Agreement Framework <u>Putu Gede Purwa Darmawan</u>, Annisa Ristya Rahmanti University of Gadjah Mada, Yogyakarta, Indonesia.	65
R1-OP8	Development of Usability Guidelines for Mobile Health Application Supporting Clinical Coding and Grouping in Casemix Systems <u>Shariffah Syazwana Aljunid</u>¹, Nurhizam Safie Bin Mohd Satar², Rozilawati binti Razali² ¹Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Center for Software Technology and Management (SOFTAM), Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.	66
R1-OP9	Evaluating the Impact of Prompting Strategies on Stroke Rehabilitation Care Plans Generated by Large Language Models <u>Annisa Ristya Rahmanti</u>¹, Hanifah Wulandari¹, Lutfan Lazuardi¹, Farida Niken Astari Nugroho Hati², Huan Nguyen³ ¹Department of Health Policy and Management, FoMPHN, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Universitas Gadjah Mada Academic Hospital, Yogyakarta, Indonesia. ³Faculty of Science and Technology, Middlesex University, London, United Kingdom.	67
R1-OP10	The COMMBETT (Communicate Better! A Training Module for Healthcare Professionals): A Mixed-Methods Feasibility Study on Communication Skills Training for Nurses Managing Acquired Communication Disorders <u>Khairul Afiq</u>¹, Fatimah Hani Hassan², Nor Azlin Mohd Nordin², Sherin Sokmum³, Nor Haty Hassan⁴ ¹Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Faculty of Health Sciences, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ³Hospital Canselor Tuanku Muhriz, Kuala Lumpur, Malaysia. ⁴Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.	68





Abstracts of Oral Presentations

R1-OP11	Preparing the Health Workforce for Learning Health Systems: A Mixed-Methods Study on Digital Competency Alignment <u>Hanifah Wulandari</u>¹, Guardian Yoki Sanjaya¹, Annisa Ristya Rahmanti¹, Muhammad Rizky Mangkuwidjaya¹, Fadhilah Khairuna Larasati¹ ¹Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	69
R1-OP12	Utilisation of the BalitaPRIMA Mobile Health in the Integrated Child Health Screening Services at a Rural Community Health Centre in Indonesia <u>Dzikri Fadhilah</u>¹, Rina Nuryati², Renny Lo³, Lutfan Lazuardi⁴, Digna Niken Purwaningrum⁵, Adi Utarini⁴, Yodi Mahendradhata⁴ ¹Graduate Program in Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia. ²Kulon Progo District Health Office, Yogyakarta, Indonesia. ³Puskesmas Sentolo I, Kulon Progo District, Yogyakarta, Indonesia. ⁴Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia. ⁵Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia.	70
R2-OP1	Through Mintzberg's Lens: Policy-Structure Misalignment in Indonesia's School-Based Feeding Program (MBG) in a Decentralized Governance System <u>Muhammad Hafiz Haunan</u> Center for Health Policy and Management (KMPK), Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	71
R2-OP2	Bridging the Gap in Mental Healthcare: Primary Care Doctors' Attitudes Toward Patients with Mental Illness in Public Primary Care Clinics in Kuching, Sarawak <u>Syed Mohd. Taufiq Wan Obeng</u>, Aznida Firzah Abdul Aziz, Mohd Fairuz Ali Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.	72
R2-OP3	Immunization Program Sustainability After GAVI Graduation: A Sub-National Risk Assessment Across Nine Provinces in Indonesia <u>Likke Prawidya Putri</u>¹, Izti Hadun Nisa¹, Lusha Ayu Astari¹, Hanifah Wulandari¹, Lili Nur Indah Sari², Ichlasul Amalia¹, Yanti Leosari^{1,3}, Lutfan Lazuardi¹, Hashta Meyta⁴ ¹Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Clinton Health Access Initiative, Kota Jakarta Selatan, Daerah Khusus Ibukota Jakarta, Indonesia. ³University of Birmingham, Edgbaston, Birmingham, West Midlands, B15 2TT, United Kingdom. ⁴Indonesian Ministry of Health, Jakarta Selatan, Indonesia.	73





Abstracts of Oral Presentations

R2-OP4	Health System Interventions to Reduce Treatment Delays in Acute Ischemic Stroke: An Umbrella Review of Meta-Analyses <u>Marcellino Maatita</u>¹, Rizaldy Taslim Pinzon², Luqlun Salisa Sugiarto¹, Bayu Yudha Pratama¹, Abraham Tory Eleas³, Theodorus Khotler Susanto³, Annisa Ristya Rahmanti¹ ¹Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Department of Neurology, Faculty of Medicine, Duta Wacana Christian University, Yogyakarta, Indonesia. ³Department of Medicine, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	74
R2-OP5	Strengthening Mental Health Systems through Multisectoral Collaboration in Indonesia <u>Zulfendri Zulfendri</u>¹, Vita Camellia², Rahmi Amelia Lubis³ ¹Department of Health Administration and Policy, Faculty of Public Health, Universitas Sumatera Utara, Medan, Indonesia. ²Department of Psychiatry, Faculty of Medicine, Universitas Sumatera Utara, Medan, Indonesia. ³Department of Nutrition, Faculty of Public Health, Universitas Islam Negeri Sumatera Utara, Medan, Indonesia.	75
R2-OP6	Spatial Analysis of Tuberculosis Incidence, Mortality, and Treatment Success in East Java, Indonesia, 2022 – 2024 <u>Siti Shofiya Novita Sari</u> Faculty of Public Health, Universitas Airlangga, Surabaya, Indonesia.	76
R2-OP7	Sustainability Capacity of Private Primary Care Engagement in District-Based Public-Private Mix for Tuberculosis Control: A Case Study from Indonesia <u>Dhea Keyle Fortunandha</u>¹, Yodi Mahendradhata², Antonia Morita Iswari Saktiawati³ ¹Center for Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ³Center for Tropical Medicine, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	77
R2-OP8	Mapping Interventions to Improve Patient Safety Culture among Nurses in Hospital Settings: A Scoping Review Based on the WHO Health System Building Blocks Framework <u>Nor Hanizah Abdul Gapal</u> Universiti Putra Malaysia, Selangor Darul Ehsan, Malaysia.	78
R2-OP9	Variation in Kratom Use by Gender Identity among Secondary School Students in Thailand <u>Manh Cuong Vu</u>, Wit Wichaidit Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Thailand.	79





Abstracts of Oral Presentations

R2-OP10	Perceived Treatment Preferences for Syphilis and Associated Factors among Adult Residents in a Southern Province of Sri Lanka: A Cross-Sectional Study <u>Sewwandi Kodituwakku</u>, Tippawan Liabsuetrakul Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.	80
R3-OP1	Implementation Research on the Cardiovascular Network Fostering Programme: A Qualitative Case Study of Governance and Health System Strengthening in Indonesia <u>Nida Fauziah Sudrajat</u> Department of Health Policy and Management Faculty of Medicine, Public Health, and Nursing University of Gadjah Mada, Yogyakarta, Indonesia.	81
R3-OP2	Why Is Oral Health Still Missing from Diabetes Care? A Scoping Review of Integration Models and Implementation Challenges <u>Nor Najiah Shaari</u>, Tuti Ningseh binti Mohd Dom, Shahida binti Mohd Said Faculty of Dentistry, University Kebangsaan Malaysia, Kuala Lumpur, Malaysia.	82
R3-OP3	Clinical Hypnosis as an Adjunct Intervention in Hospital-Based Geriatric Care: A Scoping Review <u>Siti Makhmudah</u>, Kwartarini Wahyu Yuniarti Doctoral Program in Psychology, Faculty of Psychology, Universitas Gadjah Mada, Yogyakarta, Indonesia.	83
R3-OP4	Cost Difference Analysis of Hepatitis C Virus Treatment Between Hospital-Based Care and Rapid Start Direct-Acting Antiviral Therapy in Malaysia <u>Amirah Azzeri</u>, Mohd Hafiz Jaafar Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia (USIM), Nilai, Negeri Sembilan, Malaysia.	84
R3-OP5	Reaching the Unreached: Exploring Needs and Community Engagement in Type 2 Diabetes Prevention within Primary Care Integration <u>Fransiska Pangesti A</u>, Ichlasul Amalia, Likke Prawidya Putri ¹Department of Health Policy and Management, Universitas Gadjah Mada, Yogyakarta, Indonesia.	85
R3-OP6	Effects of Political Instability and Financial Indicators on Vaccine Dropout of Diphtheria, Pertussis and Tetanus (Dpt) and Measles-Containing Vaccine (Mcv) Coverage During 2000 – 2025 in Bangladesh <u>Kazi Salahin</u>¹, Tippawan Liabsuetrakul² ¹PSU Center for Global Health and Innovation (C-GHRI) and Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand. ²Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand.	86





Abstracts of Oral Presentations

R3-OP7	Hidden Inequities in the Experience of Caring for Low Birth-Weight Infants in Indonesia <u>Abigael Ati</u>, Mentari Widyastuti, Sandra O Frans, Ester Febe, Monita Destiwi, Shita Listya Dewi ¹Center for Health Policy and Management, Universitas Gadjah Mada, Yogyakarta, Indonesia.	87
R3-OP8	Exploring Barriers to Maternal-Health Seeking Behaviour Amongst Rohingya Refugee Women in Urban Malaysia <u>Walaa Abushama</u>¹, Syed Mohamed Aljunid² ¹IMU University, Kuala Lumpur, Malaysia ²Department of Public Health and Community Medicine, School of Medicine, IMU University, Kuala Lumpur, Malaysia.	88
R3-OP9	Health Equity in Home-Based Palliative Care Under Universal Health Coverage Following Decentralization of Sub-District Health Promotion Hospitals: A Cross-Regional Study in Thailand <u>Pantitra Singkheaw</u>¹, Attakorn Raksasataya², Sila Tonboot³, Wiroj Wannpira⁴, Supasit Pannarunothai³, Varitsara Tangtrakul⁴, Rawiwan Singpong⁵, Sirilakkhana Phrawong⁶, Watcharapong Rintra⁷, Charoonrat Srisespimp⁷ ¹Department of Family Medicine, Faculty of Medicine, Naresuan University, Phitsanulok, Thailand. ²Karunruk Palliative Care Center, Srinagarind Hospital, Faculty of Medicine, Khon Kaen University, Thailand. ³Health Equity Monitoring and Research Foundation, Thailand. ⁴Social Medicine Department, Buddhachinaraj Phitsanulok Hospital, Thailand. ⁵Noen Maprang Hospital, Thailand. ⁶Social Medicine Department, Khon Kaen Hospital, Thailand. ⁷Department of Palliative Care, Khon Kaen Hospital, Thailand.	89
R3-OP10	Factors of Cost of Illness among Caregiver of Individual with Type 2 Diabetes Mellitus in Public Primary Healthcare in Malaysia <u>Siti Bazlina Mohd Rawi</u>¹, Roszita Ibrahim¹, Norfazilah Ahmad¹, Cassidy Devarajoo² ¹Department of Community Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Raub District Health Office, Pahang, Malaysia.	91
R3-OP11	Bridging Policy and Practice: Phased Implementation of the Stroke Rehabilitation Continuum Program (PKRS) in a Malaysian Healthcare Facility <u>Ahmad Hazri Bin Ilyas</u>, Saodah Binti Hashim ¹Ministry of Health, Kuala Lumpur, Malaysia.	92
R3-OP12	Is Universal Health Coverage Truly Protective? Catastrophic Health Expenditure among BPJS Households in Indonesia <u>Muhammad Zaidan Zianurrahman Ghozali</u>, Naswa Salsabila Dhenita Putri University of Gadjah Mada, Yogyakarta, Indonesia.	93





Abstracts of Oral Presentations

R4-OP1	Resource Optimisation for Zoonotic Malaria Control: Evidence from a Comparative Cost-Effectiveness Study in Sabah, Malaysia <u>Misra Helma Firdaus</u>¹, Mohd Rizal Abdul Manaf², Sharifa Ezat Wan Puteh², Zulkarnain Md Idris³, Tam Jenn Zhueng⁴, Mohd Hafizi Abdul Hamid⁴, Zailiza Suli⁵, Marsudi Abdul Manap⁶ ¹Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, 56000 Cheras, Kuala Lumpur, Malaysia. ³Department of Parasitology and Entomology, Faculty of Medicine, Universiti Kebangsaan Malaysia, 56000 Cheras, Kuala Lumpur, Malaysia. ⁴Vector-Borne Disease Division, Disease Control Division, Ministry of Health Malaysia, 62590 Putrajaya, Malaysia. ⁵Vector-Borne Disease Division, Disease Control Division, Ministry of Health Malaysia, 62590 Putrajaya, Malaysia. ⁶Vector-Borne Disease Division, Sabah State Health Department, 88900 Kota Kinabalu, Sabah, Malaysia.	94
R4-OP2	Health Insurance, Catastrophic Expenditure, and Poverty Deepening: Causal Evidence from Agricultural Households in Indonesia <u>Fitra Anas</u>, Heni Wahyuni Department of Economics, Faculty of Economics and Business, Universitas Gadjah Mada, D.I. Yogyakarta, Indonesia.	95
R4-OP3	Economic Evidence for Diabetes Remission Through Dietary Interventions: A Scoping Review with Implications for Low- and Middle-Income Health Systems <u>Zubalqiah Zulkifli</u>, Syed Mohamed Aljunid Syed Junid IMU University, Kuala Lumpur, Malaysia.	96
R4-OP4	Engaging General Dental Practitioners in Strategic Purchasing for Publicly Funded Oral Care in Malaysia: A Qualitative Study <u>Muhammad Khairil Affandy Bin Rosli</u>¹, Tuti Ningseh Mohd Dom², Haslina Binti Rani² ¹Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Faculty of Dentistry, University Kebangsaan Malaysia, Kuala Lumpur, Malaysia.	97
R4-OP5	Willingness to Pay for Dengue Vaccine by Income Quintile of Adults in the Metropolitan Area of Ho Chi Minh City, Vietnam: An Imputation of Income Missing Data <u>Giang Le Ba</u>, Kasemsak Jandee, Tippawan Liabsuetrakul Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.	98
R4-OP6	The Economic Value of Employee Assistance Programs: A Scoping Review and Implications for Malaysia and Low- and Middle-Income Countries <u>Gar Loon Diong</u>¹, Syed Mohamed Aljunid² ¹School of Business and Technology, IMU University, Kuala Lumpur, Malaysia ²Department of Public Health and Community Medicine, School of Medicine, IMU University, Kuala Lumpur, Malaysia.	99





Abstracts of Oral Presentations

R4-OP7	Incident Reporting Practice, Factors, Challenges and Barriers among Public Primary Healthcare Workers in Perak: A Mixed-Methods Study <u>Hanis Abdul Rani</u> , Aniza binti Ismail Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia.	100
R4-OP8	Temporal Trends and Changes from Vaccination Policy on Service Utilization and Well-Glycemic Control of Diabetic Patients in Primary Care Settings, Songkhla, Thailand: Lesson Learned from COVID-19 <u>Supakorn Suntudkan</u> ¹ , Tagoon Prappre ² , Jiraporn Soramad ³ , Tippawan Liabsuetrakul ² ¹ Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand. ² Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand. ³ National Health Security Office Region 12 Hat Yai, Songkhla, Thailand.	101
R4-OP9	Cultivating Adaptive Resilience through Hospital Service Delivery Transformation in Response to Shifting Health System Trends: A Benchmarking Study of Wellness Tourism in Indonesia and Thailand <u>Bestian Ovilia Andini</u> , Laksono Trisnantoro, Haryo Bismantara Center for Health Policy and Management, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Indonesia.	102
R4-OP10	Impact of Preventive Tuberculosis Screening Policies on Case Detection and Treatment Outcomes: Evidence from Indonesia National Surveillance System, 2021-2024 <u>Agus Fitriangga</u> , Alex Alex, Eka Ardiani Putri Universitas Tanjungpura, Kota Pontianak, Kalimantan Barat, Indonesia.	103
R4-OP11	Associations of Awareness, Knowledge and Attitudes with the Intention to Practice Rabies Prevention among Adults Living Along the Bhutan-India Border <u>Tshewang Dorji</u> , Tippawan Liabsuetrakul Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.	104





Abstracts of Poster Presentations

The 20th Postgraduate Forum on Health Systems and Policies: "Strengthening Health Systems for Global Health Security and Equity"

Abstracts of Poster Presentations		
R1-PP1	Living Arrangement as a Barrier to Oral Healthcare among Older Population: A Scoping Review <u>Nurul Adila Mat Dait</u>, Rosli Tanti Irawati Faculty of Dentistry, National University of Malaysia, Kuala Lumpur, Malaysia.	105
R1-PP2	Digital Twin Applications in Hospitals: A Scoping Review of Clinical Prevention Levels and Technology Maturity <u>Muhammad Shabri Putra Wibowo</u>¹, Annisa Ristya Rahmanti¹, Haryo Bismantara¹, Huan Nguyen² ¹Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²London Digital Twin Research Center, Middlesex University, London, United Kingdom.	106
R1-PP3	Priorities of Care in Telehealth from Older Adults' Perspective: A Scoping Review on Roles, Challenges and Limitations <u>Mya Win Hnit</u>¹, Aznida Firzah Abdul Aziz¹, Chai-Eng Tan¹, Mohd Fairuz Bin Ali¹, Zuraidah Chea Man² ¹Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Public Health Unit, Hospital Canselor Tuanku Muhriz and Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.	107
R1-PP4	Maternal Nutritional Risk and Health Information Equity among First-Time Mothers: Evidence from a Digital Health Platform in Indonesia <u>Dimas SEW Sumunar</u>¹, Mia Purnama², Lutfan Lazuardi³ ¹Department of Health Policy and Management, Faculty of Medicine Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Universitas Gadjah Mada Academic Hospital, Yogyakarta, Indonesia. ³Department of Health Policy and Management, Faculty of Medicine Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	108
R1-PP5	Governance, Organisational and Behavioural Determinants of Pharmaceutical Strategic Purchasing in Public Health Systems: A Scoping Review <u>Wei Chern Ang</u>¹, Aznida Firzah Abdul Aziz¹, Aniza Ismail², Nurul Ain Mohd Tahir³, Syed Mohamed Aljunid Syed Junid⁴ ¹Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Department of Public Health, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ³Faculty of Pharmacy, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ⁴School of Medicine, IMU University, Kuala Lumpur, Malaysia.	109





Abstracts of Poster Presentations

R1-PP6	Integrating Oral Health Into Domiciliary Medical Care Pathways in Malaysia: A Research Proposal Afiqah Aiman Saperi, Haslina Rani, Tuti Ningseh Mohd Dom Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.	110
R1-PP7	Beyond the Injury: A Systematic Review of Quality of Life Following Traumatic Dental Injury (TDI) in Adults Farah Izzati Azmi¹, Amy Liew Kia Cheen², Dalia Abdullah³ ¹Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Department of Family Oral Health, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ³Department of Restorative Dentistry, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.	111
R1-PP8	Navigating Reform: A Systematic Review of Health Governance and System Strengthening in Malaysia (2023–2026) Nor Faiza Mohd Tohit¹, Wan Farizatul Shima W.A.F.², Halimatus Sakdiah Minhat³, Siti Hajar Adam², Siti Athirah Zafirah Abdul Rashid² ¹Department of Community Health, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia. ²Department of Community Medicine, Faculty of Medicine and Defence Health, National Defence University of Malaysia, 57000 Kuala Lumpur, Malaysia. ³Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia.	112
R1-PP9	Food Safety, Aflatoxin Exposure, Zinc Deficiency, and Stunting: A Systematic Review Anastu Regita Nareswara¹, Safrina Oksidriyani², Nur Ahmad Habibi³ ¹School of Food Science and Nutrition, Faculty of Environment, University of Leeds, United Kingdom. ²Nutrition Study Program, Department of Veterinary Medicine, Faculty of Medicine, Universitas Negeri Semarang, Indonesia. ³Nutrition Department, Health Ministry Polytechnic of Padang, Padang, Indonesia.	113
R2-PP1	Development of a Massive Open Online Course "AI for Health" as a Digital Innovation to Enhance Artificial Intelligence Literacy in Healthcare Muhammad Rizky Mangkuwidjaya¹, Annisa Ristya Rahmanti¹, Lukman Heryawan², Lutfan Lazuardi¹, Guardian Yoki Sanjaya¹, Anis Fuad³, Hanifah Wulandari¹, Fadhilah Khairuna Larasati¹ ¹Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia. ³Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	114
R2-PP2	Characterising Smartphone Use Patterns in Malaysian Older Adults: Insights from a Pilot Study Nurul Atikah Anuar¹, Mohd Fairuz Ali², Ezura Madiana MD Monoto¹ ¹Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Ministry of Health Malaysia, Kuala Lumpur, Malaysia.	115





Abstracts of Poster Presentations

R2-PP3	Determinants of Unmet Healthcare Needs among Children with Hearing and Speech Disabilities in Malaysia: A Mixed-Methods Study Using Structural Equation Modelling Nur Fairuz Md Teridi, Mohd Rizal Abdul Manaf, Roszita Ibrahim Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Cheras, Kuala Lumpur, Malaysia.	116
R2-PP4	Test-retest Reliability of Occupation-based Well-being Assessment for Older Persons Ke Jun Ker¹, Dzalani Harun¹, Hanif Farhan Mohd Rasdi¹, Nor Azlin Mohd Nordin² ¹Center for Rehabilitation and Special Needs Studies, Occupational Therapy Programme, Faculty of Health Sciences, The National University of Malaysia, Kuala Lumpur, Malaysia. ²Center for Rehabilitation and Special Needs Studies, Physiotherapy Programme, Faculty of Health Sciences, The National University of Malaysia, Kuala Lumpur, Malaysia.	117
R2-PP5	Performance and Casemix Efficiency Assessments with Length of Stay Prediction for Ischemic Stroke Management Mohd Hafiz Jaafar, Amirah Azzeri Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia.	118
R2-PP6	Re-centering Primary Health Care in Indonesia: A Policy Analysis of Governance and Health System Strengthening Indira Reva Annida Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	119
R2-PP7	FHIR-First Architecture for Interoperable Health Indicator Metadata Registry: The Indonesia SATUSEHAT Metadata Fadhilah Khairuna Larasati¹, Sensa Gudya Sauma Syahra¹, Lusha Ayu Astari², Rio Aditya Pratama¹, Anis Fuad³, Guardian Yoki Sanjaya² ¹Center for Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ³Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	120
R2-PP8	The Impact of Low Birth Weight on Healthcare Utilization and Costs under Indonesia's National Health Insurance Latifah Alifiana Rahmawati Center for Health Policy and Management, Universitas Gadjah Mada, Yogyakarta, Indonesia.	121
R3-PP1	Hospital Factors Associated with In-Hospital Mortality among Tuberculosis Patients: An Analysis of BPJS Kesehatan Claims Data Fabian Qolby Multazam¹, Likke Prawidya Putri², Haryo Bismantara², Muhammad Shabri Putra Wibowo² ¹Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	122





