



PRESS RELEASE

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Official Launch of Global Heat Health Information Network Southeast Asia Hub at NUS Medicine

Singapore, 7 January 2025 – The Heat Resilience & Performance Centre (HRPC) at the Yong Loo Lin School of Medicine, National University of Singapore (NUS Medicine) has been officially designated as the Global Heat Health Information Network (GHHIN) Southeast Asia Hub, a recognition that underscores its leading role in advancing heat resilience. This designation highlights the Centre's expertise in addressing the growing challenges of heat-related health risks in the region. With this appointment, the Centre is poised to play a pivotal role in working with the region to shape strategies, research, and policies aimed at mitigating the impact of extreme heat on public health, demonstrating its commitment to building resilience in the face of climate change.

The GHHIN Southeast Asia Hub was launched at the first GHHIN Southeast Asia Heat Health Forum, a four-day forum that will serve as a pivotal platform for fostering partnerships, advancing evidence-based policies to manage extreme heat risks effectively in the region, and enhancing the region's collective capacity to protect lives and livelihoods. The opening ceremony of the forum was graced by Guest-of-Honour, Dr Koh Poh Koon, Senior Minister of State, Ministry of Sustainability and the Environment, and Ministry of Manpower

Organised by the GHHIN Southeast Asia Hub, and co-sponsored by the World Health Organization (WHO) and World Meteorological Organization (WMO), over 200 delegates will be participating in the four-day forum. Against a global backdrop of more intense climate change incidents with more frequent and severe heat events, the forum is themed "**Toward a heat resilient Southeast Asia: Enhancing livelihoods and wellbeing**". The Forum will bring together global experts, policymakers, and researchers to discuss the growing challenges of extreme heat and its effects on human health, productivity, and urban resilience. Hosted in Singapore, this landmark event showcases collaborative strategies, community-driven solutions and innovative insights to address the urgent heat-related issues in the Southeast Asia (SEA) region and their global impact. The forum is supported by Wellcome, a global charitable organisation that focuses on science and research.

Addressing urban heat, workplace heat, and traditional and cultural approaches to heat management

Chairing the GHHIN Southeast Asia Hub, is Associate Professor Jason Lee, also the Director at the HRPC at NUS Medicine, who brings a wealth of research and translational experience that will help guide and accelerate the conversions specific to the SEA region.

His team spearheaded Project HeatSafe, which investigated the impact of rising temperatures on the health and productivity of people in Southeast Asia. The project has sparked important conversations throughout the region, inspiring discussions on how to replicate and refine its research methodologies for broader applications in the region.

A/Prof Lee said, “Leveraging Singapore’s strategic location and expertise in heat stress management, we aim to collaborate with our regional counterparts to tackle the unique and multifaceted challenges posed by rising temperatures in Southeast Asia. Unlike other regions, our tropical climate brings distinct hurdles such as high humidity compounding heat stress, the Urban Heat Island (UHI) effect exacerbated by rapid urbanisation, and socioeconomic disparities that leave outdoor and indoor workers particularly vulnerable. Our ageing population also faces heightened risks, making it imperative to empower individuals, communities, and society to thrive in an increasingly warmer world.”

As we build on past efforts to address the challenges of heat in Southeast Asia, it is essential to recognise that the regional heat health challenges can differ significantly from those in the Global North, such as:

High Humidity Compounding Heat Stress

- In Southeast Asia, the chronic combination of high heat and humidity limits the body’s ability to cool down through sweat evaporation.
- This exacerbates the physiological strain, leading to greater incidences of heat exhaustion and heat stroke compared to regions with lower humidity, posing a significant risk to outdoor workers and vulnerable groups.

UHI Effect and Rapid Urbanisation

- Urban Heat Islands, which exacerbate the urban temperatures, are more pronounced in Southeast Asia due to rapid urbanisation and dense infrastructure, as well as reduced green spaces and cooling surfaces like water bodies.
- Many Southeast Asian cities often lack the infrastructure to mitigate urban heat effectively, including low-income and informal housing areas particularly exposed to localised temperature spikes.

Socioeconomic Disparities and Outdoor and Indoor Worker Vulnerability

- In Southeast Asia, socioeconomic inequalities exacerbate heat impacts, as a significant portion of the population relies on outdoor and indoor labour in agriculture, construction, manufacturing, and informal sectors, which are highly susceptible to heat stress.

- Globally, 512 billion work hours were lost due to heat exposure in 2023, with the largest impact in low- and medium-HDI countries, including many in Southeast Asia. As a result of the work hours lost, it resulted in an estimated income loss of \$835 billion.^{1 2}

Ageing Population and Vulnerability to Heat

- Southeast Asia's population is ageing at a faster rate than many other parts of the world³. While the percentage of people aged 65 and above (7.9%)⁴ is still lower than in regions like Europe or North America (19% and 17% respectively)⁵, the pace of growth in this age group is significant. In countries like Singapore and Thailand (13.1% and 14.7% respectively)⁴, the proportion of elderly individuals is notable. For instance, Singapore has one of the fastest ageing populations in the world, with projections indicating that by 2030, about 25% of its population will be aged 65 and above.
- Southeast Asia's ageing population faces heightened challenges in the context of extreme heat, as older adults are particularly vulnerable to heat-related illnesses due to physiological factors and pre-existing health conditions. The increased frequency and intensity of extreme heat exacerbate health risks, placing additional strain on healthcare systems. Ensuring the well-being of the elderly requires targeted interventions, such as improving access to cooling facilities, enhancing public health messaging, and developing community support networks to safeguard against the impacts of extreme heat in this vulnerable demographic.