Abstracts of Poster Presentations

R3-PP2	Linking Perception to Practice: Determinants of Recycling Behavior in Putrajaya, Malaysia <u>Wan Farizatul Shima W Ahmad Fakuradzi</u>¹, Nor Faiza Mohd. Tohit², Siti Athirah Zafirah Abdul Rashid¹, Nur Adnin Ahmad Zaidi¹, Siti Hajar Adam³ ¹Community Health Unit, Faculty of Medicine and Defence Health, National Defence University of Malaysia, Kuala Lumpur, Malaysia. ²Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Selangor, Malaysia. ³Physiology Unit, Faculty of Medicine and Defence Health, National Defence University of Malaysia, Kuala Lumpur, Malaysia.	123
R3-PP3	Assessment of Knowledge, Attitude, Practice Related to Diabetic Foot Ulcer Care among Nurses in Teaching Hospital: A Cross- sectional Study <u>Shahiera Naziera Othman</u>¹, Haliza Hasan², Muzaitul Akma Mustapa Kamal Basha², Siti Hazariah Abdul Hamid² ¹Kuliyah of Nursing, International Islamic University Malaysia, Kuantan, Pahang, Malaysia. ²International Islamic University Malaysia, Selangor, Malaysia.	124
R3-PP4	Are Tuition Fees Sufficient to Fund Postgraduate Medical Education? Evidence from Postgraduate Medical Education Programs in Indonesia <u>Haryo Bismantara</u>, Srimurni Rarasati, Iztihadun Nisa, Andreasta Meliala Universitas Gadjah Mada, Yogyakarta, Indonesia.	125
R3-PP5	Evaluation of Electronic Medical Records Compliance with Cancer Registry Standards at Dharmais Cancer Hospital <u>Sania Fitria</u> Health Policy and Management Department, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	126
R3-PP6	Village Midwife's Perspectives on Primary Care Obesity Management in Indonesia: A Multi-Site Qualitative Study <u>Dian Puteri Andani</u>¹, Digna Niken Purwaningrum², Harumanto Sapardi¹ ¹Center for Health and Policy Management, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Department of Biostatistics, Epidemiology, and Population Health, Universitas Gadjah Mada, Yogyakarta, Indonesia.	127
R3-PP7	Resilience and Empathy among Healthcare Professionals in the Emergency Department, Hospital Canselor Tuanku Muhriz, National University of Malaysia <u>Mohd Nurizam Bin Susof</u>, Mohd Azim Bin Ab Manap, Zuraidah Binti Che Man Department of Emergency Medicine, Hospital Canselor Tuanku Muhriz, National University of Malaysia, Kuala Lumpur, Malaysia.	128
R3-PP8	Analysis of the Utilization of Non-Emergency Ambulance Services in the Special Region of Yogyakarta <u>Setyawan Setyawan</u>¹, Sri Setiyarini², Wenny Artanty Nisman² ¹Emergency Department, Academic Hospital, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Department of Basic and Emergency Nursing, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	129





Abstracts of Poster Presentations

R3-PP9	The Hidden Bottleneck: Public Financial Management and Health System Responsiveness in Decentralized Settings <u>Muhamad Faozi Kurniawan</u> Universitas Gadjah Mada, Yogyakarta, Indonesia.	130
R4-PP1	Inequitable Distribution of Mental Health Workforce and Its Implications for Health Equity in Remote Indonesia Karlina Dewi Sukarno¹, Retna Siwi Padmawati², Relmbus Biljers Fanda¹, Tri Muhartini¹, Ahmad Naufal¹, Garin Fridge Janitra¹ ¹Center for Health Policy and Management, Faculty of Medicine, Public Health, and Nursing, University Gadjah Mada, Yogyakarta, Indonesia. ²Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	131
R4-PP2	Exploring Palliative Care Needs among Older Adults with Chronic Diseases in Malaysian Primary Care <u>Vilzan bin Momin</u>^{1,2}, Tan Chai Eng¹, Loo Say Yee¹ ¹Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Ministry of Health, Kuala Lumpur, Malaysia.	132
R4-PP3	Bridging Policy Design and Local Reality: Primary Health Care Integration in Fragile and Remote Settings—A Case Study from Malaka District, East Nusa Tenggara, Indonesia <u>Via Angraini</u> Center for Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	133
R4-PP4	Strategies to Enhance Adherence to Home Exercise Programmes among Stroke Survivors: A Scoping Review <u>Pui Kei Chong</u>¹, Nor Azlin Mohd Nordin², Mohd Azzuan Ahmad², Mohd Fairuz Ali³ ¹University Kebangsaan Malaysia, Kuala Lumpur, Malaysia. ²Physiotherapy Program & Center for Rehabilitation and Special Needs Studies, Faculty of Health Sciences, Universiti Kebangsaan Malaysia, 50586 Kuala Lumpur, Malaysia. ³Department of Family Medicine, Hospital Canselor Tuanku Muhriz (HCTM), Universiti Kebangsaan Malaysia (UKM), 56000 Cheras, Malaysia.	134
R4-PP5	Navigating Fragmented Health Financing in Primary Health Centers of Banyumas Regency, Indonesia <u>Candra Candra</u>^{1,2} ¹Center For Health Policy And Management Faculty of Medicine, Public Health, and Nursing Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Al Islam Yogyakarta College of Health Sciences, Yogyakarta, Indonesia.	135





Abstracts of Poster Presentations

R4-PP6	Developing a Sandbox Learning Environment for a Fragmented National Health Insurance System: The Open JKN Approach <u>Luluk Fadhoh Sakinah</u>¹, Anis Fuad², Lukman Heryawan³, Annisa Ristya Rahmanti¹, Guardian Yoki Sanjaya¹ ¹Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia ²Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia ³Department of Computer Science And Electronics, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia.	136
R4-PP7	Regional Disparities in Healthcare Utilization and Economic Outcomes of Pediatric Acute Respiratory Distress Syndrome in Indonesia: Preliminary Insight from A Nationwide Claims Database <u>Alfarid Kurnialandi</u>¹, Diah Ayu Puspendari¹, Ririe Fachrina Malisie², Rizki Tsalatshita Khair Mahardya³ ¹Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia. ²Department of Pediatrics, Faculty of Medicine, Universitas Sumatera Utara, Medan, Indonesia. ³Center for Health Financing Policy and Insurance Management (Pusat KP-MAK), Universitas Gadjah Mada, Yogyakarta, Indonesia.	137
R4-PP8	Association Between Green Open Space (GOS) and Type 2 Diabetes Mellitus Prevalence: An Ecological Study in Yogyakarta, Indonesia <u>Renata Gita Cahyani Sese</u> Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.	138





Development and Validation of Mindcare UKM: A User-Centred Mental Health Support Mobile Application for Outpatients in Malaysia

Adieza Farahain binti Ahmadi¹, Mohd Rizal bin Haji Abdul Manaf¹, Faiz bin Daud¹,
Maziah binti Ahmad Marzuki²

¹Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

²Department of Nursing, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: Mental health patients often require structured support between clinic visits, yet services remain constrained, and follow-up intervals can be long. MindCare UKM was developed as an adjunct to usual care to support self-monitoring, treatment adherence, and coping skills between appointments. This study aimed to develop MindCare UKM using end-user input, establish expert content validity, and conduct an early usability pretest.

Method: A multi-phase user-centred approach was applied. First, focus group discussions generated design requirements mapped to UTAUT constructs, including reminders, privacy controls, bilingual delivery, crisis support, and progress reporting. Second, six experts evaluated the relevance and clarity of key application domains (self-monitoring, psychoeducation, reminders, coping support, crisis support, and progress reporting) using the Content Validation Index (CVI). Third, a 3-day pre-test was conducted with eight participants purposively selected from the earlier FGD cohort. The participants received an APK and a brief user guide via WhatsApp. Usability (System Usability Scale; SUS) and open-ended feedback were collected.

Results: Content validity was excellent across features (average CVI 0.92–1.00; S-CVI/Ave=0.97). Of eight participants, seven returned feedback; five used the app for 1–2 days. SUS scores ranged from 47.5 to 60.0. Feedback highlighted onboarding, layout simplification, reminder flow, phone number guidance, and video link functionality.

Conclusion: MindCare UKM demonstrated excellent expert-validated content and promising early feasibility and acceptability, informing refinement before the next pilot.

Keywords: mental health, mobile application, usability, content validity, UTAUT





Strengthening Digital Nutrition Information Systems for Stunting Prevention at the Primary Healthcare in Indonesia

Monita Destiwi

Center for Health Policy and Management Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: Stunting remains a major public health challenge in Indonesia, with a prevalence of 19.8% in 2024 and a target of 14% by 2029. To support prevention efforts, Indonesia is strengthening digital health transformation through the SATUSEHAT platform, although the readiness of the digital ecosystem for infant and toddler nutrition services remains uneven across implementation levels. This study assessed the readiness of the SATUSEHAT digital ecosystem, particularly the use of the ASIK application for infants and toddlers and evaluated health workforce capacity to support digital nutrition services for stunting prevention.

Method: A mixed-methods study was conducted across six provinces in Indonesia in 2025. Quantitative data were collected from 121 respondents, including health workers and community health workers, while qualitative data were gathered through focus group discussions with key stakeholders.

Results: Findings showed that multiple digital platforms including SIGIZI KESGA, ASIK, and ELSIMIL are used for nutrition services reporting but remain poorly integrated, leading to duplicate reporting and data inconsistencies. Implementation is further constrained by limited infrastructure, training gaps, competing priorities, and unclear governance. While health workers showed strong willingness to adopt digital systems, community health worker engagement remained limited, and the ASIK nutrition module and analytics functions are not yet fully optimized.

Conclusion: Strengthening interoperability, governance mechanisms, workforce capacity, and data analytics functions is essential to optimize the SATUSEHAT ecosystem and support integrated primary healthcare transformation for stunting prevention in Indonesia.

Keywords: digital health systems, stunting, primary healthcare, interoperability





Feasibility and Effectiveness of a Multi-Component Self-Care Module in Improving Stroke Knowledge, Health State and Physical Performance among Post-Transient Ischemic Attack Individuals in the Klang Valley, Malaysia

Ho Wei Sheng¹, Nor Azlin Mohd Nordin¹, Aznida Firzah Abdul Aziz², Nor Haty Hassan³

¹Centre for Rehabilitation & Special Needs Studies, Faculty of Health Science, The National University of Malaysia, Kuala Lumpur, Malaysia.

²Department of Family Medicine, Faculty of Medicine, UKM Medical Centre, Kuala Lumpur, Malaysia.

³Department of Nursing, Faculty of Medicine, Chancellor Tuanku Ja'afar Medical Education Complex, Kuala Lumpur, Malaysia.

Abstract:

Objective: Current post-TIA management primarily focuses on secondary prevention, with limited attention to recovery needs and patient self-management. This study aimed to evaluate the feasibility and preliminary effects of a multi-component self-care module designed to support recovery and secondary stroke prevention post-TIA.

Method: A 12-week randomized controlled pilot study was conducted among post-TIA patients in the Klang Valley, Malaysia. Twelve participants (mean age=57.5±9.32 years), consisting of seven males and five females (mean duration from TIA diagnosis=299±85.33 days), were randomly allocated to an intervention group receiving a structured multi-component self-care module or to usual care group. The intervention included stroke education, lifestyle guidance, and a home-based exercise programme targeting strength, balance, and aerobic activity with bi-weekly follow-ups. Outcomes assessed included stroke knowledge, fatigue, systolic blood pressure, psychological status (HADS), grip strength, functional mobility (Timed-Up and Go), and balance (Berg Balance Scale). Feasibility indicators included adherence, retention, adverse events, and participant satisfaction.

Results: The intervention demonstrated moderate adherence and satisfaction levels among participants, with no reported adverse events. Retention was higher in the intervention group (83.33%). A significant improvement in stroke knowledge was observed within the intervention group (mean change=2.33±1.51, p=0.038). Changes in physiological, psychological, and functional outcomes were non-significant and did not reach clinically meaningful thresholds.

Conclusion: The multi-component self-care module appears feasible and safe for individuals recovering from TIA and may improve stroke-related knowledge. Future larger studies are warranted to explore its long-term effectiveness.

Keywords: transient ischemic attack, feasibility, self-care, residual impairments, quality of life





AI-Based Communication to Support Premium Compliance in Health Insurance

Sensa Gudya Sauma Syahra¹, Annisa Ristya Rahmanti^{3,4}, Anis Fuad^{1,5}, Bagas Suryo Bintoro², Putu Gede Purwa Darmawan⁴, Ariefan Dipokusumo Wibowo⁶, Dedy Revelino Siregar⁷, Wan Aisyah Baros⁷, Ulil Albab⁷, Candra Nurcahyo⁷, Arif Budiman⁷, Lukman Heryawan⁶, Firdaus Hafidz⁴, Annisa Maulida Ningtyas⁶, Guntur Budi Herwanto⁶, Hendri Kurniawan Prakosa¹, Guardian Yoki Sanjaya^{1,4}, Annisa Novanda Maharani Utami², Sarah Dewi⁷

¹Center for Health Policy and Management, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Center of Health Behavior and Promotion, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

³Faculty of Science and Technology, Middlesex University, London, United Kingdom.

⁴Department of Health Policy and Management, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

⁵Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

⁶Department of Computer Science and Electronics, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia.

⁷BPJS Kesehatan (Social Security Agency on Health), Indonesia.

Abstract:

Objective: Indonesia's National Health Insurance (JKN) still faces challenges with premium compliance, particularly among self-enrolled members who encounter financial, behavioral, and informational barriers. This study aimed to develop and assess the feasibility of a Generative AI-driven communication framework to support premium compliance.

Method: The study adopted a sequential exploratory approach, beginning with focus group discussions involving 24 JKN participants and interviews with five participants and stakeholders, including BPJS Kesehatan staff. These insights were used to identify member challenges and communication preferences, and to develop a knowledge system grounded in the Transtheoretical Model (TTM), participant personas, and relevant policy frameworks. The findings were then translated into participant profiles, scenario-based datasets, and instruction-tuning prompts to evaluate three large language models: Mistral 7B, LLaMA 3.3, and GPT-OSS 20B.

Results: Results showed varying levels of payment readiness among participants, which informed the development of tailored communication strategies. All tested models generated responses that aligned with behavioral stages and administrative rules. Behaviorally grounded prompting helped guide responses to be more personalized and consistent





with telecollecting workflows. LLaMA 3.3 produced responses that combined empathy and consistency, while GPT-OSS 20B generated more natural and expressive responses but required additional moderation to ensure appropriateness in a public-service context.

Conclusion: These findings support the feasibility of integrating Generative AI into JKN premium communication strategies. The prototype demonstrates the potential of a more adaptive and personalized communication approach compared with conventional rule-based messaging.

Keywords: generative AI, premium compliance, health insurance, behavior change, digital health communication





Predicting Prolonged Hospital Length of Stay in Stroke Patients Using Indonesian National Health Insurance Claims Data: A Machine Learning Classification Study

Ika Agustin Atika Putri, Annisa Ristya Rahmanti

Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This study aimed to develop and evaluate machine learning classification models to predict prolonged hospital length of stay (LOS) among stroke patients using routinely collected national BPJS claims data.

Method: We conducted a retrospective analysis of 25,732 inpatient stroke episodes (ICD-10 I60–I64) recorded from 2015 to 2023. Prolonged LOS was defined as ≥ 7 days based on the upper quartile of the LOS distribution. Predictor variables included demographic characteristics, hospital attributes, and clinical and INA-CBG-related variables. Five supervised machine learning algorithms such as Gradient Boosting, Random Forest, AdaBoost, k-Nearest Neighbors, and Naïve Bayes, were trained on 80% of the dataset and tested on the remaining 20%.

Results: Among the tested models, Gradient Boosting achieved the best overall performance (AUC=0.743, accuracy=0.773, F1-score=0.741, MCC=0.326), indicating moderate discriminative ability. These findings demonstrate the feasibility of using national administrative claims data to support early risk stratification for prolonged LOS in stroke care.

Conclusion: Integrating LOS prediction into hospital information systems could support early discharge planning, optimize resource use, and strengthen the overall quality of clinical stroke management and BPJS-K reimbursement mechanisms.

Keywords: stroke, length of stay, machine learning, BPJS Kesehatan, hospital claims data





Digital Mood Tracking for Early Detection of Behavioral Disorders among Adolescents in Indonesia

Rahmi Amelia Lubis¹, Zulfendri², Vita Camellia³

¹Department of Nutrition, Faculty of Public Health, Universitas Islam Negeri Sumatera Utara, Medan, Indonesia.

²Department of Health Administration and Policy, Faculty of Public Health, Universitas Sumatera Utara, Medan, Indonesia.

³Department of Psychiatry, Faculty of Medicine, Universitas Sumatera Utara, Medan, Indonesia.

Abstract:

Objective: To identify major mental health risk factors associated with behavioral disorders among adolescents and develop a mobile-based digital screening application derived from epidemiological findings.

Method: A cross-sectional study was conducted among 408 adolescents aged 16–22 years in Medan City, Indonesia. Data were collected using the Mini ICD–10 structured and validated questionnaires assessing anxiety, depression, manic episodes, substance and alcohol-related disorders, and behavioral disorders. Bivariate analysis followed by multivariate logistic regression was conducted to identify significant predictors of behavioral disorders. The identified predictors were subsequently used as the scientific basis for the development of Tracker Mood, a mobile-based application designed to enable community members to independently screen their mental health through a smartphone without the need for clinical settings.

Results: Mental health problems were prevalent among participants, including anxiety (54.9%), depression (40.2%), manic episodes (46.1%), substance and alcohol-related disorders (48.5%), and behavioral disorders (45.6%). Multivariate analysis demonstrated that substance and alcohol-related disorders (Odds Ratio, OR=8.95), manic episodes (OR=2.49), and depression (OR=2.40) were significant predictors of behavioral disorders ($p<0.001$). Adolescents presenting these three conditions had a predicted probability of 99.2% of experiencing behavioral disorders. Building upon these findings, Tracker Mood was developed as a post-research digital output, embedding the three significant risk thresholds into an automated screening algorithm that delivers real-time personalized feedback to users via mobile platform.

Conclusion: Integrating epidemiological risk modeling into a mobile-based screening application represents a scalable and evidence-based innovation to strengthen early detection of adolescent behavioral disorders in community settings.

Keywords: adolescents, anxiety, depression, manic, digital





Evaluating Multiple Large Language Models for SNOMED Clinical Terms Coding of Indonesian Clinical Notes: Introducing the Full Tuple Agreement Framework

Putu Gede Purwa Darmawan, Annisa Ristya Rahmanti

University of Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This preliminary study evaluates the reliability of various Large Language Model (LLM) architectures in automating the mapping of unstructured Indonesian clinical notes to SNOMED Clinical Terms (SNOMED CT), focusing on both code accuracy and clinical context.

Method: We analyzed 15 representative patient cases using GPT-4o Mini, Gemini 3 Flash, Llama 3.1 8B, and Gemma 3 4B. The methodology involved advanced prompt engineering, incorporating context-specific tasks and few-shot learning techniques. A "Full Tuple Agreement" criterion was introduced, requiring an identical match in both the SNOMED Code and Clinical Context (present/absent). Reliability was quantified using Cohen's Kappa (κ) across three dimensions: pure codification agreement, clinical contextual consistency, and integrated tuple reliability, measured against a Silver Standard Consensus.

Results: All models achieved "Almost Perfect" agreement in pure codification (κ 0.71–0.91). However, a significant disparity emerged in contextual consistency; proprietary models like GPT and Gemini maintained strong agreement (κ 0.89), while smaller open-source models (Gemma and Llama) reached only "Slight" agreement (κ 0.12). GPT-4o Mini demonstrated the highest overall reliability (F1-Score: 0.786) indicating the lowest risk of code hallucination, while Gemini 3 Flash showed superior sensitivity (Recall: 0.854).

Conclusion: While LLMs are highly proficient in term-to-code mapping, they remain susceptible to errors in clinical negation and contextual logic. Final validation via human annotation by medical experts remains the absolute Gold Standard for patient safety. The "Full Tuple Agreement" is proposed as a necessary safety standard for validating automated medical coding systems in Indonesia.

Keywords: artificial intelligence, SNOMED CT, full tuple agreement, medical natural language processing, Indonesia





Development of Usability Guidelines for Mobile Health Application Supporting Clinical Coding and Grouping in Casemix Systems

Shariffah Syazwana Aljunid¹, Nurhizam Safie Bin Mohd Satar², Rozilawati binti Razali²

¹Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

²Center for Software Technology and Management (SOFTAM), Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: This study aims to develop usability guidelines for a casemix mobile health application that supports complex clinical coding and grouping features for healthcare users.

Method: A qualitative approach was used, involving ten participants: four user interface and user experience (UI/UX) practitioners, four usability experts with over twenty years of experience, and two end-users comprising a doctor and a public health lecturer. Data were collected through semi-structured interviews, heuristic evaluations with experts, and cognitive walkthroughs with end-users. All sessions were transcribed and analyzed using thematic analysis with NVivo software.

Results: The results identified two main usability themes: legibility and readability, including fonts, icons, labels, logos, and buttons; and visual design, including theme and style, illustrations and animations, and color. These themes represent key usability components that guided the development of the casemix usability guidelines and their mobile health prototype application.

Conclusion: The study provides structured usability guidelines to support the design of a user-friendly casemix mobile health application for complex clinical features. Future research should include broader user groups and the development of a high-fidelity application to enhance usability and generalizability.

Keywords: mobile health, usability guidelines, clinical coding, casemix, user interface design





Evaluating the Impact of Prompting Strategies on Stroke Rehabilitation Care Plans Generated by Large Language Models

Annisa Ristya Rahmanti¹, Hanifah Wulandari¹, Lutfan Lazuardi¹,
Farida Niken Astari Nugroho Hati², Huan Nguyen³

¹Department of Health Policy and Management, FoMPHN, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Universitas Gadjah Mada Academic Hospital, Yogyakarta, Indonesia.

³Faculty of Science and Technology, Middlesex University, London, United Kingdom.

Abstract:

Objective: This study aimed to evaluate the readability and consistency of stroke rehabilitation care plans generated by multiple large language models (LLMs) under different prompting strategies.

Method: A clinical scenario was used to generate stroke care plans using seven LLMs (ChatGPT 5.1, Copilot, DeepSeek, GPT-OSS 20B, GROK, Gemini 3, and Gemini 3.1 Pro) under three prompting conditions (basic, role-based, and few-shot), resulting in 21 outputs. Readability was assessed using the Flesch Reading Ease score (FRES) and the Flesch-Kincaid Grade Level. Lexical diversity was measured using the type-token ratio and the Measure of Textual Lexical Diversity (MTLD). Consistency across prompts was evaluated within each model using pairwise BERTScore.

Results: All outputs were above the recommended 6th grade readability level, with median Flesch-Kincaid Grade Level values ranging from 13.92 to 18.56. Few-shot prompting showed the highest linguistic complexity (median 18.56 and mean readability burden of 19.92), compared to basic (15.05) and role-based prompting (13.92). Role-based prompting produced more balanced outputs (median FRES 21.17) and the lowest readability burden (15.35). Across models, GPT-OSS 20B and GROK demonstrated higher lexical diversity (MTLD up to 411.71), while ChatGPT 5.1 showed the highest complexity (median 20.99). Pairwise BERTScore indicated high semantic similarity across prompts (0.806–0.887), with role-based prompting producing more stable outputs and few-shot prompting introducing greater variability.

Conclusion: LLM-generated care plans are semantically consistent but remain linguistically complex. Prompting strategy influences both readability and variability, with role-based prompting producing more stable outputs.

Keywords: large language models, LLMs, readability, prompt engineering, stroke rehabilitation care plans





The Commbett (Communicate Better! A Training Module for Healthcare Professionals): A Mixed-Methods Feasibility Study on Communication Skills Training for Nurses Managing Acquired Communication Disorders

Khairul Afiq¹, Fatimah Hani Hassan², Nor Azlin Mohd Nordin², Sherin Sokmum³,
Nor Haty Hassan⁴

¹Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

²Faculty of Health Sciences, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

³Hospital Canselor Tuanku Muhriz, Kuala Lumpur, Malaysia.

⁴Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: This study aimed to evaluate the effectiveness and feasibility of the COMMBETT communication training module and to identify factors influencing nurses' communication confidence.

Method: A mixed-methods design was conducted among 14 nurses. Quantitative data were collected using pre- and post-training surveys (KenCANA-Q) assessing knowledge, attitude, and confidence. Paired t-tests were used to assess changes following the intervention, and multiple regression analysis was performed to identify predictors of post-training confidence. Qualitative data from semi-structured interviews were analyzed thematically.

Results: Significant improvement was observed following the training (pre: $M=3.87$, $S.D.=0.38$; post: $M=4.23$, $S.D.=0.25$; $t(13)=-4.69$, $p<.001$). The regression model was significant ($F=5.73$, $p=.014$), explaining 71.8% of the variance in confidence. Attitude was the only significant predictor of confidence ($\beta=0.532$, $p=.040$), while knowledge, communication frequency, and years of experience were not significant predictors. Qualitative findings indicated improved awareness, increased use of adaptive communication strategies, and enhanced confidence, alongside barriers such as time constraints, workload, and limited resources affecting implementation.

Conclusion: The COMMBETT module is a feasible and effective intervention for improving nurses' communication competencies in ACD care. Attitude plays a critical role in shaping communication confidence, highlighting the need for training that addresses both skills and attitudinal factors.

Keywords: communication training, nurses; acquired communication disorders, confidence, mixed-methods





Preparing the Health Workforce for Learning Health Systems: A Mixed-Methods Study on Digital Competency Alignment

Hanifah Wulandari, Guardian Yoki Sanjaya, Annisa Ristya Rahmanti,
Muhammad Rizky Mangkuwidjaya, Fadhilah Khairuna Larasati

Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: A Learning Health System (LHS) continuously learns from data and take action to improve health outcomes through cycles of data collection, analysis, application to policy and practice, and feedback. It requires a digitally competent workforce who can make evidence-based decision. This study maps Biomedical and Health Informatics (BMHI) competencies based on the criteria of the International Medical Informatics Association (IMIA) across 22 courses in the Health Information Systems stream of UGM Master's program in Health Policy and Management, and aligns them with workforce needs within the LHS loop.

Method: Quantitative curriculum mapping was conducted using the IMIA-BMHI competency framework to assess alignment across domains. Qualitative data were collected through focus group discussion with 6 graduates working in diverse health system roles including district office, hospital, health IT developer and consultant. Findings were integrated to identify gaps between educational preparation and competencies required to support LHS.

Results: Curriculum mapping showed a strong emphasis on BMHI core principles and data-related domains (54.6%), followed by health sciences and services (18.2%), and management sciences (13.6%). Social and behavioral sciences were minimally represented (4.5%). When aligned with the LHS loop, competencies were relatively balanced across data collection, analysis, and application (27.3% each), but less represented in evaluation and feedback (18.2%). Qualitative findings highlighted the need for behavioral change communication, knowledge translation and quality improvement across roles.

Conclusion: Addressing gaps in socio-behavioral and feedback competencies is essential to enable a workforce capable of continuous learning, adaptation and innovation to implement LHS in real-world settings.

Keywords: health workforce, digital competency, learning health system





Utilisation of the Balitaprima Mobile Health in the Integrated Child Health Screening Services at a Rural Community Health Centre in Indonesia

Dzikri Fadhilah¹, Rina Nuryati², Renny Lo³, Lutfan Lazuardi⁴, Digna Niken Purwaningrum⁵,
Adi Utarini⁴, Yodi Mahendradhata⁴

¹Graduate Program in Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia.

²Kulon Progo District Health Office, Yogyakarta, Indonesia.

³Puskesmas Sentolo I, Kulon Progo District, Yogyakarta, Indonesia.

⁴Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia.

⁵Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Indonesia.

Abstract:

Objective: To assess users' utilization rate and experience of BalitaPRIMA mobile health as part of a redesigned component of integrated child health screening services (ICHSS) for infants aged six months at a rural community health centre (CHC) in Yogyakarta.

Method: A mixed-method action research was conducted from March to December 2025. The diagnosis phase identified barriers in child malnutrition management through focus group discussions (FGDs). The planning phase co-developed BalitaPRIMA through a participatory process, which was subsequently implemented in the "taking action" phase. The evaluation phase employed a sequential explanatory design assessing mobile health feature utilization among caregivers (n=58), followed by interviews and FGDs (n=62). Descriptive and thematic analyses were performed. This is a sub-study of a main study on implementation-effectiveness in redesigning ICHSS.

Results: Loss to follow-up post-ICHSS and a lack of monitoring tools were identified as barriers. BalitaPRIMA mobile health was developed comprising growth-tracking, food recall, self-screening, and teleconsultation features connected to the CHC dashboard. The features' utilization rates varied due to perceived benefit and ease of use with growth-tracking showing the highest rate (96.5%), followed by self-screening (51.7%), teleconsultation (17.9%), and food recall (13.8%). Users perceived the app as helpful in child growth monitoring as expressed by a participant. The growth-tracking feature really helps because we can see how much the child's weight has increased this month; it is easier to check there than using the Maternal Child Health book.

Conclusion: The utilization of mobile health for child growth monitoring within rural CHC services was perceived as acceptable and facilitated the monitoring process.

Keywords: mobile health, child growth, screening, community health centre, service utilisation





Through Mintzberg's Lens: Policy–Structure Misalignment in Indonesia's School–Based Feeding Program (MBG) in a Decentralized Governance System

Muhammad Hafiz Haunan

Center for Health Policy and Management (KMPK), Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: To assess the alignment between organizational structure and policy objectives in Indonesia's school-based feeding program (MBG) using Mintzberg's framework and to derive governance lessons from Brazil.

Method: A qualitative policy analysis was conducted using directed content analysis of 11 national policy documents to map institutional roles and coordination mechanisms. Organizational roles were analyzed using Mintzberg's framework, with comparative benchmarking using peer-reviewed literature on Brazil's school feeding program.

Results: Indonesia's program reflects a machine bureaucracy, characterized by process standardization, technostucture dominance, and absence of a clear middle line. Empirical findings identified 32 actors, leading to fragmented roles and weak coordination. This configuration prioritizes process compliance over output performance, limiting effective service outcomes, while implementation remains centralized within a decentralized governance system, indicating a structural mismatch between governance context and program design. In contrast, Brazil demonstrates a divisionalized adhocracy, with decentralized authority, clear middle-line roles, and coordinated regional implementation. This structure enables adaptive service delivery, where nutritionists design menus tailored to local needs, while strong monitoring systems and community participation ensure accountability and implementation fidelity.

Conclusion: Program effectiveness in Indonesia is constrained by structural misalignment. In decentralized systems, configurations emphasizing output-based control and regional autonomy such as divisionalized forms are more appropriate. Strengthening middle-line functions, coordination pathways, and participatory monitoring is essential to improve implementation.

Keywords: organizational configuration, policy–structure misalignment, decentralized governance, policy implementation, school feeding programs





Bridging the Gap in Mental Healthcare: Primary Care Doctors' Attitudes Toward Patients with Mental Illness in Public Primary Care Clinics in Kuching, Sarawak

Syed Mohd. Taufiq Wan Obeng, Aznida Firzah Abdul Aziz, Mohd Fairuz Ali

Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: To evaluate self-perceived and measured attitudes toward mental illness using the Mental Illness Clinician's Attitudes Scale (MICA-4) and to identify demographic and professional factors associated with stigma among primary care doctors in public health clinics in the Kuching district, Malaysia.

Method: A cross-sectional study was conducted among 147 primary care doctors in public health clinics in the Kuching district using a self-administered online questionnaire. Stigma was measured using MICA-4 scores, and descriptive and multiple linear regression analyses were performed to examine associated demographic and professional factors.

Results: Regression analysis identified age, religion, length of service, personal experience with mental illness, frequency of patient contact, and self-perceived attitudes as significant predictors of MICA-4 scores. Older age (adjusted $\beta = -0.34$; 95% CI: $-0.61, -0.07$; $p = 0.013$) and personal experience ($\beta = -5.90$; 95% CI: $-9.25, -2.55$; $p < 0.001$) were associated with lower stigma. Conversely, Christian and Buddhist participants, longer service duration, less frequent patient contact, and higher self-perceived stigma were associated with higher MICA-4 scores.

Conclusion: Professional stigma persists among Malaysian primary care doctors and is influenced by both experiential and practice-related factors. Targeted interventions, including increased clinical exposure and stigma-reduction training, are needed to improve attitudes and strengthen mental healthcare delivery at the primary care level.

Keywords: primary care doctors, mental illness, stigma





Immunization Program Sustainability After GAVI Graduation: A Sub-National Risk Assessment Across Nine Provinces in Indonesia

Likke Prawidya Putri¹, IztiHADun Nisa¹, Lusha Ayu Astari¹, Hanifah Wulandari¹,
Lili Nur Indah Sari², Ichlasul Amalia¹, Yanti Leosari^{1,3}, Lutfan Lazuardi¹, Hashta Meyta⁴

¹Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Clinton Health Access Initiative, Kota Jakarta Selatan, Daerah Khusus Ibukota Jakarta, Indonesia.

³University of Birmingham, Edgbaston, Birmingham, West Midlands, B15 2TT, United Kingdom.

⁴Indonesian Ministry of Health, Jakarta Selatan, Indonesia.

Abstract:

Objective: To assess the sustainability of Indonesia's routine immunization program after receiving support from GAVI, which started in 2002 and became phased out in 2017, by exploring sub-national coverage trends, financing landscape, and health system challenges across nine provinces.

Method: A mixed-methods study was conducted from December 2024 to March 2025. The study area covered nine provinces with varying fiscal capacity and urban-rural typology. Quantitative data on immunization coverage and budget allocations from 2019 to 2024 were analyzed descriptively to assess trends and variations. Qualitative data were collected through group discussions at provincial, district, and Puskesmas levels and analyzed thematically.

Results: Immunization coverage declined sharply during COVID-19, partially recovered through catch-up activities, then declined again in 2022–2023 following vaccine stockouts from information system transition, with substantial variation across provinces. High fiscal capacity did not consistently predict high coverage. Total immunization budgets declined in five provinces between 2019 and 2024. GAVI contributed approximately 20% of provincial immunization funding in both years, mainly for advocacy and operational support. Eight provinces relied heavily on central government transfers. District financing remained fragmented because of competing priorities, the absence of a dedicated immunization budget line, and a limited capacity to mobilize non-government funding. Better rebounds were associated with local regulations for increasing demand, cross-sectoral collaboration, sweeping and home visits, after-hours services, dedicated data-entry staff, and performance-based incentives.

Conclusion: Immunization sustainability in Indonesia is uneven in the Post-GAVI setting. The national government should develop an earmarked scheme for the immunization budget line, while sub-national governments should strengthen cross-sectoral governance, performance incentives, and private-sector engagement to sustain immunization coverage.

Keywords: sustainability, immunization, governance





Health System Interventions to Reduce Treatment Delays in Acute Ischemic Stroke: An Umbrella Review of Meta-Analyses

Marcellino Maatita¹, Rizaldy Taslim Pinzon², Luqlun Salisa Sugiarto¹, Bayu Yudha Pratama¹, Abraham Tory Eleeeas³, Theodorus Khotler Susanto³, Annisa Ristya Rahmanti¹

¹Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Department of Neurology, Faculty of Medicine, Duta Wacana Christian University, Yogyakarta, Indonesia.

³Department of Medicine, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: To synthesize evidence from systematic reviews on health system interventions aimed at reducing treatment delays in acute ischemic stroke (AIS) and evaluate their effects on timeliness, utilization, and clinical outcomes.

Method: An umbrella review (PROSPERO CRD420261352006) was conducted, with searches performed in PubMed, Scopus, Cochrane, Health Technology Assessment Database, Sage, ProQuest, and EBSCO up to March 17, 2026. Eligible studies were systematic reviews and meta-analyses evaluating prehospital, in-hospital, or digital health interventions in AIS. Study selection, data extraction, and quality assessment (AMSTAR-2) were conducted. Data were analyzed using the Metaumbrella app with stratification of evidence based on GRADE criteria.

Results: Of 493 records, 35 systematic reviews were included, of which 19 were analyzed quantitatively and 16 qualitatively. Door-to-needle time decreased with mobile stroke units (MSU) (eHedges' g -0.60 ; 95% CI -0.84 to -0.37). Onset-to-treatment time was reduced with MSU (eHedges' g -1.29 ; 95% CI -2.13 to -0.46). Door-to-puncture time was most reduced by direct-to-angiography (eHedges' g -1.68 ; 95% CI -1.87 to -1.49). Functional independence improved with direct-to-angio suite (eOR 1.50; 95% CI 1.11–2.04) but decreased with drip-and-ship (eOR 0.73; 95% CI 0.66–0.81). Ninety-day mortality decreased only with direct-to-angiography (eOR 0.32; 95% CI 0.23–0.42). IV thrombolysis increased via telestroke (eOR 2.04; 95% CI 1.02–4.08) and MSU (eOR 1.57; 95% CI 1.17–2.11).

Conclusion: Health system interventions improve treatment timeliness and selected outcomes in AIS, with pathway optimization strategies such as MSU and direct-to-angiography consistently associated with greater improvements. However, most included reviews were rated as critically low according to AMSTAR-2.

Keywords: acute ischemic stroke, treatment delay, health system interventions, umbrella review





Strengthening Mental Health Systems through Multisectoral Collaboration in Indonesia

Zulfendri Zulfendri¹, Vita Camellia², Rahmi Amelia Lubis³

¹Department of Health Administration and Policy, Faculty of Public Health, Universitas Sumatera Utara, Medan, Indonesia.

²Department of Psychiatry, Faculty of Medicine, Universitas Sumatera Utara, Medan, Indonesia.

³Department of Nutrition, Faculty of Public Health, Universitas Islam Negeri Sumatera Utara, Medan, Indonesia.

Abstract:

Objective: To identify key challenges and strategic directions for strengthening mental health policy and service integration in Medan City, Indonesia, based on stakeholder perspectives.

Method: This study employed a qualitative policy analysis approach. Data were collected through in-depth interviews, document analysis, and a focus group discussion involving stakeholders from the health sector, academia, and community organizations. A purposive sampling strategy was used to recruit participants with experience in mental health policy and program implementation. Thematic analysis was conducted to identify recurring patterns and policy-relevant insights.

Results: The analysis revealed several critical gaps in current mental health policy implementation. Limited service accessibility, especially at the primary healthcare level, remains a significant barrier. Stakeholders also highlighted persistent social stigma that discourages individuals from seeking care. Weak coordination across sectors and the absence of integrated mental health data systems further constrain effective policy implementation. Participants emphasized the need for stronger governance, increased mental health workforce capacity, and community-based interventions to improve service delivery and policy responsiveness.

Conclusion: Findings suggest that strengthening mental health policy in urban Indonesia requires improved multisectoral coordination, integrated data systems, and enhanced community engagement. These strategies are essential to support sustainable mental health systems and expand access to services at the population level.

Keywords: policy, strengthening, multisectoral, Indonesia.





Spatial Analysis of Tuberculosis Incidence, Mortality, and Treatment Success in East Java, Indonesia, 2022 – 2024

Siti Shofiya Novita Sari

Faculty of Public Health, Universitas Airlangga, Surabaya, Indonesia.

Abstract:

Objective: This study aimed to examine the spatial patterns and temporal trends of tuberculosis (TB) incidence, mortality, and treatment success in East Java, Indonesia, from 2022 to 2024.

Method: An ecological study was conducted using secondary data from the East Java Provincial Health Profile covering 38 districts/cities. Descriptive analyses assessed trends in TB incidence, mortality, and treatment success rates. Spatial analyses using GeoDa included Global Moran's I to assess spatial autocorrelation and Local Indicators of Spatial Association (LISA) to identify clusters. Univariate LISA was applied to TB incidence, while bivariate LISA examined its spatial relationships with treatment success and mortality.

Results: The mean TB incidence increased from 220.0 in 2022 to 242.2 in 2024, while mortality rose from 6.3 to 9.8 per 100,000 population and treatment success slightly declined from 88.4% to 87.9%. Global Moran's I showed no significant spatial autocorrelation across all years (2022: $I = -0.026$, $p = 0.424$; 2023: $I = -0.046$, $p = 0.494$; 2024: $I = 0.008$, $p = 0.320$), indicating a random spatial distribution. Univariate LISA revealed no high-high clusters, with predominantly low-low patterns across the study period. Bivariate LISA showed that areas with high TB incidence were surrounded by areas with high treatment success, suggesting improved case detection, while no consistent spatial pattern was observed between TB incidence and mortality.

Conclusion: TB burden increased without significant spatial clustering, highlighting the need to strengthen active case finding and community engagement to improve early detection and TB control.

Keywords: tuberculosis, spatial analysis, moran's I, LISA, case detection





Sustainability Capacity of Private Primary Care Engagement in District-Based Public-Private Mix for Tuberculosis Control: A Case Study from Indonesia

Dhea Keyle Fortunandha¹, Yodi Mahendradhata², Antonia Morita Iswari Saktiawati³

¹Center for Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

³Center for Tropical Medicine, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: To assess the sustainability capacity of private primary health care (PHC) engagement in the District-Based Public-Private Mix (DPPM) tuberculosis strategy in Depok City, Indonesia.

Method: A qualitative single-case study design was employed using purposive sampling. In-depth interviews were conducted with 27 stakeholders between January – April 2025, including representatives from government, legislative bodies, health facilities, professional organizations, accreditation agencies, health insurance providers, and communities. Data were analyzed thematically using NVivo, guided by the Public Health Program Capacity for Sustainability Framework covering eight domains.

Results: Private PHC engagement in DPPM contributed to improved tuberculosis case detection and reporting; however, sustainability capacity remained limited across several domains. Funding stability emerged as a major challenge, with implementation remaining highly dependent on donor financing and lacking a clear transition strategy toward domestic funding. Strategic planning was also weak, reflected by the absence of an institutionalized sustainability roadmap and limited integration into local planning mechanisms. Political commitment and partnerships were present but insufficiently institutionalized. Although adaptive practices existed, they were not systematically integrated into governance mechanisms.

Conclusion: The study highlights how donor dependency and weak institutionalization threaten the sustainability of public-private TB collaboration in urban Indonesia. Strengthening local governance, cross-sector coordination, and long-term financing mechanisms is essential to sustain TB control efforts beyond donor-supported interventions.

Keywords: tuberculosis, primary health care, public-private mix, sustainability, private sector involvement





Mapping Interventions to Improve Patient Safety Culture Among Nurses in Hospital Settings: A Scoping Review Based on the WHO Health System Building Blocks Framework.

Nor Hanizah Abdul Gapal

Universiti Putra Malaysia, Selangor Darul Ehsan, Malaysia.

Abstract:

Objective: To explore and map the types, characteristics, and outcomes of interventions aimed at improving patient safety culture among nurses in hospital settings, and to analyze how these interventions align with the WHO Health System Building Blocks framework.

Method: The review adopted the JBI methodology for scoping reviews. A comprehensive search was conducted from four databases: PubMed, CINAHL, Scopus, and Web of Science from January 2015 until March 2025. The search strategy followed a three-step approach, including initial exploratory searches, structured database searches, and supplementary searching of reference lists and grey literature. Two independent reviewers screened and extract data from the above databases. Data were charted and narratively summarized in relation to intervention types, settings, and outcomes.

Results: Twenty-three studies were included, mostly quasi-experimental studies or randomized trials. Interventions ranged from simulation training and communication protocols to leadership development and technology integration. Most studies focused on the health workforce and service delivery domains, with fewer addressing leadership, information systems, or medical technologies. No study explored financial mechanisms. Positive outcomes included improvements in teamwork, communication openness, error reporting, and safety climate scores.

Conclusion: Interventions to improve patient safety culture among nurses are largely workforce- and service-focused, and showed positive short-term outcomes. However, gaps remain in system-level integration, particularly in leadership, information systems, and financing. Future efforts should include a comprehensive health systems approach to ensure sustainable and scalable improvements in patient safety culture.

Keywords: patient safety intervention, nursing; patient safety culture, quality improvement, safety culture initiative





Variation in Kratom Use by Gender Identity Among Secondary School Students in Thailand

Manh Cuong Vu, Wit Wichaidit

Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Thailand.

Abstract:

Objective: The study aims to assess the variation in kratom use by gender identity among secondary school students in Thailand.

Material and Methods: We conducted a school-based cross-sectional study using a multistage, stratified, clustered sampling method among 23,931 secondary school students throughout Thailand during 2023–2024, using self-administered questionnaires. We analyzed data using descriptive statistics with univariate analyses and cross-tabulation. We used the chi-squared test and Fisher's exact test to assess statistical significance.

Results: 4.7% of participants reported past-year kratom use. Approximately 87% of the participants identified as cisgender, 8% identified as a gender minority, and 5% provided incomplete information on gender identity. The prevalence was highest among cisgender males (7.0%) and lowest among gender-fluid assigned male at birth and questioning assigned male at birth (0% in both groups). The variation was statistically significant ($p\text{-value} < 0.001$).

Conclusion: Gender minority students were less likely to be kratom users than cisgender male students. Our study findings are potentially useful for stakeholders in health promotion. However, limitations related to potential social desirability and misclassifications should be considered in the interpretation of our study findings.

Keywords: kratom, gender identity, secondary school student, Thailand





Perceived Treatment Preferences for Syphilis and Associated Factors Among Adult Residents in A Southern Province of Sri Lanka: A Cross-Sectional Study

Sewwandi Kodituwakku, Tippawan Liabsuetrakul

Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.

Abstract:

Objective: To assess perceived treatment preference for syphilis and explore its association with gender and other factors.

Method: A community-based cross-sectional study was conducted among adult residents aged 18 years or older from three districts in a Southern province of Sri Lanka using self-administrated questionnaire. Sociodemographic characteristics, accessibility of health facilities, information sources about syphilis, perceived norm, and social stigma were collected. Data were analyzed using descriptive statistics, univariate analysis, and multinomial logistic regression.

Results: Of 503 participants, median age was 36 years (interquartile range 27–50). Their perceived norms supported both western (88.0%) and traditional medicine (86.1%) for treatment of syphilis, but no significant gender differences. Most of the participants mentioned that they received information about syphilis from television and the internet. Stigma toward syphilis infection was found with higher concerns on the social exclusion domain than the internalized shame domain. From multinomial regression, gender was not significantly associated with treatment preference. Participants with higher age or feeling of social exclusion stigma were significantly more likely to prefer the traditional treatments.

Conclusion: Both traditional and western medicine were perceived as syphilis treatment in adults in three districts in Southern province of Sri Lanka. Age rather than gender influenced their treatment preferences for traditional medicine. Social exclusion stigma was still of concern and needs further study to avoid delayed treatment and long-term consequences.

Keywords: syphilis, treatment preference, social stigma, socio-cultural, health care accessibility





Implementation Research on the Cardiovascular Network Fostering Programme: A Qualitative Case Study of Governance and Health System Strengthening in Indonesia

Nida Fauziah Sudrajat

Department of Health Policy and Management Faculty of Medicine, Public Health, and Nursing University of Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This study aims to critically analyze the implementation of the Cardiovascular Network Fostering Programme within hospital mentorship networks in the Special Region of Yogyakarta and Southeast Sulawesi. It specifically seeks to identify the enabling and constraining factors that influence the integration of this programme into regional health systems.

Method: This study employs a qualitative case study approach, utilizing the Consolidated Framework for Implementation Research (CFIR) integrated with feasibility outcomes. Primary data were collected through in-depth interviews with key informants from both mentoring and mentored hospitals, complemented by an extensive document review. Data were analyzed thematically, mapped against the domains of the CFIR.

Results: Based on a preliminary literature review and baseline mapping, the study identifies critical dimensions within the individual, implementation process, inner setting, and outer setting of the CFIR framework. Initial analysis of secondary data indicates potential disparities in resource distribution, coordination mechanisms, and local conditions between the two regions. The framework developed provides a structured pathway to measure the feasibility of the fostering programme.

Conclusion: As an implementation research study, this study provides evidence-based insights into the practical challenges of operationalizing specialized health networks. The findings are expected to provide a strategic roadmap for policymakers to address governance gaps and optimize the Cardiovascular Network Fostering Programme for sustainable health system strengthening.

Keywords: cardiovascular network fostering programme, CFIR, feasibility, implementation research, health systems strengthening





Why Is Oral Health Still Missing from Diabetes Care? A Scoping Review of Integration Models and Implementation Challenges

Nor Najiah Shaari, Tuti Ningseh binti Mohd Dom, Shahida binti Mohd Said

Faculty of Dentistry, University Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: To map models of oral health integration into diabetes care, examine implementation outcomes, and identify barriers and facilitators affecting routine implementation.

Method: The review was conducted in accordance with Joanna Briggs Institute methodology and reported following PRISMA–ScR guidelines. A comprehensive search of PubMed, Scopus, Web of Science, and the Cochrane Library was undertaken for studies published between 2016 and 2025. Eligibility criteria were guided by the Population–Concept–Context framework, focusing on studies involving non–dental healthcare professionals delivering diabetes care in primary care settings. Data extraction and synthesis were informed by the Consolidated Framework for Implementation Research and Proctor’s implementation outcomes framework.

Results: Twenty studies met the inclusion criteria, most of which were conducted in high–income countries. Four main approaches to integration were identified: oral health screening and risk assessment, referral pathways, interprofessional collaboration, and digital support. Despite positive attitudes and willingness among healthcare providers to integrate oral health activities, implementation outcomes indicated a gap between acceptability and adoption, with referral rates as low as 8%. Key barriers included time constraints, limited oral health training, and weak referral systems, while facilitators included brief validated screening tools and digital decision–support systems to support clinical workflows.

Conclusion: Integration of oral health into diabetes care is feasible but remains inconsistently implemented. Addressing gaps in training, referral infrastructure, and workflow support may improve adoption and sustainable integration within primary care diabetes management.

Keywords: diabetes care, oral health integration, primary care, interprofessional collaboration





Clinical Hypnosis as an Adjunct Intervention in Hospital-Based Geriatric Care: A Scoping Review

Siti Makhmudah, Kwartarini Wahyu Yuniarti

Doctoral Program in Psychology, Faculty of Psychology, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: To map the evidence on clinical hypnosis in geriatric care in hospital settings and identify implementation features relevant to its integration.

Method: The review followed PRISMA-ScR. Searches of PubMed and Scopus identified 1,334 records, screened using Rayyan. Studies were included if they involved older adults, were conducted in hospital settings, examined clinical hypnosis as a therapeutic or supportive intervention, and reported clinical applications, outcomes, or implementation information. Reviews, protocols, editorials, conference abstracts with insufficient data, studies outside hospital care, studies without a focus on older adults or without separable geriatric data, and studies without an identifiable hypnosis component were excluded. Thirty-one studies met the inclusion criteria.

Results: This yielded an inclusion rate of 2.32%. Of the 31 included studies, 18 studies (58.1%) addressed perioperative or procedure-related care, 7 studies (22.6%) addressed pain and symptom management, and 6 studies (19.4%) addressed oncology or palliative services. Reported outcomes commonly concerned anxiety, pain, distress, discomfort, coping, treatment tolerance, and patient experience. Implementation reporting was inconsistent, although several studies described provider preparation, structured protocols, and service arrangements.

Conclusion: Clinical hypnosis has been applied across geriatric hospital care, although evidence on organizational readiness, governance, and routine care pathway integration remains limited.

Keywords: clinical hypnosis, geriatric care, scoping review





Cost Difference Analysis of Hepatitis C Virus Treatment Between Hospital-Based Care and Rapid Start Direct-Acting Antiviral Therapy in Malaysia

Amirah Azzeri, Mohd Hafiz Jaafar

Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia (USIM), Nilai, Negeri Sembilan, Malaysia.

Abstract:

Objective: To estimate the cost difference between conventional hospital-based hepatitis C virus(HCV) treatment and Rapid Start Direct-Acting Antiviral(RS-DAA) therapy, and to assess its implications for achieving the WHO 2030 HCV elimination targets in Malaysia.

Method: A cost difference analysis was conducted from the provider's perspective. Hospital-based first-year treatment costs per patient were extracted from published Malaysian costing studies and inflation-adjusted to 2025 prices using Malaysia's Consumer Price Index annual rates. Estimated cost reductions attributable to RS-DAA were derived by applying cost reduction proportions reported in international literature on simplified and rapid HCV treatment initiation pathways to the Malaysian baseline costs.

Results: After inflation adjustment, first-year hospital-based treatment costs per patient were estimated at USD 708, USD 1,034, and USD 3,606 for non-cirrhotic, compensated cirrhotic, and decompensated cirrhotic patients, respectively. International evidence consistently demonstrates that simplified rapid-initiation pathways yield per-patient cost reductions of approximately 20 to 30% compared to conventional specialist-led hospital care, primarily through reductions in outpatient visits, pre-treatment workup, and administrative overhead. Applying these proportions to the Malaysian baseline, RS-DAA is estimated to reduce per-patient costs by USD 142 to USD 1,082 depending on disease stage.

Conclusion: RS-DAA represents a cost-saving approach to HCV treatment in Malaysia. However, as not all patients are clinically suitable for rapid initiation outside the hospital setting, a hybrid model integrating RS-DAA for eligible patients alongside hospital-based care for complex cases is recommended to maximise clinical outcomes and optimise healthcare expenditure toward national HCV elimination by 2030.

Keywords: direct-acting antivirals, HCV elimination, Malaysia





Reaching the Unreached: Exploring Needs and Community Engagement in Type 2 Diabetes Prevention within Primary Care Integration

Fransiska Pangesti. A, Ichlasul Amalia, Likke Prawidya Putri

¹Department of Health Policy and Management, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This study aims to explore the specific needs of hard-to-reach populations at risk of Type 2 Diabetes (T2D), defined in this study as individuals who rarely or never participate in prevention programs, and to examine community engagement in prevention programs within integrated primary care at a primary care center in Yogyakarta.

Method: This research uses a qualitative case study design. A total of 20 participants were involved in this study, consisting of 11 participants in semi-structured in-depth interviews and 9 participants in focus group discussions (FGDs). Participants were selected using purposive sampling, combining snowball sampling with maximum variation. Data collection is currently being conducted through semi-structured in-depth interviews with Puskesmas staff, the village head (headman), and individuals from hard-to-reach populations at risk of T2D as well as FGDs with cadres. A thematic analysis approach will be used to synthesize the findings.

Results: Data collection is currently underway. Preliminary findings suggest that some individuals at risk of T2D do not routinely utilize healthcare services for regular check-ups, despite ongoing efforts to enhance community participation through home visits. These findings highlight the need to better understand the underlying barriers and inform the expected results, which include the identification of specific needs among hard-to-reach populations at risk of T2D as well as an understanding of the efforts and levels of community engagement in T2D prevention programs.

Conclusion: Identifying the needs of hard-to-reach populations at risk of T2D is key to improving participation in prevention programs. Emphasizing community engagement in integrated primary care can help close prevention gaps and strengthen early detection.

Keywords: hard-to-reach populations, type 2 diabetes prevention, community engagement, primary care integration





Effects of Political Instability and Financial Indicators on Vaccine Dropout of Diphtheria, Pertussis and Tetanus (DPT) and Measles-Containing Vaccine (MCV) Coverage During 2000–2025 in Bangladesh

Kazi Salahin¹, Tippawan Liabsuetrakul²

¹PSU Center for Global Health and Innovation (C-GHRI) and Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.

²Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand.

Abstract:

Objective: To examine the effects of political instability and financial indicators on vaccine dropout of DPT and MCV during 2000–2025 in Bangladesh.

Method: We conducted a retrospective longitudinal analysis of national immunization coverage of DPT1, DPT3, MCV1, MCV2 and financing indicators including health expenditure, out-of-pocket share, and GDP per capita. The event year points were defined as baseline during 2000 – 2010, stabilization during 2011–2019, COVID–19 initiation in 2020, COVID–19 continuation during 2021–2023, and political turmoil in 2025. Dropout rates were calculated as DPT1–DPT3 difference. Measles outbreak scenarios for 2025 were modeled using a birth cohort of 3 million children: where attack rates (10–30%) and case–fatality ratios (0.5–2%) from the previous literature. Effects of financing indicators and political instability were assessed using mixed–effects model.

Results: Coverage improved during baseline and stabilization period, with DPT3 and MCV1 exceeding 95% by 2015 and dropout declining to 1.7%. They remained resilient during COVID–19 and recovery, but MCV1 and MCV2 collapsed in 2025 at 59.6% and 58.3%, respectively. Outbreak modeling projected up to 363,600 measles cases and 7,272 deaths. Mixed–effects model showed significant positive associations between health expenditure ($\beta=18.32$, $p=0.015$) and out-of-pocket expenditure ($\beta=1.67$, $p=0.041$) for MCV1. High ICC values of MCV1=0.98 showed resilience shocks explained most variance.

Conclusion: Bangladesh's immunization system demonstrated resilience through financing continuity, when political turmoil precipitated coverage collapses and increased outbreak risk. Future research should explore strategies to strengthen resilience against governance shocks and sustain immunization gains.

Keywords: health system resilience, immunization coverage, governance shocks, outbreak risk, Bangladesh





Hidden Inequities in the Experience of Caring for Low Birth-Weight Infants in Indonesia

Abigael Ati, Mentari Widyastuti, Sandra O Frans, Ester Febe, Monita Destiwi,
Shita Listya Dewi

Center for Health Policy and Management, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: To examine the caregiving experiences of families of low birth weight (LBW) infants in Indonesia through a health equity lens.

Method: Qualitative data were collected through in-depth interviews and focus group discussions with mothers and fathers of surviving and deceased LBW infants, extended family members, and health providers (midwives and doctors) across village, Puskesmas, and regency hospital levels. The study was conducted in six regencies across six provinces in Indonesia in 2023.

Results: Findings reveal persistent inequities in how care is delivered and experienced. Informational inequities limit caregivers' understanding of their infants' conditions, as communication is often inconsistent, indirect, or influenced by social hierarchies. Relational inequities reflect power asymmetries that constrain caregiver participation in decision-making. Experiential inequities are evident in uneven access to respectful, dignified, and emotionally supportive care, as well as limited involvement in essential practices such as breastfeeding and kangaroo mother care. These gaps are reinforced by structural inequities, including geographic barriers, cost constraints, and variability in facility capacity.

Conclusion: Reported satisfaction with care often coexists with limited agency and unmet informational needs, suggesting that conventional quality indicators may obscure underlying inequities. Addressing these disparities requires a shift toward equity-centered care that prioritizes informed participation, respectful communication, and caregiver empowerment.

Keywords: low birth weight baby, Indonesia, relational inequity, informational inequity, experiential inequity, structural inequity, quality of care, equity-centred care





Exploring Barriers to Maternal–Health Seeking Behaviour Amongst Rohingya Refugee Women in Urban Malaysia

Walaa Abushama¹, Syed Mohamed Aljunid²

¹IMU University, Kuala Lumpur, Malaysia.

²Department of Public Health and Community Medicine, School of Medicine, IMU University, Kuala Lumpur, Malaysia.

Abstract:

Objective: Rohingya refugee women face barriers to accessing maternal healthcare. High out-of-pocket costs, legal status, and limited health literacy contribute to low service utilisation. As of May 2025, 200,260 refugees registered with UNHCR in Malaysia, out of which 117,670 (58.8%) are Rohingya. Refugee health-seeking patterns remain understudied, limited integration into health systems leading to unmet health needs. Understanding determinants of maternal health-seeking behaviour is essential for improving outcomes and informing policy.

Method: A cross-sectional convergent parallel study was conducted within the Klang valley, Malaysia. Quantitative data were collected using a questionnaire from 152 Rohingya women, who delivered in Malaysia within the past two years. Multivariable logistic regression identified determinants of adequate antenatal care (ANC), facility-based birth, postnatal care (PNC), and catastrophic health expenditure. In-depth interviews were conducted with 22 women and analysed.

Results: 36.8% of women achieved adequate ANC (≥ 4 visits), 33.6% of women gave birth at home and 65.1% of women did not attend PNC. Catastrophic health expenditure affected 68.4% of women. Higher health literacy scores and UNHCR registration were associated with adequate ANC attendance and facility-based birth whilst cost-related delays reduced service uptake. Qualitative findings mirrored these patterns; women reported financial trade-offs due to debt, fear of arrest, reliance on informal care and negative perceptions regarding the Malaysian healthcare system.

Conclusion: Health-seeking behaviour is driven by enabling factors more than clinical need, highlighting systemic inequities. Policy reform involving affordability, legal protection and culturally sensitive maternal health outreach are needed to prevent maternal risks and reliance on emergency services.

Keywords: rohingya refugees, maternal healthcare, Andersen's behavioural model, catastrophic health expenditure, Malaysia





Health Equity in Home-Based Palliative Care Under Universal Health Coverage Following Decentralization of Sub-District Health Promotion Hospitals: A Cross-Regional Study in Thailand

Pantitra Singkheaw¹, Attakorn Raksasataya², Sila Tonboot³, Wiroj Wannpira⁴,
Supasit Pannarunothai³, Varitsara Tangtrakul⁴, Rawiwan Singpong⁵, Sirilakkhana Phrawong⁶,
Watcharapong Rintra⁷, Charoonrat Srisespimp⁷

¹Department of Family Medicine, Faculty of Medicine, Naresuan University, Phitsanulok, Thailand.

²Karunruk Palliative Care Center, Srinagarind Hospital, Faculty of Medicine, Khon Kaen University, Thailand.

³Health Equity Monitoring and Research Foundation, Thailand.

⁴Social Medicine Department, Buddhachinaraj Phitsanulok Hospital, Thailand.

⁵Noen Maprang Hospital, Thailand.

⁶Social Medicine Department, Khon Kaen Hospital, Thailand.

⁷Department of Palliative Care, Khon Kaen Hospital, Thailand.

Abstract:

Objective: To assess equity in access to and utilization of home-based palliative care under universal health coverage following decentralization of sub-district health promotion hospitals to provincial administrative organizations, and to compare cross-regional differences between Northern (Phitsanulok) and Northeastern (Khon Kaen) Thailand.

Method: This implementation research employed a mixed-methods design in two provinces during decentralization (October 2024–April 2025). A multicomponent strategy included policy alignment, workforce strengthening, multidisciplinary coordination, community engagement, and monitoring. Family caregivers of end-of-life patients were recruited through time-bound consecutive sampling across six hospitals. Satisfaction with home-based palliative care was measured using FAMCARE-EOL. Median and interquartile range were reported, and cross-regional comparisons performed using the Mann-Whitney U test (two-sided $p < 0.05$). Qualitative data were collected through semi-structured interviews and focus groups with stratified purposive sampling of stakeholders across health and community sectors. Framework and thematic analyses were conducted with independent coding by three researchers and confirmation of data saturation.

Results: A total of 242 caregivers were enrolled (Phitsanulok: $n=131$; Khon Kaen: $n=111$). Overall satisfaction was high (median 4.6–4.9/5), with no marked cross-regional differences. Phitsanulok showed narrower score distributions, whereas Khon Kaen demonstrated greater dispersion, indicating variability in perceived accessibility and experience. Qualitative findings revealed a centralized, tertiary-led network in Phitsanulok and locally adapted, innovation-driven models in Khon Kaen. Workforce shortages, budget constraints, and coordination complexity were common challenges.





Conclusion: High satisfaction and comparable reported access and utilization suggest service continuity during decentralization. Contextual variability underscores the need for strengthened governance and workforce investment to sustain equity.

Keywords: health equity, palliative care, decentralization, implementation research





Factors of Cost of Illness among Caregiver of Individual with Type 2 Diabetes Mellitus in Public Primary Healthcare in Malaysia

Siti Bazlina Mohd Rawi¹, Roszita Ibrahim¹, Norfazilah Ahmad¹, Cassidy Devarajoo²

¹Department of Community Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

²Raub District Health Office, Pahang, Malaysia.

Abstract:

Objective: Type 2 Diabetes Mellitus (T2DM) imposes substantial burdens on both patients and caregivers, particularly in low- to middle-income groups. Despite its growing prevalence, evidence on factors influencing the cost of illness (COI) among caregivers in public primary healthcare (PHC) settings in Malaysia is limited. This study aimed to identify factors of cost of illness among caregivers of individuals with T2DM in public PHC in West Pahang, Malaysia.

Method: A cross-sectional cost analysis was conducted among 390 caregivers of T2DM patients attending PHC in West Pahang. Participants were selected based on defined inclusion and exclusion criteria. Data were collected using the validated COST2DM-Malay questionnaire, and multivariate analysis was performed to determine factors of caregiver cost.

Results: Factors were categorized into caregiver and patient characteristics. Increasing caregiver age was associated with higher annual costs, with each additional year increasing costs by RM42.67 (adjusted B=42.67; 95% CI: 22.62–62.72; $p<0.001$). Higher costs were also linked to primary education, low- to middle-income status, unemployment, and caring for one's parents. Patient-related predictors included the presence of diabetes-related complications and treatment with combined oral hypoglycemic agents and insulin therapy.

Conclusion: Both caregiver and patient characteristics are significant factors of caregiver cost in T2DM. Targeted strategies are needed to reduce the economic burden on caregivers of individuals with T2DM. Implementing financial support programs, caregiver education, and resource planning in PHC settings can improve caregiver well-being and enhance the overall quality of patient care.

Keywords: economic burden, caregiver burden, predictive factors, primary care





Bridging Policy and Practice: Phased Implementation of the Stroke Rehabilitation Continuum Program (PKRS) in a Malaysian Healthcare Facility

Ahmad Hazri Bin Ilyas, Saodah Binti Hashim

Ministry of Health, Kuala Lumpur, Malaysia.

Abstract:

Objective: To address the national burden of stroke disability, Malaysia introduced the Stroke Rehabilitation Continuum Program (PKRS) in 2023. To enhance community accessibility, Klinik Kesihatan Bandar Alor Setar, Kedah, adapted this hospital-based framework for primary care. This study evaluates this early execution, focusing on increasing access to post-stroke rehabilitation and improving clinical outcomes via standardized protocols.

Method: As a clinical initiative project, we established a direct referral pathway bridging hospital-based Tier 1 care with primary-care-based Tier 2 ambulatory services. We mobilized an interdisciplinary team (Medical, Nursing, Physiotherapy, Occupational Therapy, Dietetics, and Counseling) to provide sequential rehabilitation. To audit our implementation, we tracked routine patient transition data and integrated standardized tools, including the Modified Rankin Scale (mRS) and the National Institutes of Health Stroke Scale (NIHSS), directly into our primary care workflows.

Results: Tracking Outpatient Transition Success, the clinic enrolled 31.3% of eligible Tier 1 patients into Tier 2 within its first six months, significantly reducing post-acute care defaults. Clinical effectiveness was demonstrated via functional gains in mobility and independence. Notably, the clinic achieved a 0% recurrent stroke rate during the initial 12-month follow-up, highlighting effective secondary prevention.

Conclusion: Successful implementation requires phased adaptations to overcome primary care service congestion and multidisciplinary scheduling challenges. Building on strong clinical baselines, our next phase aims to establish formal interdisciplinary rounds (IDR) to proactively identify service potentials. Ultimately, Klinik Kesihatan Bandar Alor Setar demonstrates that primary healthcare facilities play a vital role in bridging Tier 2 care, translating national policies into tangible healthcare equity.

Keywords: stroke rehabilitation, health policy implementation, care continuum, primary health care





Is Universal Health Coverage Truly Protective? Catastrophic Health Expenditure among BPJS Households in Indonesia

Muhammad Zaidan Zianurrahman Ghozali, Naswa Salsabila Dhenita Putri

University of Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: Since the launch of Indonesia's Jaminan Kesehatan Nasional (JKN) in 2014, managed by BPJS Kesehatan, the country has made major progress toward Universal Health Coverage (UHC). However, whether BPJS fully protects households from catastrophic health expenditure (CHE) remains debated, particularly for informal sector workers—the "missing middle" and households managing chronic non-communicable diseases (NCDs).

Method: This study uses repeated cross-sectional data from the National Socioeconomic Survey (SUSENAS) for 2013 (pre-JKN), 2018, and 2023. CHE was defined as out-of-pocket health spending exceeding 10% (CHE10) and 25% (CHE25) of total household consumption. Complementary log-log and multilevel mixed-effects models were applied to examine determinants of CHE while accounting for rare events and regional clustering. Interaction terms between region (Java-Bali vs. Eastern Indonesia) and urban-rural status captured spatial disparities.

Results: National CHE incidence declined from 9.2% in 2013 to 6.5% in 2023, indicating improved financial protection after JKN implementation. The strongest improvement occurred among subsidized PBI households, where CHE dropped from 11.5% to 4.8%. However, informal sector workers remained vulnerable, facing 12% higher odds of CHE than formal sector households. Households with NCDs showed the highest financial risk (OR: 1.85, 95% CI: 1.62–2.11). Rural households in Eastern Indonesia experienced more than double the risk of CHE compared with urban households in Java-Bali, likely driven by ancillary healthcare-seeking costs such as transportation and accommodation expenses.

Conclusion: BPJS has improved national financial protection but important gaps remain for the "missing middle," NCD households, and underserved regions. Strengthening coverage for vulnerable non-poor groups and improving chronic disease protection are key to advancing equitable UHC.

Keywords: BPJS Kesehatan, catastrophic health expenditure, Indonesia, missing middle, NCDs, SUSENAS, regional inequality





Resource Optimisation for Zoonotic Malaria Control: Evidence from a Comparative Cost-Effectiveness Study in Sabah, Malaysia

Misra Helma Firdaus¹, Mohd Rizal Abdul Manaf², Sharifa Ezat Wan Puteh²,
Zulkarnain Md Idris³, Tam Jenn Zhueng⁴, Mohd Hafizi Abdul Hamid⁴, Zailiza Suli⁴,
Marsudi Abdul Manap⁵

¹Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

²Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, 56000 Cheras, Kuala Lumpur, Malaysia.

³Department of Parasitology and Entomology, Faculty of Medicine, Universiti Kebangsaan Malaysia, 56000 Cheras, Kuala Lumpur, Malaysia.

⁴Vector-Borne Disease Division, Disease Control Division, Ministry of Health Malaysia, 62590 Putrajaya, Malaysia.

⁵Vector-Borne Disease Division, Sabah State Health Department, 88900 Kota Kinabalu, Sabah, Malaysia.

Abstract:

Objective: To evaluate the cost-effectiveness of Outdoor Residual Spraying (ORS), Insecticide-Treated Nets (ITNs), and their combination for controlling zoonotic *Plasmodium knowlesi* malaria in Sabah, Malaysia, and to inform evidence-based vector control strategies.

Method: A cost-effectiveness analysis was conducted over one year (2023) in three high-endemic districts: Keningau (ITNs), Ranau (ORS), and Kota Marudu (ORS+ITNs). Costs were estimated using ingredient-based costing. Effectiveness was measured as malaria cases averted using surveillance data. Incremental cost-effectiveness ratios (ICERs) were calculated relative to a no-intervention baseline. Sensitivity analyses assessed robustness.

Results: ORS emerged as the most cost-effective single intervention, averting 13 malaria cases with an ICER of MYR 2,046 per case. ITNs prevented five cases at an ICER of MYR 2,835, while the combined strategy averted six cases at a higher ICER of MYR 5,975. Across all sensitivity analyses, ORS consistently demonstrated superior economic efficiency, indicating stability of the findings under plausible variations in key parameters.

Conclusion: ORS provides the greatest value for zoonotic malaria control in Sabah. Prioritising ORS optimises limited health resources and enhances programme sustainability. ITNs and combined strategies should be reserved for high-risk groups. These findings support stratified, evidence-based policy and strengthen health system resilience, contributing to equitable malaria control and global health security in Malaysia.

Keywords: zoonotic malaria, cost-effectiveness, malaria control programmes, resource allocation, Malaysia, *plasmodium knowlesi*





Health Insurance, Catastrophic Expenditure, and Poverty Deepening: Causal Evidence from Agricultural Households in Indonesia

Fitra Anas, Heni Wahyuni

Department of Economics, Faculty of Economics and Business, Universitas Gadjah Mada, D.I. Yogyakarta, Indonesia.

Abstract:

Objective: This study evaluates the causal effect of subsidised health insurance on catastrophic health expenditure (CHE) and impoverishment among agricultural households in Indonesia. Despite the National Health Insurance (JKN) achieving near-universal enrollment by 2024, agricultural households in rural areas remain disproportionately exposed to financial hardship from health spending.

Method: Analyzing data from two waves of the Indonesian Family Life Survey (IFLS 2007 and 2014), this study applied Propensity Score Matching combined with Difference-in-Differences (PSM-DiD) to estimate the Average Treatment Effect on the Treated (ATT) across a sample of 3,184 agricultural households. CHE is measured at four thresholds: 10%, 25%, and 40% of total expenditure (budget share), and 40% of capacity to pay, while impoverishment is captured through further impoverishment status and the poverty gap.

Results: Subsidised insurance did not significantly reduce CHE probability at any threshold, suggesting that coverage expansion without sufficient benefit depth was insufficient to curb catastrophic spending. However, insurance significantly reduced the probability of further impoverishment by approximately 44% (OR=0.556, $p<0.1$). Heterogeneity analysis revealed that smallholder farmers experienced a significant increase in healthcare utilisation consistent with a previously unmet need mechanism, while large-scale farmers exhibited a significant reduction in poverty gap depth.

Conclusion: These results indicate that subsidised health insurance primarily functions as a poverty-protection and consumption-smoothing instrument rather than a direct CHE mitigator for agricultural households, underscoring the insufficiency of coverage expansion without adequate benefit depth, with important implications for the design and evaluation of Universal Health Coverage policy in Indonesia.

Keywords: catastrophic health expenditure, impoverishment, agricultural households, JKN, PSM-DiD





Economic Evidence for Diabetes Remission through Dietary Interventions: A Scoping Review with Implications for Low- and Middle-Income Health Systems

Zubalqiah Zulkifli, Syed Mohamed Aljunid Syed Junid

IMU University, Kuala Lumpur, Malaysia.

Abstract:

Objective: Structured dietary interventions such as total diet replacement (TDR) have emerged as promising strategies for achieving remission of type 2 diabetes mellitus (T2DM). While clinical evidence supporting remission is growing, the economic evidence remains fragmented and largely derived from high-income settings, limiting its relevance for low- and middle-income countries (LMICs). This study aimed to map existing economic evaluations of remission-focused dietary interventions and identify methodological gaps relevant to LMIC contexts.

Method: A scoping review was conducted following the Joanna Briggs Institute methodological framework and reported in accordance with PRISMA-ScR guidelines. Literature searches were performed in PubMed, Scopus, and Google Scholar from database inception to December 2025 to identify studies reporting economic evaluations of structured dietary interventions aimed at achieving T2DM remission. Data on study characteristics, analytic perspectives, modelling approaches, outcome measures, and assumptions regarding remission sustainability were extracted and synthesised descriptively.

Results: The search identified 177 records, of which four studies met the inclusion criteria. Most studies were conducted in high-income countries and frequently used modelling approaches informed by clinical trials such as the Diabetes Remission Clinical Trial (DiRECT). Three studies reported remission-focused dietary interventions to be cost-effective, while one modelling study suggested potential cost-effectiveness depending on assumptions regarding long-term weight maintenance and remission durability. Evidence from LMICs was scarce.

Conclusion: Remission-focused dietary interventions appear potentially cost-effective, but current economic evidence has limited relevance for LMIC health systems. Context-specific economic evaluations are needed to inform policy decisions on integrating remission-focused strategies into diabetes care.

Keywords: type 2 diabetes, remission, dietary intervention, cost-effectiveness, economic evaluation





Engaging General Dental Practitioners in Strategic Purchasing for Publicly Funded Oral Care in Malaysia: A Qualitative Study

Muhammad Khairil Affandy Bin Rosli¹, Tuti Ningseh Mohd Dom², Haslina Binti Rani²

¹Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

²Faculty of Dentistry, University Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: To explore the feasibility and acceptability of engaging private general dental practitioners (GDPs) in delivering publicly funded oral healthcare for low-income populations in Malaysia, and to identify contract attributes relevant to future strategic purchasing arrangements.

Method: This study employed a qualitative design using focus group discussions with private general dental practitioners recruited through purposive and snowball sampling. A semi-structured guide, developed from the study objectives, relevant literature, and the Strategic Health Purchasing Progress Tracking Framework, explored perceptions of publicly funded schemes, the feasibility of participation, and preferred contract attributes. The guide was expert-validated and pilot-tested. Data were analysed thematically using an adapted strategic purchasing framework, with reflexive journaling and member checking used to enhance trustworthiness.

Results: Participants recognised unmet oral healthcare needs among low-income populations and viewed strategic purchasing as a potential mechanism for expanding access through private sector engagement. Key concerns included financial risk, administrative burden, delayed reimbursement, and the limited suitability of such arrangements for solo practices. Participation was seen to depend on fair provider payment, timely claims processing, a clearly defined service package, and streamlined digital workflows. GDPs generally favoured contracts focused on essential preventive and basic restorative care, provided these did not compromise treatment quality.

Conclusion: Strategic purchasing through private GDPs appears feasible, but participation will depend on contract design that is financially viable, administratively efficient, and supportive of quality care.

Keywords: strategic purchasing, oral health policy, private dentists, priority group, public-private contracting





Willingness to Pay for Dengue Vaccine by Income Quintile of Adults in The Metropolitan Area of Ho Chi Minh City, Vietnam: An Imputation of Income Missing Data

Giang Le Ba, Kasemsak Jandee, Tippawan Liabsuetrakul

Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.

Abstract:

Objective: To measure willingness to pay (WTP) for dengue vaccine by income quintiles using the composite of age, gender, and marital status to impute missing income data.

Method: A cross-sectional study was conducted among adults residing for at least six months in the central core area of Ho Chi Minh City, Vietnam. WTP was assessed using an open-ended question. Missing income was imputed with the composite of age, gender, and marital status using Multiple Imputation by Chained Equations (MICE), and the effects of WTP by income quintile with and without MICE were analyzed using a linear regression model.

Results: Of the 346 participants, 93 participants (26.9%) preferred not to answer the income variable resulting in the remaining 253 with income completion. No significant difference in WTP for vaccine was detected between those with and without missing income data, with a median of 23.1 USD, which was lower than vaccine price. Missing income data were more likely to be found in females with higher age. With MICE the median WTPs by quintiles of all participants were 19.2, 19.2, 23.1, 26.9, and 46.2 USD, respectively. Only those in the highest income quintile had significantly higher WTP compared to those in the lowest income quintile, both using and not using MICE.

Conclusion: MICE using age, gender and marital status is a suitable alternative method for estimating WTP for dengue vaccine by income quintile. Future analyses on factors influencing WTP and intention to get vaccine for efficient program implementation need to be further explored.

Keywords: dengue vaccine, MICE, income, willingness to pay, Ho Chi Minh city, Vietnam





The Economic Value of Employee Assistance Programs: A Scoping Review and Implications for Malaysia and Low-and Middle-Income Countries

Gar Loon Diong¹, Syed Mohamed Aljunid²

¹School of Business and Technology, IMU University, Kuala Lumpur, Malaysia.

²Department of Public Health and Community Medicine, School of Medicine, IMU University, Kuala Lumpur, Malaysia.

Abstract:

Objective: This scoping review synthesizes global peer-reviewed evidence on EAP economic evaluations, emphasizing cost-benefit, cost-effectiveness, and productivity outcomes.

Method: Guided by the Population-Concept-Context framework, a systematic search was conducted across PubMed, Scopus, ScienceDirect, EBSCOhost, Ovid, and the Cochrane Library for English-language studies (1990–2025). Supplementary hand-searching and citation tracking were also performed. Following duplicate removal, unique records underwent rigorous screening against predefined criteria, incorporating a 20% intra-rater reliability validation.

Results: Of 1,505 identified records, 1,040 unique studies were screened, yielding 32 included papers. Evidence predominantly originated from North America and Europe, with negligible data from Africa and a complete absence of studies from Southeast Asia (SEA). Evaluations were dominated by return-on-investment (ROI) and cost-benefit analyses, frequently demonstrating positive ROI ratios of 3:1 to 5:1, primarily driven by reduced presenteeism. However, rigorous health economic methodologies were largely absent, evidenced by a dearth of cost-effectiveness and cost-utility analyses utilizing quality-adjusted life years (QALYs).

Conclusion: While current evidence substantiates the economic potential of EAPs, a critical geographical disparity exists. The lack of evidence from SEA and the broader scarcity in low- and middle-income countries underscore an urgent need for rigorous, context-specific economic evaluations to inform regional policy, particularly in Malaysia.

Keywords: employee assistance programs, health economics, cost-benefit analysis, workplace mental health, return on investment.





Incident Reporting Practice, Factors, Challenges and Barriers Among Public Primary Healthcare Workers in Perak: A Mixed-Methods Study

Hanis Abdul Rani, Aniza binti Ismail

Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia.

Abstract:

Objective: Incident reporting is a key component in improving patient safety and healthcare quality. However, the reporting practices among public primary healthcare workers are influenced by multiple factors and challenges. This study aimed to assess incident reporting practices and examine the factors, challenges, and barriers influencing these practices among public primary healthcare workers in Perak.

Method: An explanatory sequential mixed-methods design was used. Quantitative data were collected from 350 respondents using a structured questionnaire and analysed using Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modelling (SEM), including mediation analysis via bootstrapping. Qualitative data were obtained through in-depth interviews, observations, and document analysis, and analysed thematically to explain the quantitative findings.

Results: Awareness, organizational factors, and knowledge significantly influenced attitude, while attitude significantly predicted incident reporting practice ($\beta=0.501$). The model explained 53% of the variance in attitude and 54% in reporting practice. Attitude fully mediated the relationships of awareness and organizational factors with practice, and partially mediated knowledge. Qualitative findings supported these results, highlighting the role of these factors in shaping reporting behaviour. Key barriers included blame culture, fear of punishment, and operational pressures such as workload and time constraints.

Conclusion: In conclusion, attitude serves as the main mechanism linking awareness, knowledge, and organizational factors to incident reporting practices and should be emphasized in efforts to strengthen patient safety.

Keywords: incident reporting, patient safety, practice, factors, challenges, barriers





Temporal Trends and Changes from Vaccination Policy on Service Utilization and Well-Glycemic Control of Diabetic Patients in Primary Care Settings, Songkhla, Thailand: Lesson Learned from COVID-19

Supakorn Suntudkan¹, Tagoon Prappre², Jiraporn Soramad³, Tippawan Liabsuetrakul²

¹Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.

²Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.

³National Health Security Office Region 12 Hat Yai, Songkhla, Thailand.

Abstract:

Objective: To evaluate the temporal changes in service utilization and well-glycemic control among diabetic patients in primary care settings in Songkhla, Thailand, before and after the implementation of the national COVID-19 vaccination policy.

Method: A repeated retrospective cross-sectional study was conducted. The data of patients diagnosed diabetes mellitus (DM) and received care in primary care settings were retrieved from the database of National Health Security Office under the Universal Coverage Scheme from fiscal year 2017 to 2023. Service utilization was defined as the aggregate number of monthly visits and HbA1c check-ups and well-glycemic control was assessed by HbA1c <7%. Interrupted time-series analyses were used to compare trends across pre-pandemic, pre-vaccination, and vaccine periods.

Results: There were 82,857 cumulative DM patients with a total of 4,753,217 visits. Median age of all DM patients were 62 years (Interquartile Range 54, 70). The COVID-19 onset showed immediate impact on decreasing in number of visits (-18.4%, $p=0.016$) and HbA1c tests (-43.5%, $p<0.001$). Glycemic control was significantly dropped over time at pre-vaccination phase (trend -2.4%, $p<0.001$). After the initiation of the vaccination policy period, the trend of service utilization stabilized. The well-glycemic controlled rate showed significantly recovery trend (+3.2%, $p<0.001$).

Conclusion: Emerging COVID-19 pandemic was associated with a short-term disruption of service utilization, followed by delayed clinical deterioration. The subsequent recovery of glycemic control coincided with the vaccination era, suggesting potential health system adaptation. Timely public health interventions are crucial for restoring care and improving clinical outcomes.

Keywords: service utilization, glycemic control, diabetes patients, COVID-19, vaccination





Cultivating Adaptive Resilience through Hospital Service Delivery Transformation in Response to Shifting Health System Trends: A Benchmarking Study of Wellness Tourism in Indonesia and Thailand

Bestian Ovilia Andini, Laksono Trisnantoro, Haryo Bismantara

Center for Health Policy and Management, Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada, Indonesia.

Abstract:

Objective: This study aims to analyze gaps in fostering adaptive resilience toward preventive care between wellness tourism's services of Gadjah Mada Academic Hospital (RSA UGM), Indonesia, by benchmarking against the outcomes of Siriraj H. Solutions, Thailand.

Method: A single-case (embedded) case study research design was used. Data were collected through observations, focus group discussions (FGDs), and in-depth interviews at RSA UGM. Secondary data analysis was conducted for the Siriraj H. Solutions benchmark. The Business Model Canvas (BMC) framework was used to analyze nine building blocks, with pattern-matching techniques applied to the data.

Results: As a public academic hospital, RSA UGM faces challenges in adapting to the shifting of the health system toward preventive care while navigating strict regulatory mandates. Despite establishing a wellness tourism unit, service delivery remains dominated by curative procedures rather than preventive care, signaling a governance gap. RSA UGM is hospital-centric. On the other hand, Siriraj prioritizes wellness through autonomous wings located in commercial hubs. Adopting off-site models requires navigating complex public-sector regulations. Furthermore, Siriraj maintains a strong brand signature ("Happy-Healthy-Holistic"), while RSA UGM lacks a unique, market-embedded brand identity. Digital gaps also exist; RSA UGM relies on manual booking, while Siriraj utilizes integrated digital platforms.

Conclusion: Significant gaps in service focus, location, branding, and digitalization at RSA UGM highlight the need for remodeling. These findings provide a roadmap for public academic hospitals to balance educational mandates with market-driven health tourism. Consequently, policy-aligned strategies are essential for health system strengthening and building adaptive resilience.

Keywords: wellness tourism, adaptive resilience, hospital service development





Impact of Preventive Tuberculosis Screening Policies on Case Detection and Treatment Outcomes: Evidence from Indonesia National Surveillance System, 2021–2024

Agus Fitriangga, Alex Alex, Eka Ardiani Putri

Universitas Tanjungpura, Kota Pontianak, Kalimantan Barat, Indonesia.

Abstract:

Objective: To evaluate the effects of policies on preventive tuberculosis (TB) screening on case detection, timeliness of treatment initiation, and treatment outcomes, using national TB surveillance data in Indonesia.

Method: A retrospective observational study using the Indonesian national tuberculosis surveillance system (SITB). The analysis included 1,587,426 TB cases reported between 2021 and 2024. Age, sex, HIV status, diabetes status, treatment duration, and outcomes were extracted from the database as variables. Descriptive statistics were used to examine trends in TB case detection and program indicators following the scaling up of preventive screening activities. Multivariable logistic regression was used to estimate the association between treatment outcomes and screening-related case detection, adjusting for demographic and clinical characteristics.

Results: The proportion of TB cases diagnosed due to preventive screening rose from 20.3% in 2021 to 31.8% in 2024. At the national level, during the same period, TB case notification rates increased from 328 to 361 per 100,000 population. The median time from symptom onset to treatment initiation decreased from 26 days to 19 days, representing improved timeliness of care. Treatment success increased from 83.7% to 86.5%, and loss to follow-up decreased from 7.4% to 5.8%. In multivariable analysis, cases detected through preventive screening were associated with a higher likelihood of starting treatment within 14 days (AOR 1.39; 95% CI 1.34–1.45) and continued to have greater odds of treatment success (AOR 1.16; 95% CI 1.11–1.21) than cases identified through passive case finding methods.

Conclusion: Expanding screening and strengthening health systems accelerate progress TB elimination.

Keywords: tuberculosis, preventive screening, national surveillance data, treatment outcomes, health system strengthening





Associations of Awareness, Knowledge and Attitudes with The Intention to Practice Rabies Prevention among Adults Living Along the Bhutan–India Border

Tshewang Dorji, Tippawan Liabsuetrakul

Department of Epidemiology, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla, Thailand.

Abstract:

Objective: To assess the association of awareness, knowledge, attitudes with intention to practice rabies prevention among adults living along the Bhutan–India border.

Method: A community-based, cross-sectional study was conducted in seven high-risk districts using multistage sampling. Data were collected via structured interviews, and factors associated were analyzed using multivariable regression models. Main exposures were awareness, knowledge, and attitudes. Other covariates included sociodemographic and behavioral characteristics, and accessibility of rabies preventions.

Results: Among 728 participants, a majority had better intention concerning seeking PEP (97.5%), vaccinating dogs (87.5%), wound washing (87.2%), and willingness for PrEP (52.9%). Almost 60% of participants referred to lack of awareness as the utmost challenge to rabies prevention. Vaccination campaigns for animals were revealed as better rabies preventions (86.3%) than access to pre- and post-exposure prophylaxis (32.7%). Half of the participants showed standard awareness (55.9%), knowledge (51.6%), and attitudes (54.3%) toward rabies preventions. Intention to practice rabies preventions were associated with high levels of awareness (AOR 1.16, 95% CI 1.01–1.35), knowledge (AOR 1.0, 95% CI 0.93–1.08), attitude (AOR 8.32, 95% CI 5.51–12.8), and accessibility of a facility (AOR 2.25, 95% CI 1.3–3.9) after adjusting for age, education, occupation, personal monthly income, animal vaccination and source of rabies information.

Conclusion: Moderate intention to practice rabies prevention was found and was associated with awareness, attitude and accessibility. The low percentages of awareness, knowledge and attitude toward rabies preventions are of concern. Strengthening community awareness, improving PEP, and promoting positive attitudes are essential to enhance preventive practices in rabies elimination.

Keywords: rabies, awareness, knowledge, attitude, practice, post-exposure prophylaxis.





Living Arrangement as a Barrier to Oral Healthcare among Older Population: A Scoping Review

Nurul Adila Mat Dait, Rosli Tanti Irawati

Faculty of Dentistry, National University of Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: An aging population has become one of the most important global issues. The growth of the elderly population has affected dental services and contributed to the rising burden of oral disease. The demographic trends of this group have led to shifts in the living arrangements of the elderly, influencing their oral health and well-being. The aim of the study is to explore the existing evidence on the association between living arrangements and their accessibility to oral healthcare.

Method: A scoping review was conducted based on the reporting items for systematic reviews and meta-analyses, with an extension for scoping reviews (PRISMA-ScR). Searches were performed through 3 electronic databases: Web of Science, Scopus and PubMed. Inclusion criteria were articles that focused on living arrangements as a barrier to oral healthcare, from 1996 to 2025. The data were analysed according to thematic analysis.

Results: Among 397 articles screened, only 10 articles met the inclusion criteria. Living arrangements have influenced access to dental care through four key barriers: social support, financial constraints, logistical and caregiving challenges, and household context affecting healthcare utilization.

Conclusion: Equitable dental services are essential for society, including older adults. Living arrangements may influence access to dental services and, consequently, affect the overall well-being of the elderly. Therefore, strategic planning that considers the needs of older adults is crucial for addressing barriers to oral healthcare and ensuring more effective and accessible dental services.

Keywords: living arrangement, living alone, oral healthcare





Digital Twin Applications in Hospitals: A Scoping Review of Clinical Prevention Levels and Technology Maturity

Muhammad Shabri Putra Wibowo¹, Annisa Ristya Rahmanti¹, Haryo Bismantara¹,
Huan X Nguyen²

¹Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²London Digital Twin Research Center, Middlesex University, London, United Kingdom.

Abstract:

Objective: This study aims to map the landscape of digital twin (DT) applications in hospital settings. It examines how DTs are applied across clinical prevention levels, assesses their technology maturity, and explores their implications for health system development.

Method: Following PRISMA–ScR guidelines, we searched PubMed, Scopus, Embase, IEEE Xplore, and Google Scholar for studies on human DTs in clinical environments, published up to July 2024. Eligible studies were classified by prevention type (primary, secondary, tertiary, quaternary), Metcalfe maturity level (L0–L5), and examined their potential implications for health system development.

Results: Forty studies met the inclusion criteria. Most targeted tertiary (n=23; 58%) and secondary prevention (n=10; 25%), predominantly modeling metabolic conditions like diabetes (n=11; 28%) and cardiac diagnostics (n=6; 15%). Primary (15%) and quaternary (2.5%) applications were uncommon. While 15 studies (38%) achieved intelligent twin status with human-in-the-loop capabilities (L4), the majority operated at lower maturity levels (L1–L3; 60%) and remained constrained to simulated settings (70%). Routine clinical implementation is currently limited by early technological maturity and insufficient validation. Only one study reached full autonomy (L5), and merely one utilized a randomized controlled trial. Critical verification, validation, and uncertainty quantification standards were addressed in two studies (5%).

Conclusion: DTs demonstrate substantial potential to support hospital-based care, especially for chronic disease management. However, most applications remain in early stages and lack widespread real-world implementation. Future research should prioritize advancing technology maturity, strengthening real-world evaluation, and developing clinical validation standards to ensure safe, scalable integration into healthcare systems.

Keywords: digital twin, healthcare, hospital, prevention, technology maturity





Priorities of Care in Telehealth from Older Adults' Perspective: A Scoping Review on Roles, Challenges and Limitations

Mya Win Hnit¹, Aznida Firzah Abdul Aziz¹, Chai-Eng Tan¹, Mohd Fairuz Bin Ali¹,
Zuraidah Cheâ Man²

¹Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

²Public Health Unit, Hospital Canselor Tuanku Muhriz and Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: Although telehealth use has enormously increased, there are still limited studies exploring the priorities of virtual care from older adults' perspective. Clinical guidelines on telehealth require addressing specific issues related to the biopsychosocial and technological needs of older people, which limit their access to telehealth services. Therefore, this scoping review was conducted to identify the priorities of care in telehealth in terms of roles, challenges, and limitations from the perspective of older adults.

Method: The MEDLINE, Scopus, and Web of Science databases were explored, and an additional search was done at the medical libraries of National University of Malaysia. Search limits were set for English and for the last 10 years (1-Jan-2015 to 30-Sep-2025) to include recent publications relevant to current telehealth practices. All types of publications that included older adults (≥60 years), mentioned priorities of care from older adults' perspective, and were conducted in the context of telehealth services in primary care settings, were included for screening.

Results: A total of 828 articles were screened after removing duplicates. 33 articles (primary and secondary research, reviews and book chapters) were selected for final analysis. Commonly reported telehealth roles for older adults were telemonitoring, communication with healthcare providers, health-related information, scheduling appointments and online prescriptions. Challenges and limitations identified were related to trust issues, data privacy concerns, technology-associated challenges, cognitive/sensory impairments and limited infrastructure.

Conclusion: This study identified various care priorities in telehealth, guiding healthcare personnel in providing person-centered virtual care for their older patients.

Keywords: telehealth, priorities of care, older adults, primary care





Maternal Nutritional Risk and Health Information Equity among First-Time Mothers: Evidence from a Digital Health Platform in Indonesia

Dimas SEW Sumunar¹, Mia Purnama², Lutfan Lazuardi³

¹Department of Health Policy and Management, Faculty of Medicine Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Universitas Gadjah Mada Academic Hospital, Yogyakarta, Indonesia.

³Department of Health Policy and Management, Faculty of Medicine Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: We aim to assess maternal nutritional risk and health information from a digital maternal health platform in Yogyakarta, Indonesia.

Method: This retrospective cross-sectional study used linked records from a mobile-first digital health platform. The data included maternal registration records, repeated health-monitoring entries, dietary history, and recorded birth outcomes, enabling assessment of nutritional vulnerability, maternal health status, and patterns of platform access and use. Descriptive analysis was conducted to characterize nutritional risk and examine indicators of health information equity through variation in platform use and geographic distribution among users.

Results: The data showed that the platform captured a broad range of maternal nutritional and health-related risks, including undernutrition and overnutrition, possible anemia, exposure to smoking, oral health problems, allergy history, and other reported medical conditions. The presence of dietary and haemoglobin records indicated that the platform supported ongoing monitoring. At the same time, the data suggested uneven engagement and possible inequities in access to and use of health information, and platform users were distributed across multiple municipalities. These patterns suggest that the platform is able to identify maternal nutritional risk while also revealing differences in the continuity of digital health engagement.

Conclusion: Routinely collected data from this digital maternal health platform demonstrate measurable maternal nutritional risk and reveal unequal patterns of digital health engagement that may reflect health information inequity. Strengthening follow-up, improving continuity of platform use, and targeting underserved users and locations may enhance early risk detection and promote more equitable access to maternal health care.

Keywords: digital health, health information equity, maternal nutrition, pregnancy, Indonesia





Governance, Organisational and Behavioural Determinants of Pharmaceutical Strategic Purchasing in Public Health Systems: A Scoping Review

Wei Chern Ang¹, Aznida Firzah Abdul Aziz¹, Aniza Ismail², Nurul Ain Mohd Tahir³,
Syed Mohamed Aljunid Syed Junid⁴

¹Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Indonesia.

²Department of Public Health, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

³Faculty of Pharmacy, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

⁴School of Medicine, IMU University, Kuala Lumpur, Malaysia.

Abstract:

Objective: This scoping review synthesises global evidence on the governance, organisational and behavioural determinants influencing the implementation and performance of pharmaceutical strategic purchasing in the public sector.

Method: This review was conducted following the PRISMA-ScR guidelines. A systematic search was performed in PubMed, Scopus, Web of Science and Cochrane Library. The search strategy combined terms related to pharmaceuticals, strategic purchasing, public-sector procurement and implementation determinants. Empirical studies (2000–2025) examining public-sector pharmaceutical purchasing were included.

Results: A framework synthesis mapped findings to Principal-Agent Theory (macro-governance), Strategic Purchasing functions (meso-level) and Theory of Planned Behaviour (micro-level). At the macro level, fragmented governance arrangements, rigid financial rules and limited purchaser autonomy constrained value-oriented decision-making. At the meso level, weak information systems, inadequate performance monitoring and insufficient technical capacity hindered effective procurement management. At the micro level, stakeholders' behavioural intentions were influenced by professional norms, perceived behavioural control and role clarity. A major evidence gap was the limited integration of institutional governance and behavioural determinants, with most studies examining these domains separately.

Conclusion: Effective pharmaceutical strategic purchasing requires an integrated approach that aligns governance structures, organisational capacity and procurement agents' behavioural capabilities. These findings provide a foundation for developing context-sensitive assessment and reform strategies to strengthen public pharmaceutical procurement.

Keywords: value-based purchasing, pharmaceuticals, health policy, pharmaceutical services, public sector





Integrating Oral Health into Domiciliary Medical Care Pathways in Malaysia: A Research Proposal

Afiqah Aiman Saperi, Haslina Rani, Tuti Ningseh Mohd Dom

Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Abstract:

Objective: To develop an evidence-based, consensus-validated integrated pathway model that includes oral health into domiciliary medical care for older adults in Malaysian nursing homes, and to identify feasible integration points within existing care pathways.

Method: This multi-phase sequential study will employ three approaches. Phase 1 conducts comparative policy analysis of Malaysia, Indonesia, and Japan to derive benchmark integration frameworks for long-term care settings. Phase 2 maps existing domiciliary medical care pathways in two Malaysian nursing homes through facility profiles, document reviews, facilitated mapping sessions with multidisciplinary staff, semi-structured interviews, and structured observations, analysed using framework analysis. Phase 3 develops and validates the integrated pathway model through a modified Delphi consensus process involving 70 multidisciplinary experts, including nursing home managers, healthcare professionals, and policy experts, using iterative rounds with 9-point Likert scale ratings and qualitative feedback until consensus is achieved.

Results: The study will produce a consensus-validated integrated medical-oral care pathway model specifically designed for Malaysian nursing homes, identifying specific integration points, workforce roles, and implementation mechanisms. Comparative policy synthesis will establish benchmark functions applicable to middle-income countries. Pathway mapping will reveal current practice gaps and feasible integration opportunities across public and private sector facilities.

Conclusion: This research will be able to address critical evidence gaps in oral health integration for Malaysian long-term care context, providing actionable guidance for policymakers and healthcare providers to improve coordinated care delivery for institutionalised older adults facing Malaysia's demographic transition toward an aged nation by 2048.

Keywords: oral health integration, domiciliary medical care, nursing homes, older adults, delphi consensus





Beyond the Injury: A Systematic Review of Quality of Life Following Traumatic Dental Injury (TDI) in Adults

Farah Izzati Azmi¹, Amy Liew Kia Cheen², Dalia Abdullah³

¹Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

²Department of Family Oral Health, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

³Department of Restorative Dentistry, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: This systematic review synthesizes available evidence to determine the extent to which TDI affects the OHRQoL in adults.

Method: A comprehensive search was performed across the PubMed, Embase, and Cochrane databases. Inclusion was restricted to research involving participants aged 18 and above who had experienced traumatic dental injuries, provided that their OHRQoL was measured using validated assessment tools. A narrative synthesis was conducted to examine the consistency of outcomes across the various psychometric instruments utilized in the included studies. The ROBINS-E tool was utilized to evaluate the methodological integrity of the selected research, ensuring a standardized appraisal of potential bias.

Results: A total of seven studies, spanning six different countries, met the inclusion criteria for this review. While there were concerns about recall bias and self-reported quality-of-life metrics, the inclusion of professionally diagnosed and documented TDI cases strengthened the reliability of the exposure data. Significant heterogeneity across study designs and OHRQoL metrics precluded a formal meta-analysis. Across all validated scales (OHIP-14, OIDP, CPQ11-14), TDI consistently led to OHRQoL deficits, with psychological and social impacts outweighing functional limitations.

Conclusion: TDI negatively affects adult OHRQoL, with psychological well-being being the most heavily impacted area. This study emphasizes the importance of a patient-centered approach, utilizing OHRQoL data to assess the effectiveness of dental trauma interventions.

Keywords: traumatic dental injury, avulsion, quality of life, systematic review, adult





Navigating Reform: A Systematic Review of Health Governance and System Strengthening in Malaysia (2023–2026)

Nor Faiza Mohd Tohit¹, Wan Farizatul Shima W.A.F.², Halimatus Sakdiah Minhat³,
Siti Hajar Adam², Siti Athirah Zafirah Abdul Rashid²

¹Department of Community Health, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia.

²Department of Community Medicine, Faculty of Medicine and Defence Health, National Defence University of Malaysia, 57000 Kuala Lumpur, Malaysia.

³Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia.

Abstract:

Objective: This systematic review evaluates the progress and impact of governance-led reforms specifically the decoupling of the provider-regulator roles and digital policy integration on Malaysia's Health Systems Strengthening (HSS) objectives

Method: Following PRISMA 2020 guidelines, a systematic search was conducted across PubMed, Scopus, and MyCite for literature published between January 2023 and March 2026. Inclusion criteria focused on peer-reviewed studies and authoritative policy reports addressing Malaysian health governance, legislative reforms, and HSS outcomes.

Results: Analysis of 32 qualifying documents identified three critical thematic pillars: (1) Structural Decoupling, involving the Ministry of Health's transition toward a strategic regulatory role; (2) Digital Accountability, through the nationwide scaling of Electronic Medical Records for evidence-based policy; and (3) Value-Based Financing, shifting reimbursement models toward health outcomes. While technical progress is evident, significant barriers remain, including legislative lag and data silos between public and private sectors.

Conclusion: Governance serves as the "operating system" for Malaysia's health reform. For HSS to be sustainable, future policies must prioritize statutory independence for public providers and a robust legal framework for digital interoperability to ensure equitable healthcare delivery.

Keywords: health systems strengthening (HSS), Malaysia health white paper, governance reform, digital health policy, 13th Malaysia plan (RMK-13)





Food Safety, Aflatoxin Exposure, Zinc Deficiency, and Stunting: A Systematic Review

Anastu Regita Nareswara¹, Safrina Oksidriyani², Nur Ahmad Habibi³

¹School of Food Science and Nutrition, Faculty of Environment, University of Leeds, United Kingdom.

²Nutrition Study Program, Department of Veterinary Medicine, Faculty of Medicine, Universitas Negeri Semarang, Indonesia.

³Nutrition Department, Health Ministry Polytechnic of Padang, Padang, Indonesia.

Abstract:

Objective: We aim to synthesize existing evidence on the relationship between food safety, particularly aflatoxin contamination, zinc deficiency, and stunting among children.

Method: A systematic literature search was conducted in PubMed, Scopus, Web of Science, and Google Scholar for studies published between 2000 and 2025. Studies examining aflatoxin exposure, zinc deficiency, food safety, and stunting among children were included. Screening and selection followed the PRISMA guidelines. Data extraction included study characteristics, population, exposure measurements, outcomes, and key findings. The methodological quality of included studies was assessed using appropriate risk-of-bias tools. A total of 18 studies met the inclusion criteria.

Results: Several studies demonstrated associations between aflatoxin exposure and impaired child growth, including increased risk of stunting. Zinc deficiency was also found to be prevalent among Indonesian children, particularly in rural and low-income populations. Poor dietary diversity, low consumption of animal-source foods, and inadequate food safety practices were identified as contributing factors to both zinc deficiency and stunting. Although limited studies examined the combined effects of aflatoxin exposure and zinc deficiency, emerging evidence suggested that aflatoxin exposure may worsen micronutrient deficiencies and negatively affect growth outcomes.

Conclusion: Aflatoxin exposure and zinc deficiency may contribute to stunting among Indonesian children. Strengthening food safety systems, monitoring aflatoxin contamination, and promoting zinc-rich diets may help reduce stunting. Further longitudinal and intervention studies are needed to clarify causal pathways.

Keywords: zinc, aflatoxin, food safety, stunting





Development of a Massive Open Online Course "AI for Health" as a Digital Innovation to Enhance Artificial Intelligence Literacy in Healthcare

Muhammad Rizky Mangkuwidjaya¹, Annisa Ristya Rahmanti¹, Lukman Heryawan²,
Lutfan Lazuardi¹, Guardian Yoki Sanjaya¹, Anis Fuad³, Hanifah Wulandari¹,
Fadhilah Khairuna Larasati¹

¹Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia.

³Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This study aims to develop and evaluate a Massive Open Online Course (MOOC) "AI for Health" to improve artificial intelligence (AI) literacy among students and healthcare professionals.

Method: The MOOC was conducted over 6 weeks through self-paced learning system, including instructional videos, webinars, tutorial sessions using Google Colab and Python, quizzes, and assignments. Evaluation was conducted using a pre-assessment survey to assess participants' knowledge, attitude, and practice on AI in healthcare.

Results: Out of 719 enrolled participants, 203 completed the pre-assessment. The respondents had a mean age of 27 years (range 19–55 years), consisting of 60.6% women and 39.4% men. Educational backgrounds were dominated by bachelor's degree (47.3%) followed by master's degree (24.6%), high school (19.7%) and doctoral degree (1.5%). A total of 52% of the respondents had never taken AI training before. However, 72% held positive perceptions regarding AI's potential to support diagnosis and administrative efficiency. Key barriers to AI adoption included a lack of awareness, lack of proper training and teaching, financial resources, and technological support.

Conclusion: The "AI for Health" MOOC has the potential to improve AI literacy for healthcare professionals and multidisciplinary students in Indonesia. Preliminary results indicate a high level of enthusiasm for AI education. However, there remains a gap in understanding of basic concepts that need to be addressed through national case studies and project-based learning.

Keywords: artificial intelligence, MOOC, digital health literacy





Characterising Smartphone Use Patterns in Malaysian Older Adults: Insights from a Pilot Study

Nurul Atikah Anuar¹, Mohd Fairuz Ali², Ezura Madiana MD Monoto³

¹Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

²Ministry of Health Malaysia, Kuala Lumpur, Malaysia.

³Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: This pilot study aimed to characterise smartphone use patterns among Malaysian older adults aged 60 years and above.

Method: A cross-sectional pilot study was conducted among 30 older adults recruited through random sampling at Klinik Kesihatan Putrajaya Presint 9. Smartphone use was characterised by weekly duration (hours/week) and principal application categories. Weekly usage duration was extracted directly from participants' mobile device records with informed consent. Applications were grouped into social (e.g., WhatsApp, Facebook), entertainment (e.g., TikTok, YouTube), productivity/finance, creativity, and information categories. Data were analysed using descriptive statistics, independent t-tests, and analysis of variance.

Results: Mean weekly smartphone use was [mean=17.21 hours/week]. Social applications were the most frequently used, particularly WhatsApp, followed by Facebook and YouTube. Male participants, those with higher educational attainment, and adults aged 60–69 years reported significantly longer weekly smartphone use than their counterparts [$p<.05$]. Entertainment applications were more common among older adults, followed by information applications, which older participants used more frequently.

Conclusion: The findings reveal substantial heterogeneity in smartphone use among Malaysian older adults and provide an important empirical baseline for digital ageing research. They may inform age-responsive digital literacy initiatives and future studies examining associations between smartphone use and cognitive outcomes.

Keywords: older adults, smartphone usage patterns, digital behaviour, screen time, digital ageing





Determinants of Unmet Healthcare Needs among Children with Hearing and Speech Disabilities in Malaysia: A Mixed-Methods Study Using Structural Equation Modelling

Nur Fairuz Md Teridi, Mohd Rizal Abdul Manaf, Roszita Ibrahim

Department of Public Health Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Cheras, Kuala Lumpur, Malaysia.

Abstract:

Objective: This study aims to determine the level of unmet healthcare service needs and the factors influencing these needs among children with hearing and speech disabilities and their caregivers in Selangor, Malaysia.

Method: A mixed-methods design will be employed, integrating quantitative and qualitative approaches. The quantitative phase involves a cross-sectional survey using a structured questionnaire developed through a modified adaptation of established instruments to assess financial burden, social support, caregiver awareness, caregiver needs, and unmet healthcare service needs. Data will be analysed using descriptive statistics and Structural Equation Modelling (SEM) to examine the relationships among the study variables. The qualitative phase will involve in-depth interviews with selected caregivers to explore their lived experiences and the challenges they face in accessing healthcare services.

Results: The study is expected to identify the level and patterns of unmet healthcare service needs among children with hearing and speech disabilities. It is also anticipated that financial burden, social support, caregiver awareness, and caregiver needs will significantly influence unmet healthcare needs, with caregiver needs potentially acting as an important mediating factor.

Conclusion: The findings are expected to provide empirical evidence on the determinants of unmet healthcare service needs among children with hearing and speech disabilities in Selangor. By incorporating caregivers' perspectives, this study will provide context-specific insights to inform the development of more inclusive healthcare policies and targeted interventions to improve service accessibility and reduce disparities for children with disabilities and their caregivers.

Keywords: children with disabilities, hearing and speech impairment, unmet healthcare needs, caregivers, Malaysia





Test-retest Reliability of Occupation-based Well-being Assessment for Older Persons

Ke Jun Ker¹, Dzalani Harun¹, Hanif Farhan Mohd Rasdi¹, Nor Azlin Mohd Nordin²

¹Center for Rehabilitation and Special Needs Studies, Occupational Therapy Programme, Faculty of Health Sciences, The National University of Malaysia, Kuala Lumpur, Malaysia.

²Center for Rehabilitation and Special Needs Studies, Physiotherapy Programme, Faculty of Health Sciences, The National University of Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: Occupation-based Well-Being Assessment for Older Persons (PKWA) is a self-rated, Malay-language assessment developed to evaluate the well-being of older persons. It encompassed two domains: occupation and health. The occupation domain includes seven categories: activities of daily living, instrumental activities of daily living, leisure, social and relationship, health management, rest and sleep, and productivity. The health domain includes three categories: physical, emotion and cognitive behavioural. This study aimed to evaluate the test-retest reliability of PKWA among older persons.

Method: A longitudinal study was conducted with 50 older persons (≥ 60 years old), recruited through convenience sampling in Klang Valley, Malaysia. Test-retest reliability was assessed using Intraclass Correlation Coefficient (ICC), Bland-Altman plots, and Standard Error of Measurement (SEM). Data was analysed using Jamovi software.

Results: All PKWA categories demonstrated moderate to good test-retest reliability, with ICC values ranging from 0.51 to 0.88. The highest ICC was observed in the physical category, while the lowest was in the activities of daily living. The overall ICC of PKWA was 0.86, indicated good reliability. Bland-Altman analysis supported acceptable agreement between repeated measurements with minimal systematic bias. SEM values ranged from 0.88 to 2.61, with an overall SEM percentage of 2.12%, indicating good measurement precision. Most categories showed SEM values below 5%, reflecting high precision, while a few demonstrated moderate precision.

Conclusion: In conclusion, PKWA demonstrates satisfactory reliability for assessing satisfaction with occupational performance and health condition among older persons in Malaysia.

Keywords: well-being, older persons, assessment, occupation-based, test-retest reliability





Performance and Casemix Efficiency Assessments with Length of Stay Prediction for Ischemic Stroke Management

Mohd Hafiz Jaafar, Amirah Azzeri

Universiti Sains Islam Malaysia, Nilai, Negeri Sembilan, Malaysia.

Abstract:

Objective: To evaluate casemix-based performance and efficiency in ischemic stroke management at a tertiary care centre and to develop a predictive model for length of stay as an indicator of resource utilisation to support evidence-based decision-making.

Method: A retrospective observational study was conducted from a tertiary care centre. The prevalence of ischemic stroke and its sociodemographic and clinical determinants were examined. Resource utilisation was analysed to estimate total medical costs. Casemix efficiency was assessed using length of stay as the primary indicator, with patients classified as inliers or outliers based on deviation from the expected range for their casemix group.

Results: Length of stay outliers contributed substantially to the total expenditure of RM 2,470,946.51. Among inliers, resource utilisation remained within expected casemix benchmarks, suggesting adequate efficiency for the majority of cases. Multivariate analysis identified Severity Level 3 and Case-Based Group Type 1 as the only statistically significant predictors of length of stay, with higher severity and complexity independently associated with longer stays and greater cost burden. These findings yielded the predictive model: length of stay = 4.507 (Severity Level 3) + 5.902 (Case-Based Group Type 1) + 5.898. Validated against supporting data, the model achieved a root mean square error of 0.1925, confirming strong predictive accuracy with minimal deviation between predicted and actual length-of-stay values.

Conclusion: High-severity ischemic stroke cases are the primary drivers of prolonged hospitalisation and higher costs. The proposed length-of-stay prediction model offers a practical framework for sustainable and efficient care in the management of ischemic stroke in Malaysia.

Keywords: ischemic stroke, casemix, length of stay, resource utilisation, hospital efficiency





Re-centering Primary Health Care in Indonesia: A Policy Analysis of Governance and Health System Strengthening

Indira Reva Annida

Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This study examines how recent policy reforms have repositioned primary health care within Indonesia's health system strengthening agenda, with particular attention to governance arrangements, institutional coordination, and implementation challenges in a decentralized system.

Method: This study employed a qualitative policy analysis using document review. The analysis included national laws, implementing regulations, ministerial regulations, official health transformation strategy documents, institutional reports, and selected peer-reviewed studies relevant to primary health care reform in Indonesia. Data were analyzed thematically using a governance lens informed by Walt and Gilson's policy triangle and the World Health Organization–United Nations Children's Fund Operational Framework for Primary Health Care.

Results: Recent reforms increasingly position primary health care as a strategic foundation of Indonesia's health transformation agenda rather than merely as first-contact care. Policy directions emphasize promotive and preventive services, life-course care, stronger community engagement, and closer integration between puskesmas and community-level structures. However, implementation remains uneven across regions. Key challenges include fragmented public financial management, variable local governance capacity, uneven readiness of puskesmas and health posts, workforce and managerial limitations, and incomplete digital implementation.

Conclusion: Primary health care in Indonesia is being re-centered through stronger policy commitment and institutional reform, but its effectiveness depends on stronger governance integration, implementation capacity, and alignment between primary health care reform and broader financing, workforce, and digital support systems.

Keywords: primary health care, health policy, governance, health system strengthening, Indonesia





FHIR–First Architecture for Interoperable Health Indicator Metadata Registry: The Indonesia SATUSEHAT Metadata

Fadhilah Khairuna Larasati¹, Sensa Gudya Sauma Syahra², Lusha Ayu Astari³,
Rio Aditya Pratama¹, Anis Fuad⁴, Guardian Yoki Sanjaya³

¹Center for Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Center for Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

³Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

⁴Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: Health information fragmentation remains a structural challenge in Indonesia, where indicator reporting remains non-standardized and fragmented across ministerial directorates. The SATUSEHAT Metadata was developed to establish a centralized health indicator metadata registry that governs not only how data are defined, but also how they connect across systems.

Method: The SATUSEHAT Metadata registry is built on a custom metadata framework that organizes health indicators hierarchically — from indicator definitions through element aggregates and variables, down to individual data values. FHIR is intentionally mapped to the data value level rather than applied across the entire metadata structure, keeping the governance layer flexible while anchoring interoperability where data exchange occurs. Each data value is explicitly linked to a specific FHIR resource and element, ensuring the registry connects directly to the SATUSEHAT Platform's existing FHIR-based infrastructure.

Results: The approach produces a metadata registry where every reportable data value has a traceable path — from its indicator definition through the hierarchy to a standardized FHIR reference. This enables directorate reporting applications to exchange standardized data with the SATUSEHAT Platform via FHIR-based APIs, allowing real-time national health monitoring that is consistent and transparent across systems.

Conclusion: Anchoring FHIR to the data value level offers a more sustainable approach to health indicator governance. For Indonesia, this means a registry that can grow with national policy needs while remaining interoperable with global health data standards.

Keywords: FHIR, health indicator metadata, interoperability, metadata governance, SATUSEHAT





The Impact of Low Birth Weight on Healthcare Utilization and Costs under Indonesia's National Health Insurance

Latifah Alifiana Rahmawati

Center for Health Policy and Management, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This study aims to analyze the impact of low birth weight on healthcare utilization and costs among children under five using Indonesia's National Health Insurance claims data, focusing on cases of diarrhea and acute respiratory infections (ARI) at secondary and tertiary health care facilities.

Method: We conducted a retrospective cohort study using BPJS Kesehatan data from 2017 to 2022. The dataset followed 3,175 children, 15.53% of whom were born with low birth weight (LBW). We measured service use through outpatient visits, inpatient admissions, and length of stay, alongside total expenditures related to acute respiratory infections (ARI) and diarrhea. Data were analyzed using Negative Binomial, Zero-Inflated Negative Binomial, and Gamma regression models.

Results: The findings showed that children born with LBW utilized inpatient services significantly more often and experienced longer hospital stays than those born at a normal weight. While the difference in total healthcare expenditures did not reach statistical significance, the increased frequency and duration of hospital visits suggest a meaningful financial and operational burden on both the healthcare system and individual households.

Conclusion: These results highlight that early-life health determinants have a long shadow over childhood healthcare needs and costs. The study found a critical need for preventive maternal and child health interventions. By improving policy coherence in nutrition and antenatal care, Indonesia can enhance the resilience and efficiency of the JKN system.

Keywords: low birth weight, healthcare utilization, national health insurance





Hospital Factors Associated with In-Hospital Mortality among Tuberculosis Patients: An Analysis of BPJS Kesehatan Claims Data

Fabian Qolby Multazam, Likke Prawidya Putri, Haryo Bismantara,
Muhammad Shabri Putra Wibowo

Departement of Health Policy and Management, Faculty of Medicine Public Health and Nursing Universitas Gadjah Mada, Indonesia.

Abstract:

Objective: Indonesia has the second highest burden of tuberculosis (TB) globally after India. TB remains a major cause of morbidity and mortality, including among hospitalized patients. This study aims to examine hospital-related factors associated with in-hospital mortality among TB patients using national health insurance claims data to inform healthcare quality improvement and policy.

Method: A cross-sectional analytic study was conducted using nationally representative Indonesian Social Health Insurance (BPJS Kesehatan) claims data from 2019–2024. A total of 16,368 hospitalized patients with primary TB diagnosis (ICD–10 A15–A19) were included, representing a weighted population of 1,555,525 individuals. The outcome was in-hospital mortality. Independent variables included patient characteristics (age, sex, length of stay, claim cost), comorbidities, TB complications, and hospital characteristics (ownership, hospital level, region, location, and ward class). Survey-weighted logistic regression (SVY) was used, with odds ratios (OR) and 95% confidence intervals (CI). Statistical significance was set at $p < 0.05$.

Results: The in-hospital mortality rate was 8.81%. Clinical severity strongly influenced mortality. Myocardial infarction showed the highest risk (OR=29.24; 95% CI: 7.23–118.19), followed by stroke (OR=6.79; 95% CI: 1.97–23.45) and TB meningitis (OR=5.41; 95% CI: 2.89–10.13). Increasing age (OR=1.01; 95% CI: 1.002–1.018; $p=0.009$) and higher claim cost (OR=1.06 per million IDR; 95% CI: 1.046–1.079; $p<0.001$) were significantly associated with increased mortality. Sex and length of stay were not significant. At the hospital level, Level C (OR=0.39; 95% CI: 0.25–0.63) and Level D (OR=0.26; 95% CI: 0.15–0.46) hospitals showed protective effects. Private hospitals also had lower mortality risk (OR=0.50; 95% CI: 0.38–0.66).

Conclusion: TB mortality is primarily driven by clinical severity and hospital system characteristics rather than demographic or geographic factors. Strengthening hospital capacity and improving management of severe TB cases are essential to reduce in-hospital mortality.

Keywords: tuberculosis, in-hospital mortality, BPJS Kesehatan, hospital factors





Linking Perception to Practice: Determinants of Recycling Behavior in Putrajaya, Malaysia

Wan Farizatul Shima W Ahmad Fakuradzi¹, Nor Faiza Mohd. Tohit²,
Siti Athirah Zafirah Abdul Rashid¹, Nur Adnin Ahmad Zaidi¹, Siti Hajar Adam³

¹Community Health Unit, Faculty of Medicine and Defence Health, National Defence University of Malaysia, Kuala Lumpur, Malaysia.

²Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Selangor, Malaysia.

³Physiology Unit, Faculty of Medicine and Defence Health, National Defence University of Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: We aim to examine the relationship between community perception and recycling participation, and to identify key behavioral determinants influencing sustainable waste management practices in an urban Malaysian setting.

Method: A cross-sectional study was conducted among 336 residents in Putrajaya using convenience sampling. Data were collected using a structured, self-administered questionnaire that measured perceptions and participation using Likert-scale constructs. The instrument demonstrated excellent internal consistency (Cronbach's alpha = 0.943). Descriptive analyses summarised central tendencies and distributions, while inferential statistics using chi-square and Fisher's exact test were performed in IBM SPSS version 29 to assess associations.

Results: Respondents demonstrated high levels of favourable perception (96.7%) and active participation (99.4%) in recycling. The mean perception score was 0.73 (SD=0.14), and the mean participation score was 4.08 (SD=0.62), indicating consistently positive engagement. Awareness of general recycling benefits exceeded 90%; however, notable gaps were observed in hazardous waste (58.6%) and e-waste (51.2%) knowledge. A positive directional relationship was identified between perception and participation; however, this association did not reach statistical significance (Fisher's exact test, $p=0.064$).

Conclusion: Recycling behavior in Putrajaya is highly prevalent and supported by favourable perceptions and enabling environmental conditions. Although statistical significance was not established, the observed trend highlights the role of perception as an important behavioural determinant. Targeted educational interventions addressing hazardous and e-waste management, alongside strategies to reinforce habitual recycling practices, are recommended to strengthen sustainability outcomes and inform urban environmental policy.

Keywords: recycling, perception, participation, behavioural determinants, sustainable development





Assessment of Knowledge, Attitude, Practice Related to Diabetic Foot Ulcer Care among Nurses in Teaching Hospital: A Cross-sectional Study

Shahiera Naziera Othman¹, Haliza Hasan², Muzaitul Akma Mustapa Kamal Basha²,
Siti Hazariah Abdul Hamid²

¹Kuliyah of Nursing, International Islamic University Malaysia, Kuantan, Pahang, Malaysia.

²International Islamic University Malaysia, Selangor, Malaysia.

Abstract:

Objective: We aim to assess the knowledge, attitude and practice regarding diabetic foot ulcer (DFU) care among nurses at Sultan Ahmad Shah Medical Centre @IIUM (SASMEC@ IIUM).

Method: A cross-sectional study was conducted from October to November 2025 with convenience sampling to 253 registered nurses working in SASMEC @IIUM. Data were collected using a validated KAP questionnaire involving areas such as demographic data, knowledge, attitude and practice score towards DFU care. Descriptive analyses were performed using IBM SPSS Statistics for Windows, Version 29.0.

Results: Among the participants, 220 (87%) were females, 245 held Diploma in Nursing certificates (96.8%), 3 held Advanced Diploma in Diabetes Management worked in medical, surgery, orthopedic and outpatient unit and most of them (88.9%) did not attend any formal training related to DFU care. The mean knowledge, attitude and practice scores were 7.66 ± 1.61 (possible range:2-10), 40.15 ± 4.13 (possible range:15-50) and 40.5 ± 4.82 (possible range:26-50), respectively showed high score approaching upper quartile of the possible total score.

Conclusion: This study reveals nurses showed good knowledge, positive attitude and practice, yet specific deficiencies remain, highlighting the need for ongoing education and healthcare support.

Keywords: diabetic foot ulcer, nurses, knowledge, attitude, practice





Are Tuition Fees Sufficient to Fund Postgraduate Medical Education? Evidence from Postgraduate Medical Education Programs in Indonesia

Haryo Bismantara, Srimurni Rarasati, Iztihadun Nisa, Andreasta Meliala

Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: To describe tuition fees for Postgraduate Medical Education (PGME) in Indonesia and compare them to actual training costs reported in scientific literature.

Method: A single holistic case study design was used, with the Indonesian PGMEs' tuition fee as the unit of analysis. Tuition fee data were collected from 315 specialist programs across 19 Indonesian universities. Furthermore, estimates of actual training costs per resident were extracted from peer-reviewed literature identified through searches of journal databases.

Results: The mean annual tuition fee for PGME in Indonesia is USD 2,449 (min = USD 1,127; max = USD 7,014), with surgical-related programs requiring higher financial investments than non-surgical disciplines (USD 2,614 compared to USD 2,340 [mean]). In contrast, literature demonstrates that the actual annual cost of training a resident is substantially higher, ranging from USD 11,554 in comparable developing nations to over USD 150,000 in developed countries. Consequently, current Indonesian tuition fees account for less than 20 percent of the estimated actual training costs.

Conclusion: A significant financial disparity exists between the tuition fees collected and the true cost of PGME in Indonesia. To ensure the sustainability of specialist workforce development without placing undue financial strain on trainees, policymakers must re-evaluate the current funding paradigm. Strengthening the financing of PGME will require a diversified approach that integrates government subsidies, national health insurance mechanisms, and clinical service revenues.

Keywords: postgraduate medical education, tuition fees, residency training, Indonesia





Evaluation of Electronic Medical Records Compliance with Cancer Registry Standards at Dharmais Cancer Hospital

Sania Fitria

Health Policy and Management Department, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This preliminary study aims to evaluate the compliance of electronic medical records (EMR) with cancer registry standards at Dharmais Cancer Hospital.

Method: This preliminary quantitative study used structured observation to assess EMR compliance with the Minimum Data Set (MDS) for cancer registration. Two instruments were developed: (1) an EMR feature compliance instrument to evaluate the availability of structured fields and documentation functions and (2) an EMR data compliance instrument to assess the completeness of recorded data elements. Observation was conducted on 50 patient records first diagnosed in 2023 and with service data available through 2025.

Results: Data availability scores ranged from 15 to 18 (a mean of 17.7 and a median of 18). From 50 records, 41 (82%) were categorized as "Complete" because all required MDS elements were available, while 9 (18%) were categorized as "Moderately Complete." Despite the high level of data availability, major limitations were identified in the EMR feature structure. Required cancer registry information was fragmented across multiple systems and modules rather than captured within a single structured interface. Important data elements were primarily documented in integrated free-text progress patient notes.

Conclusion: The EMR systems at Dharmais Cancer Hospital mostly have the cancer registry data elements they need. However, they are not useful for cancer registration because they lack integrated and structured data entry fields. A lot of work still needs to be done by people to find, put together, and summarize cancer registry information from many different places.

Keywords: information system evaluation, electronic medical records, cancer registry, data compliance, data completeness





Village Midwife's Perspectives on Primary Care Obesity Management in Indonesia: A Multi-Site Qualitative Study

Dian Puteri Andani¹, Digna Niken Purwaningrum², Harumanto Sapardi¹

¹Center for Health and Policy Management, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Department of Biostatistics, Epidemiology, and Population Health, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This study evaluates primary care management of obesity by examining service delivery and existing barriers from the perspective of village midwives, who serve as frontline health workers assessing nutritional status at Community Health Centers (CHCs).

Method: We conducted semi-structured, in-depth interviews with 12 village midwives responsible for community health programs in urban-proximate and remote areas across western and central Indonesia. Data were analyzed thematically to identify service delivery patterns and systemic barriers.

Results: Findings revealed significant disparities in service equity. Urban-proximate CHCs generally provided screening and counseling, whereas remote facilities lacked access to mental health support and nutritionists. Midwives reported that obesity carries substantial psychosocial impacts, including reduced self-esteem and social stigma. Key contributing factors included large portion sizes and high-sugar diets. However, preventive efforts—such as school-based outreach and parental education—were constrained by limited staffing, insufficient capacity in nutrition counseling, and entrenched community habits.

Conclusion: These findings underscore the need to strengthen primary care responses to obesity. Although the National Clinical Guidelines (NCG) for obesity were introduced in 2025, their implementation requires translation into practical, context-appropriate guidance for frontline services. Policy priorities should include broader dissemination of the NCG, standardized screening protocols, and enhanced midwife capacity for integrated nutrition and mental health counseling to bridge the gap between national policy and local practice.

Keywords: obesity, primary care, health system, Indonesia





Resilience and Empathy among Healthcare Professionals in the Emergency Department, Hospital Canselor Tuanku Muhriz, National University of Malaysia

Mohd Nurizam Bin Susof, Mohd Azim Bin Ab Manap, Zuraidah Binti Che Man

Department of Emergency Medicine, Hospital Canselor Tuanku Muhriz, National University of Malaysia, Kuala Lumpur, Malaysia.

Abstract:

Objective: To evaluate the levels of resilience and empathy, and to determine their correlation among healthcare professionals working in an emergency department.

Method: A cross-sectional study was conducted among 234 healthcare professionals, comprising doctors, nurses, and paramedics, at the emergency department of Hospital Canselor Tuanku Muhriz, Malaysia. Validated psychometric instruments, the 14-item resilience scale and the Jefferson Scale of Empathy for Health Professionals, were utilized for data collection.

Results: The mean resilience score was 75.4 (standard deviation 10.5), with 41.9 percent of respondents exhibiting low resilience. The mean empathy score was 101.1 (standard deviation 14.2). Doctors demonstrated significantly higher empathy scores (105.7) compared to nurses (92.4) and paramedics (92.6) ($p < 0.001$). Male respondents exhibited significantly higher levels of both resilience and empathy compared to female respondents. A significant moderate positive correlation was observed between resilience and empathy scores ($r = 0.46$, $p < 0.001$).

Conclusion: This study highlights the importance of fostering resilience training not only to protect healthcare professionals' wellbeing but also to sustain empathic, high-quality patient care in the emergency department.

Keywords: empathy, resilience, emergency medicine, healthcare professionals, Malaysia





Analysis of The Utilization of Non-Emergency Ambulance Services in the Special Region of Yogyakarta

Setyawan Setyawan¹, Sri Setiyarini², Wenny Artanty Nisman²

¹Emergency Department, Academic Hospital, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Department of Basic and Emergency Nursing, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: To analyze the utilization of non-emergency ambulance services in Yogyakarta, identify the competencies of non-emergency ambulance personnel, compliance with the use of rotators, speed, ambulance standardization, and the types of cases handled by non-emergency ambulances.

Method: A descriptive quantitative design with 249 respondents, consisting of non-emergency ambulance personnel in the Yogyakarta region. Data were collected from May to June 2025 using a researcher-developed questionnaire. Univariate descriptive statistics were used for analysis.

Results: A total of 88.35% of non-emergency ambulances performed all three functions (pre-hospital care, patient transport from the scene of the incident to a health facility, and inter-facility referral transport). The majority of respondents in the study were ambulance drivers (85.4%). Some ambulance personnel had completed training in Basic Life Support (90.36%), Advanced Life Support (46.59%), and communication (90.76%). The types of cases handled by ambulances in this study were trauma cases (54.62%) and non-trauma cases (45.38%). Non-emergency ambulances transported more emergency cases (63.05%) than non-emergency cases (36.95%). The compliance rate of non-emergency ambulances is relatively low at 4.82%. Non-emergency ambulances (84.74%) fail to meet all the criteria for standardization.

Conclusion: The percentage of compliance and standardization of non-emergency ambulances in Yogyakarta tends to be poor in providing pre-hospital care, transporting patients from the scene of the incident to health facilities, and transporting patients between health facilities.

Keywords: ambulances, health facilities, pre-hospital care, patient transfer





The Hidden Bottleneck: Public Financial Management and Health System Responsiveness in Decentralized Settings

Muhamad Faozi Kurniawan

Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This study examines the impact of public financial management (PFM) arrangements on the responsiveness, efficiency, and equity of primary health care (PHC) services within a decentralized health system. This study bridges the gap by linking budgeting processes to frontline service delivery outcomes.

Method: A qualitative case study was conducted in the Banyumas District, Indonesia. PHC managers, planning and finance organizations, and district health authorities took part in focus groups and in-depth interviews with several stakeholders.

Results: PHCs, nevertheless, have trouble with budget planning and execution because of systemic rigidity. The fragmentation of financing among many sources—capitation, non-capitation, and intergovernmental transfers—leads to a smaller and less equitable fiscal space. The intricate multi-level verification procedures involved in budget talks can lead to a mismatch between authorized funds and local demands. Flexible funds are largely used for people's expenses, and earmarked funds, on the other hand, make it harder to respond to increasing health issues. These changes have a bigger effect on institutions with low revenues, which makes the differences in service delivery even worse.

Conclusion: PFM arrangements make the system less able to deal with risks to public health, because they create a structural contradiction between operational flexibility and decentralization. These findings provide significant insights for LMICs, where aligning PFM changes with service delivery needs is essential to enhance preparedness and reduce inequalities.

Keywords: decentralization, public financial management, primary healthcare





Inequitable Distribution of Mental Health Workforce and Its Implications for Health Equity in Remote Indonesia

Karlina Dewi Sukarno¹, Retna Siwi Padmawati², Relmbus Biljers Fanda¹, Tri Muhartini¹, Ahmad Naufal¹, Garin Fridge Janitra¹

¹Center for Health Policy and Management, Faculty of Medicine, Public Health, and Nursing, Gadjah Mada University, Yogyakarta, Indonesia.

²Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This study examines the distribution of mental health workers, particularly psychiatrists and clinical psychologists, and its implications for access to and quality of mental health services within the framework of health equity and Universal Health Coverage.

Method: A descriptive study was conducted using secondary data from the Human Resources for Health Information System (SISDMK) of the Indonesian Ministry of Health. The analysis focused on Southwest Sumba and Mamuju Regencies by comparing the availability of health personnel across primary healthcare centers and hospitals, and was interpreted alongside global evidence on workforce shortages in low- and middle-income countries.

Results: Significant disparities were identified. Southwest Sumba has no psychiatrists, while Mamuju has only two psychiatrists in hospitals. Clinical psychologists are absent in both areas. Only 44% of primary healthcare centers in Southwest Sumba have general practitioners, although all are staffed by nurses. These limitations contribute to delayed diagnosis, inappropriate treatment, and reduced service performance. The findings reflect global trends where mental health professionals constitute a small proportion of the total health workforce.

Conclusion: Unequal workforce distribution limits equitable access and hinders the achievement of Universal Health Coverage. Strengthening workforce policies, integrating mental health into primary care through telemedicine, providing incentives for remote deployment, and improving referral systems are critical strategies.

Keywords: mental health, workforce distribution, universal health coverage, remote areas of Indonesia





Exploring Palliative Care Needs among Older Adults with Chronic Diseases in Malaysian Primary Care

Vilzan bin Momin^{1,2}, Tan Chai Eng¹, Loo Say Yee¹

¹Department of Family Medicine, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

²Ministry of Health, Kuala Lumpur, Malaysia.

Abstract:

Objective: To determine the proportion of older adults with chronic diseases in Malaysian primary care who have palliative care needs, compare symptom burden and concerns by palliative care need status, and examine associated sociodemographic factors.

Method: This cross-sectional study will be conducted among adults aged ≥ 60 years with at least one chronic disease attending Klinik Primer HCTM, Cheras. Systematic sampling will be used. Sample size estimation was based on a Japanese primary care study reporting 17.3% prevalence of palliative care needs identified using SPICT (the Supportive and Palliative Care Indicators Tool-4ALL). Palliative care needs will be identified using SPICT, a simplified version for non-specialists and caregivers to assess deteriorating health and unmet supportive care needs. Symptom burden and concerns will be assessed using the Integrated Palliative Care Outcome Scale. Descriptive analysis will estimate the proportion with palliative care needs. Integrated palliative outcomes will be compared between SPICT-positive and SPICT-negative participants, and logistic regression will identify sociodemographic factors associated with these outcomes.

Results: This study is expected to generate local primary care data on the proportion of older adults with palliative care needs, their physical and emotional symptom burden, communication and practical concerns, and associated sociodemographic factors.

Conclusion: This study will address an important gap in Malaysian primary care evidence and may support earlier identification, holistic management of chronic diseases, and the integration of supportive care within universal health coverage. As SPICT-4ALL is a screening tool, some unmet needs may not be identified. Future validation against comprehensive clinical assessment is recommended.

Keywords: palliative care, primary care, older adults, chronic disease, Malaysia





Bridging Policy Design and Local Reality: Primary Health Care Integration in Fragile and Remote Settings—A Case Study from Malaka District, East Nusa Tenggara, Indonesia

Via Angraini

Center for Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: This study aims to examine the gap between national Integrated Primary Care (ILP) policy design and its implementation in a fragile and remote setting, and to identify system-level constraints and adaptive strategies to strengthen Primary Health Care (PHC) integration, focusing on the district-level experience in Indonesia.

Method: A qualitative case study was conducted in Malaka District, East Nusa Tenggara, Indonesia. The study combined a document review of national ILP guidelines with analysis of local implementation reports, complemented by a literature review on PHC integration challenges in remote and fragile settings. The analysis was guided by key health system dimensions, including governance, service delivery, health workforce, and infrastructure.

Results: Findings from Malaka District reveal a significant mismatch between top-down standardized ILP design and local contextual realities. Key constraints include weak digital infrastructure, workforce shortages, and geographic barriers affecting service access and continuity, compounded by limited governance coordination and local adaptive capacity. However, adaptive strategies such as digital resilience through satellite technology (Starlink) and cloud systems, community engagement, flexible service delivery, and the Sister District model, inter-district mentorship, and capacity sharing emerged as key innovations to strengthen workforce capacity and service continuity.

Conclusion: These findings suggest that standardized ILP implementation may be insufficient in fragile and remote settings without contextual adaptation. Strengthening PHC integration requires context-sensitive policy adaptation, improved governance alignment, and sustained investment in workforce and infrastructure. Integrating local innovations with national frameworks is essential to achieving effective and equitable PHC integration.

Keywords: primary health care integration, health systems governance, fragile and remote settings





Strategies to Enhance Adherence to Home Exercise Programmes among Stroke Survivors: A Scoping Review

Pui Kei Chong¹, Nor Azlin Mohd Nordin², Mohd Azzuan Ahmad², Mohd Fairuz Ali³

¹University Kebangsaan Malaysia, Kuala Lumpur, Malaysia.

²Physiotherapy Program & Center for Rehabilitation and Special Needs Studies, Faculty of Health Sciences, Universiti Kebangsaan Malaysia, 50586 Kuala Lumpur, Malaysia.

³Department of Family Medicine, Hospital Canselor Tuanku Muhriz (HCTM), Universiti Kebangsaan Malaysia (UKM), 56000 Cheras, Malaysia.

Abstract:

Objective: Although sustained home-based exercise is crucial for post-stroke functional recovery, patient adherence remains notoriously low, necessitating effective strategies to improve it, particularly in long-term rehabilitation. This review aims to map and synthesise evidence on interventions, frameworks, and strategies that improve adherence to home exercise programmes among adult stroke survivors.

Method: A scoping review following PRISMA guidelines, with a literature search across Web of Science, Scopus, PubMed, EBSCOhost, the Cochrane Library, and PEDro databases, was conducted. Studies examining strategies to enhance adherence to self-managed stroke rehabilitation were included. The included articles were subjected to data extraction and qualitative synthesis.

Results: A total of 1702 articles were identified; 38 articles (1,156 stroke patients) were finally included following screening and analysis. Included studies highlighted two primary interventional approaches: digital health technologies and multicomponent behavioural strategies. Technology-integrated approaches include telerehabilitation, virtual reality games, robotic-assisted devices, and smartphone applications with objective monitoring, which exhibited high usability, provided real-time feedback, and improved patient motivation. However, providing technology or enhanced prescription materials alone resulted in mixed adherence outcomes compared to standard paper-based programs. The strongest improvements in compliance and functional mobility were seen when tools were combined with structured behavioral coaching (such as goal-setting and telephone monitoring) and the active involvement of care partners, as in the H-GRASP, CARE-CITE-Gait, and ADHERE trials.

Conclusion: Sustaining HEP adherence after stroke requires a multifaceted approach. Integrating remote digital monitoring with theory-driven behavioural coaching and structured caregiver support optimizes long-term patient engagement and stroke recovery in the home setting.

Keywords: stroke, adherence, home-based exercise, technology, behaviour





Navigating Fragmented Health Financing in Primary Health Centers of Banyumas Regency, Indonesia

Candra Candra^{1,2}

¹Center For Health Policy And Management Faculty of Medicine, Public Health, and Nursing Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Al Islam Yogyakarta College of Health Sciences, Yogyakarta, Indonesia.

Abstract:

Objective: This study aims to analyze the governance challenges of health financing in primary health centers (Puskesmas) and their impact on primary care optimization.

Method: Employing an exploratory qualitative design, data were collected through Focus Group Discussions (FGDs) with key stakeholders at the regency and Puskesmas levels in Banyumas Regency, followed by thematic analysis. Stakeholders comprised 24 Puskesmas staff from three Puskesmas, including heads, treasurers, and program managers for community/individual health, MCH, nutrition, communicable diseases, and NCDs, and 19 local government officers from the District Health Office, Bappeda, BPKAD, BPBD, and Social Affairs Office (43 participants in total).

Results: The analysis revealed five primary challenges: (1) limited local autonomy and budget conversion gaps that hinder service responsiveness; (2) regulatory rigidity that compels informal administrative workarounds to sustain program continuity; (3) service delivery distortions driven by misalignments between strict financing logic and actual community health needs; (4) systemic fragmentation across funding streams and reporting platforms, exacerbating administrative burdens for health workers; and (5) centralized, top-down targeting that frequently lacks local epidemiological relevance.

Conclusion: Current health financing frameworks inadvertently shift administrative risks onto local actors while constraining their decision-making capacity. Enhancing local fiscal autonomy, integrating disparate funding systems, and aligning policies with localized realities are vital steps toward resilient, effective, and community-centered primary healthcare governance.

Keywords: health financing, primary healthcare, service governance, system fragmentation, local autonomy





Developing a Sandbox Learning Environment for a Fragmented National Health Insurance System: The Open JKN Approach

Luluk Fadhhoh Sakinah¹, Anis Fuad², Lukman Heryawan³, Annisa Ristya Rahmanti⁴,
Guardian Yoki Sanjaya⁴

¹Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

³Department of Computer Science And Electronics, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada, Yogyakarta, Indonesia.

⁴Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: We aim to develop a sandbox-based platform leveraging an open-source insurance management information system (openIMIS) to simulate the complexity of Indonesia's National Health Insurance (JKN), and to identify technical and architectural gaps addressed through OpenJKN, a modular extension of openIMIS.

Method: This action research study was conducted from August to December 2025 within selected primary healthcare centers and hospitals in the UGM Academic Health System. It combined document analysis, system exploration, and field observations. Core JKN processes were mapped and compared with openIMIS, informing the iterative development of OpenJKN as a modular sandbox platform.

Results: The findings reveal a highly fragmented JKN digital ecosystem, characterized by overlapping applications and redundant data entry. A structural mismatch was identified, with 69% of BPJS credentialing data and 58.7% of participant attributes not represented in the openIMIS data model. Direct integration caused architectural disruption, indicating that full system replacement is not feasible. To address this, OpenJKN was developed as a modular, plugin-based extension of openIMIS. At this stage, the platform focuses on enrollment development, enabling simulation of participant registration, data capture, and initial classification within a controlled sandbox environment.

Conclusion: OpenJKN demonstrates the feasibility of a modular sandbox platform built on openIMIS to represent JKN through identified data model gaps and a modular enrollment module for non-disruptive simulation. This approach supports scalable system analysis, experimentation, and capacity development in digital health ecosystems.

Keywords: health insurance, interoperability, OpenIMIS, OpenJKN, sandbox





Regional Disparities in Healthcare Utilization and Economic Outcomes of Pediatric Acute Respiratory Distress Syndrome in Indonesia: Preliminary Insight from A Nationwide Claims Database

Alfarid Kurnialandi¹, Diah Ayu Puspendari¹, Ririe Fachrina Malisie²,
Rizki Tsalatshita Khair Mahardya³

¹Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

²Department of Pediatrics, Faculty of Medicine, Universitas Sumatera Utara, Medan, Indonesia.

³Center for Health Financing Policy and Insurance Management (Pusat KP-MAK), Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: Pediatric Acute Respiratory Distress Syndrome (PARDS) requires substantial resources, particularly in critical conditions. This study aimed to assess regional disparities in healthcare utilization and economic outcomes between Java and non-Java regions using the 2024 Indonesia National Health Insurance claims database.

Method: A total of 2,041 claims were analyzed using survey-weighted regression models to examine regional differences in Length of Stay (LoS), utilization of Non-Invasive Respiratory Support (NIRS) and Mechanical Ventilation (MV), and hospital cost. Disease severity and its interaction with regional differences were incorporated to assess variation across severity levels, with severity I in the Java region as the reference.

Results: Higher PARDS severity was associated with increased LoS, NIRS, and MV utilization, alongside higher treatment cost, although some outcomes did not reach statistical significance. While no overall regional difference was observed, significant interaction effects demonstrated that severity III cases in non-Java regions had shorter LoS (Mean Ratio 0.48; 95% CI 0.32–0.71), higher utilization of MV (Odd Ratio 5.6; 95% CI 1.07–29.6), but lower cost (Mean Ratio 0.42; 95% CI 0.26–0.67) compared to Java region, despite higher regional tariffs.

Conclusion: These findings highlight regional disparity in care deliveries for severe PARDS, portrayed by more invasive treatment with shorter LoS, limited access to NIRS, and potential under-coding in the non-Java region. Strengthening NIRS access, improving Pediatric Intensive Care Unit (PICU) capacity in non-Java regions, and standardizing clinical guidelines are essential to reduce disparities in quality of care and potentially lower the economic burden of PARDS.

Keywords: critical care, PARDS, regional disparity





Association Between Green Open Space (GOS) and Type 2 Diabetes Mellitus Prevalence: An Ecological Study in Yogyakarta, Indonesia

Renata Gita Cahyani Sese

Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Abstract:

Objective: To examine the ecological associations between green open space (GOS), demographics, physical activity, and type 2 diabetes mellitus (T2DM) prevalence at the subdistrict level in Yogyakarta, Indonesia.

Method: This ecological study utilized 45 subdistricts in Yogyakarta City as analytical units using data from 2024. Secondary data were comprehensively collected from the Health Office, Environmental Agency, and Statistics Indonesia. The dependent variable was T2DM prevalence per 1,000 population. Independent variables included the GOS proportion, population density, the proportion of female residents, and the proportion of residents with low physical activity. Data were analyzed using descriptive statistics and Spearman correlation tests.

Results: The green open space proportion was 19.1% (191 m²/1000 m²), and the average T2DM prevalence was 28.3 per 1,000 population (SD=13.7), indicating substantial spatial variation. Correlation analysis revealed no significant ecological associations between T2DM prevalence and GOS ($\rho=-0.242$; $p=0.109$), low physical activity ($\rho=-0.239$; $p=0.132$), or population density ($\rho=0.234$; $p=0.122$). However, demographic composition showed a significant relationship: subdistricts with a higher proportion of female residents were positively and significantly correlated with higher T2DM prevalence ($\rho=0.295$; $p=0.049$).

Conclusion: While environmental and behavioral factors did not show significant ecological level associations with T2DM, spatial demographic composition played a critical role. Subdistricts with a higher proportion of female residents exhibited a significantly higher diabetes burden, highlighting specific area-level vulnerability. Public health interventions and early screenings should be spatially targeted toward these female-dominated subdistricts. Future individual-level studies are needed to complement these aggregated findings.

Keywords: ecological study, green open space, physical activity, population density, type 2 diabetes mellitus





Journal of Health Science and Medical Research (JHSMR)

The journal's former title: Songklanagarind Medical Journal

Owner: Prince of Songkla University

Aims and scope: Journal of Health Science and Medical Research (JHSMR) offers an interdisciplinary forum for basic or applied medical and health sciences research, evidence-based and scientifically written articles. Our content focuses on, but is not limited to, these areas of medicine and health science;

- Clinical medicine
- Biomedical science and biomedical engineering
- Public health research
- Data science in medicine and health care

Language: Fulltext and Abstract in English

Abstracting and Indexing Information: Scopus, Thai-Journal Citation Index (TCI), Asean Citation Index (ACI), Google Scholar, Crossref, Directory of Open Access Journals (DOAJ), and EuroPub

Frequency: 6 issues per year (January–February, March–April, May–June, July–August, September–October and November–December)

Editorial office: Songklanagarind Medical Journal Office, Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla 90110, Thailand.
Tel: +66 7445 1159 Fax: +66 7428 1103
E-mail: manager@jhsmr.org
Website: <http://www.jhsmr.org>

Past Editor-in-Chief

Prof. Vicharn Panich
Prof. Saranatra Waikakul
Prof. Winyou Mitarnun
Assoc. Prof. Arnuparp Lekhakula
Prof. Nakornchai Phuenpathom
Assoc. Prof. Vicha Charoonratana
Prof. Prayong Vachvanichsanong
Prof. Verapol Chandeying
Prof. Jitti Hanprasertpong
Prof. Dr. Surasak Sangkhathat





Editor-in-Chief

Sarunyou Chusri	Prince of Songkla University	Thailand
-----------------	------------------------------	----------

Technical Associate Editor

Somyot Chirasatitsin	Prince of Songkla University	Thailand
----------------------	------------------------------	----------

Editorial Board Member

Anucha Thatrimontrichai	Prince of Songkla University	Thailand
Bannakij Lojanapiwat	Chiang Mai University	Thailand
Boonsin Tangtrakulwanich	Prince of Songkla University	Thailand
Cai Le	Kunming Medical University	China
Chatchalit Rattarasarn	Mahidol University	Thailand
Detty Nurdiani	Universitas Gadjah Mada	Indonesia
Dennapa Sotthibandhu	Prince of Songkla University	Thailand
Eiji Kobayashi	Osaka University	Japan
Erika Ota	St. Luke's International University	Japan
Goran Stojanovic	University of Novi Sad	Serbia
Hutcha Sriplung	Prince of Songkla University	Thailand
Ivan Capo	University of Novi Sad	Serbia
Jarurin Pitanupong	Prince of Songkla University	Thailand
Jitti Hanprasertpong	Navamindradhiraj University	Thailand
Jos Vander Sloten	Katholieke Universiteit Leuven	Belgium
Jovan Lovrenski	University of Novi Sad	Serbia
Kamolwish Laoprasopwattana	Prince of Songkla University	Thailand
Kanitpong Phabphal	Prince of Songkla University	Thailand
Kanthee Anantapong	Prince of Songkla University	Thailand
Karnsunaphat Balhithip	Prince of Songkla University	Thailand
Kewalin Thammasitboon	Prince of Songkla University	Thailand
Kriengsak Dhanaworavibul	Prince of Songkla University	Thailand
Lalita Khuna	Prince of Songkla University	Thailand
Laura S. Rozek	University of Michigan	USA
Masashi Takano	National Defense Medical College	Japan
Momir Mikov	University of Novi Sad	Serbia
Nawamin Pinpathomrat	Prince of Songkla University	Thailand
Nungrutai Saeai	Prince of Songkla University	Thailand
Orawan Nukaew	Prince of Songkla University	Thailand
Patrapim Sunpaweravong	Prince of Songkla University	Thailand
Pharkphoom Panichayupakaranant	Prince of Songkla University	Thailand
Pimsiri Sripongpun	Prince of Songkla University	Thailand





Polathep Vichitkunakorn	Prince of Songkla University	Thailand
Pornprot Limprasert	Prince of Songkla University	Thailand
Potchanapond Graidist	Prince of Songkla University	Thailand
Prasit Wuthisuthimethawee	Prince of Songkla University	Thailand
Pritsana Raungrut	Prince of Songkla University	Thailand
Quazi Monirul Islam	Liverpool School of Tropical Medicine	UK
Raphatphorn Navakanitworakul	Prince of Songkla University	Thailand
Rasmon Kalayasiri	Chulalongkorn University	Thailand
Rungsun Bhurayanontachai	Prince of Songkla University	Thailand
Sally Chan	Tung Wah College	Hong Kong
Saranyou Suwanugsorn	Prince of Songkla University	Thailand
Sirawee Chaovalit	Prince of Songkla University	Thailand
Sitthichok Chaichulee	Prince of Songkla University	Thailand
Somchit Jaruratanasirikul	Prince of Songkla University	Thailand
Somkiat Sunpaweravong	Prince of Songkla University	Thailand
Sun Jing	Inner Mongolia Medical University	China
Sunisa Chatmongkolchart	Prince of Songkla University	Thailand
Supamai Soonthornpun	Prince of Songkla University	Thailand
Suwanna Setthawatcharawanich	Prince of Songkla University	Thailand
Thanarpan Peerawong	Prince of Songkla University	Thailand
Tang Xianyan	Guangxi Medical University	China
Thirachit Chotsampancharoen	Prince of Songkla University	Thailand
Tippawan Kaewmanee	Prince of Songkla University	Thailand
Tippawan Liabsuetrakul	Prince of Songkla University	Thailand
Varah Yuenyongviwat	Prince of Songkla University	Thailand
Verapol Chandeying	Princess of Naradhiwas University	Thailand
Viranuj Sueblinvong	Emory University	USA
Virat Kirtseesakul	Prince of Songkla University	Thailand
Volker Winkler	University of Heidelberg	Germany
Vorapong Phupong	Chulalongkorn University	Thailand
Warut Aunjitsakul	Prince of Songkla University	Thailand
Weeranan Yaemrattanakul	Prince of Songkla University	Thailand
Weerawat Kiddee	Prince of Songkla University	Thailand
Wit Wichaidit	Prince of Songkla University	Thailand
Yong Poovorawan	Chulalongkorn University	Thailand

Advisor of Editor-in-Chief

Puttisak Puttawibul	Prince of Songkla University	Thailand
Kittipong Riabroi	Prince of Songkla University	Thailand





Manager

Kamolthip Suwanthavee

Assistant Manager

Sarinthra Khunsiri

Supanich Lertjettanakul

Nutchada Binlateh

Pumin Meeweal





Guide for Authors

Journal of Health Science and Medical Research (JHSMR)

Condition

Manuscript language

Only manuscripts written in English are considered. For non-native speaking countries, the manuscript should be edited in English, by a native English speaker and be accompanied with an English language approval letter, before being submitted. If the manuscript does not have an English language approval letter, please contact our editorial office via: at manager@jhsmr.org.

Publication charges

There are no page charges for submission or publication.

Ethics approval of research

JHSMR requires the copy of Ethics approval of research for all investigations involving humans. For Original articles and Case reports, details of ethical approval of research should be stated in the Material and Methods section.

Acknowledgement

If authors receive assistance for research or manuscript writing, authors should clearly describe in the: "Acknowledgment section"; after the main body and before the Funding sources section.

Funding sources

If authors receive financial support or sponsorship for the study research, Authors must give full details about the funding of any research relevant to their study; including: sponsor names and explanations of the roles of these sources in the funding sources section, before the conflict of interest section.

Conflict of interest

Authors must declare whether their articles have or do not have any potential, or existing, conflicts of interest either; after the main body or in the Acknowledgement section, before the references section. These declarations should include; but are not limited to: relationships with pharmaceutical and biotechnology companies, device manufacturers, or other commercial entities, whose products or services are related to the subject matter of the manuscript submission. If the manuscript has no conflicts of interest, authors should state: "There are no potential conflicts of interest to declare."

Review process

Primary review

After submission, manuscripts are first reviewed by journal manager and editor-in-chief. All manuscripts are screened using the 'Turnitin' (please see the details of plagiarism on the Publication Ethics page). Manuscripts with incorrect formatting, unacceptable language or style will be returned to authors for correction before transference to the section editor.

Peer-review

JHSMR is a quarterly peer-reviewed scientific journal, which uses the double-blinded peer-review process. The careful selection of relevant experts as reviewers will facilitate and speed up the review process. Therefore, our section editors will select at least 3 potential reviewers, who have been published or have areas of expertise relating to the submitted manuscript. However, JHSMR does not select reviewers from within the author's institutions, especially for international authors, wherein it avoids only local reviewers. Acceptable manuscripts are





those that have been accepted by 2 of the 3 reviewers, upon which, the editor-in-chief will examine and determine if the manuscript is suitable for publication, or requires further revisions. Requested revisions, by the section editors or the editor-in-chief to the author, may be requested during the revision process.

Manuscript types

JHSMR now welcomes 4 types of Manuscripts.

1. Selected editorials: These are invited by the editor-in-chief of JHSMR, and should be both written in English and structured as follows: Introduction, Main text, Conclusion, and References. Editorials should not be less than 1,000 words, but cannot exceed 1,500 words in total. (Counting from Introduction to Conclusion) They should also keep cited references to a minimum.

2. Original articles or Systematic reviews

2.1 Original articles: These form the largest majority of papers published by JHSMR. These should consist of 3,500 words, with no more than a total of 8 tables and/or figures, and limited to 40 references. Additionally, all efforts should be undertaken to keep the manuscripts as succinct as possible. Full reports should include separate sections entitled: Abstract, Introduction, Material and Methods, Results, Discussion, Conclusion, Acknowledgements, Funding sources and Conflicts of interests. Abstracts should contain no more than 250 words. The following sections should be included after the text: Acknowledgement, Funding sources, and Disclosures regarding real or perceived conflicts of interest

2.2 Systematic reviews: This format can be used for a review of a clearly formulated question, that uses systematic and reproducible methods to identify, select and critically appraise all relevant research, so as to collect and analyse data from the studies that are included in the review. The scope of study is focused on medical and health science research. These should contain:

6,000 words, with 8 tables and/or figures limit. The abstract should contain no more than 250 words, however, there is no limit on the amount of references

3. Case reports: This format can be used for submission of: important, preliminary observations, technique modifications, or data that do not warrant publication as a full paper. Short reports should contain no sub-headings, and be no more than 2,000 words in length, with no more than 250 words in the abstract, 2 tables and/or figures, and 15 references.

4. Review articles: JHSMR will consider reviews on relevant topics in medicine, medical education, medical innovation and related areas. Typically reviews will be submitted by leading authorities in such relevant fields. We encourage mini-reviews, providing concise reviews of focused topics containing no more than 4,000 words, 8 tables and/or figures, with no limit of references. Abstracts should contain no more than 250 words. In so saying, larger reviews will be considered.

Manuscript preparation

Prepare your manuscript using a word processing program, saved as a .doc file, using Microsoft Word. For items that accompany text (letters, figures, copyright forms, and so forth.), you may upload the following file types: .jpg, .jpeg, .tif

Cover letter and signatures: All manuscripts should be accompanied by a cover letter containing the following information:

1. The title of the paper

–A brief description of the significance of the paper to the readers of JHSMR

–A statement confirming that the material is original, has not already been published, and has not, nor will not, be submitted for publication elsewhere, so long as it is under consideration by JHSMR





-Written disclosure of any relationships or support, which might be perceived as constituting a conflict of interest

-Name and signature of corresponding author(s)

2. Authorship

There is no limit to the number of authors that may be listed. However, the corresponding author should confirm that the authorship of research publications accurately reflect all authors' contributions to the work and reporting. All sources of funding along with any conflicts of interest must also be disclosed.

Manuscript formatting

1. Title page: This should include, in the following sequence: the title, a list of all authors with their degrees, the authors institutions- identified by superscripts in Arabic numerals. The corresponding author should be denoted by an asterisk, with address, e-mail and phone number in a footnote. The running title should be limited to 40 characters and contain at least 6 keywords.

2. Title: The manuscript title should be as succinct as possible. Titles should generally not include abbreviations, and not be longer than 60 characters (including spaces).

3. Abstract: The abstracts of original articles or systematic reviews must have a structured abstract that states the purpose, basic procedures, main findings and principal conclusions of the study. Divide the abstract with the headings Objective, Material and Methods, Results, and Conclusion. Case reports or review articles should have an unstructured abstract.

4. Spacing: The text should be 12 point type, fully double-spaced, leaving a margin of 1 inch on all sides. Continuous line numbers (NOT restarting with each page) should be included throughout the manuscript, and pages should be numbered consecutively.

5. Abbreviations: Abbreviations are commonly

overused, compromising the clarity of manuscripts. Authors are advised to keep abbreviations to a minimum, using them only when they are clearer than their long/full terminology (For example: PCR, DNA), however they should be avoided whenever possible, or when they are non-standard and idiosyncratic. Terms should be written out in full upon first usage, in both the abstract and text, with the abbreviation following in parentheses. After this first usage, the abbreviation must be used consistently. Plurals of abbreviations do not require apostrophes.

6. Keywords: Keywords must be listed after the abstract section, and should be between 3-6 words.

7. Drug names: Proprietary names of drugs may not appear in the title, but may be used in conjunction with the generic name when the drug is first mentioned in the abstract, and again when first mentioned in the text. Thereafter, use only the generic name.

8. Names of organisms: Genus and species should be italicized. After the first usage the genus should be abbreviated with a single letter (For example: *E. coli*). For different species, within a genus, the genus should be fully written out upon first usage of each.

9. Figures: Figures should be numbered in Arabic numerals, and cited in the text. It should be noted that: a fee is required for color illustrations in print, however authors can select a black & white in print, without an attached fee. All figures should contain a brief legend, with the size being 5x7 inches, and of at least of 300 dpi.

10. Tables: Tables should be serially numbered in Arabic numerals, and cited in the text. Each table should be placed on a separate page, at the appropriate point in the text, or at the end of the manuscript.

11. References: References should be from published manuscripts, or manuscripts that have either been accepted or are pending publication (in press), these should be cited in the reference list. The reference formatting of JHSMR uses the: Vancouver style. All references





should be cited by consecutive numbers in the text. The numbers should appear in superscripts, that appear after closing punctuation.

In the reference list, the first 6 authors should be listed. If there are more than 6 authors followed by "et al." The journal names, which appear in the reference list, should use the abbreviate journal, as in PubMed.

Examples of references

1. Journal

- Hanprasertpong J, Geater A, Jiamset I, Padungkul L, Hirunkajonpan P, Songhong N. Fear of cancer recurrence and its predictors among cervical cancer survivors. *J Gynecol Oncol* 2017;28:e72.
- Rujirojindakul P, Liabsuetrakul T, McNeil E, Chanchayanon T, Wasinwong W, Oofuvong M, et al. Safety and efficacy of intensive intra-operative glycaemic control in cardio-pulmonary bypass surgery: a randomised trial. *Acta Anaesthesiol Scand* 2014;58:588-96.

2. Supplement

- Lofwall MR, Strain EC, Brooner RK, Kindborn KA, Bigelow GE. Characteristics of older methadone maintenance (MM) atients [abstract]. *Drug Alcohol Depend* 2002;66(Suppl 1):S105.

3. Book

- Fealy S, Sperliny JW, Warren RF, Craig EV. Shoulder anthroplasty: complex issues in the primary and revision setting. New York: Thieme; 2008.

4. Chapter

- Waltzman SB, Shapiro WH. Cochlear implants in adults. In: Valente M, Hosfond-Dunn H,

Roeser RJ, editors. *Audiology treatment*. 2nd ed. New York: Thieme; 2008;p.361-9.

5. Patent

- Tintara H, inventor; Prince of Songkla University, assignee. Amniotomy training model. Thai petty patent 7488. September 18, 2012.

6. Journal article on the Internet

- Sanders GD, Bayoumi AM, Holodniy M, Owens DK. Cost-effectiveness of HIV screening in patients older than 55 year of age. *Ann Intern Med* [serial on the Internet]. 2008 Jun [cited 2008 Oct 7]; 148(12). Available from: <http://www.annals.org/cgi/reprint/148/12/889.pdf>

7. Monograph on the Internet

- Field MJ, Behrman RE. Where children die: improving palliative and end-of-life case for children and their families [monograph on the Internet]. Washington: National Academy Press; 2003 [cited 2008 Sep 26]. Available from: http://nap.edu/openbookphp?record_id=10390&page=1

8. Homepage/Website

- Cancer-Pain.org [homepage on the Internet]. New York: Association of Cancer Online Resources, Inc.; c2000-01 [cited 2008 Oct 3]. Available from: <http://www.cancer-pain.org/>

Contact

E-mail: manager@jhsmr.org

Other websites

Thai Journals Online: <https://www.tci-thaijo.org/index.php/jhsmr>



JOURNAL OF HEALTH SCIENCE AND MEDICAL RESEARCH

JHSMR

International Hybrid Conference

The 20th Postgraduate Forum on Health Systems and Policies

“Strengthening Health Systems
For Global Health Security and Equity”



FACULTY OF MEDICINE, PRINCE OF SONGKLA UNIVERSITY