HRPC outlines future plans as the GHHIN Southeast Asia Hub

As the newly launched GHHIN Southeast Asia Hub begins its critical journey, the next steps aim to build on the dynamic conversations initiated during the Forum. These steps will lay a strong foundation for regional collaboration, innovation, and progress in addressing the growing challenges of heat resilience in Southeast Asia. The Hub's immediate priorities include:

- **Developing a Comprehensive Strategy and Workplan:** Co-creating a roadmap that defines key milestones and measurable targets. This strategy will ensure that efforts are aligned with regional needs and that tangible progress is made toward building heat resilience.
- **Establishing a Stakeholder Network:** Mapping out a Southeast Asia-focused network of partners and stakeholders across governments, academia, industries, and

¹ International Labour Organization. Statistics on Wages. 2024. [https:// ilostat.ilo.org/topics/wages/](https://ilostat.ilo.org/topics/wages/)

² International Labour Organization. Working on a warmer planet: the impact of heat stress on labour productivity and decent work. 2019. <https://www.ilo.org/publications/major-publications/working-warmer-planet-effect-heat-stress-productivity-and-decent-work>

³ AHWIN, "Data on Aging," www.ahwin.org/data-on-aging; compiled based on United Nations, Department of Economic and Social Affairs, Population Division, *World Population Prospects: The 2022 Revision, Key Findings and Advance Tables* (2022)

⁴ The Global Economy, "Population ages 65 and above - Country rankings," 2023, https://www.theglobaleconomy.com/rankings/elderly_population/South-East-Asia/

⁵ Statistco, "Population Distribution by Age and Continents", Mar 28 2024, <https://www.statistco.com/s/world-population-distribution-by-age-and-region>

community organisations. This inclusive stakeholder map will be pivotal in fostering partnerships and promoting a coordinated regional response to heat health challenges.

- **Implementing a Knowledge-Sharing Framework:** Creating a robust system to facilitate the exchange of expertise, best practices, and innovative solutions. This framework will encourage collaboration, reduce duplication of efforts, and accelerate the adoption of effective strategies across the region.

Through these actions, the GHHIN Southeast Asia Hub seeks to position itself as a leading regional hub, driving impactful collaborations and evidence-based solutions that safeguard lives and livelihoods against the escalating risks of heat stress.

“Together as a region, this is our opportunity to build stronger, and more heat-resilient communities,” A/Prof Lee added. “We are committed to face these challenges head-on and shape a more resilient Southeast Asia that can thrive in the face of climate change - for today, for tomorrow, and for future generations.”

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About National University of Singapore (NUS)

The National University of Singapore (NUS) is Singapore's flagship university, which offers a global approach to education, research, and entrepreneurship, with a focus on Asian perspectives and expertise. We have 16 colleges, faculties, and schools across three campuses in Singapore, with more than 40,000 students from 100 countries enriching our vibrant and diverse campus community. We have also established more than 20 NUS Overseas Colleges entrepreneurial hubs around the world.

Our multidisciplinary and real-world approach to education, research and entrepreneurship enables us to work closely with industry, governments, and academia to address crucial and complex issues relevant to Asia and the world. Researchers in our faculties, research centres of excellence, corporate labs and more than 30 university-level research institutes focus on themes that include energy; environmental and urban sustainability; treatment and prevention of diseases; active ageing; advanced materials; risk management and resilience of financial systems; Asian studies; and Smart Nation capabilities such as artificial intelligence, data science, operations research, and cybersecurity.

For more information on NUS, please visit <http://www.nus.edu.sg/>

About the NUS Yong Loo Lin School of Medicine (NUS Medicine)

The NUS Yong Loo Lin School of Medicine is Singapore's first and largest medical school. Our enduring mission centres on nurturing highly competent, values-driven, and inspired healthcare professionals to transform the practice of medicine and improve health around the world.

Through a dynamic and future-oriented five-year curriculum that is inter-disciplinary and inter-professional in nature, our students undergo a holistic learning experience that exposes them to multiple facets of healthcare and prepares them to become visionary leaders and compassionate doctors and nurses of tomorrow. Since the School's founding in 1905, more than 12,000 graduates have passed through our doors.

In our pursuit of health for all, our strategic research programmes focus on innovative, cutting-edge biomedical research with collaborators around the world to deliver high impact solutions to benefit human lives.

The School is the oldest institution of higher learning in the National University of Singapore and a founding institutional member of the National University Health System. It is one of the leading medical schools in Asia and ranks among the best in the world (Times Higher Education World University Rankings 2024 by subject and the Quacquarelli Symonds (QS) World University Rankings by subject 2023).

For more information about NUS Medicine, please visit <https://medicine.nus.edu.sg/>

About the Heat Resilience & Performance Centre

The Heat Resilience & Performance Centre (HRPC) at the NUS Yong Loo Lin School of Medicine (NUS Medicine) is a globally-connected first-class thermal research unit based in Asia. The HRPC is committed to being a global leader in thermal research centred on helping humans thrive in a warming world. HRPC's mission is to create holistic and forward-looking solutions that boost human resilience to rising ambient heat. HRPC is honoured to announce its designation as the GHHIN Southeast Asia Hub.

For more information on HRPC, please visit <https://medicine.nus.edu.sg/hrpc/>

About the Global Heat Health Information Network (GHHIN)

The Global Heat Health Information Network (GHHIN) is an independent, voluntary, and member-driven forum of scientists, practitioners, and policy makers focused on improving capacity to protect populations from the avoidable health risks of extreme heat in our changing climate. Spearheaded by the World Health Organization (WHO), World Meteorological Organization (WMO), and the United States National Oceanic and Atmospheric Administration (NOAA), it was created to rapidly scale up efforts to manage the complex human health risks introduced by extreme and increasing ambient heat, and to harmonise and improve information and opportunity sharing across the burgeoning local communities of health professionals, decision makers and scientists motivated to address this issue. GHHIN is committed to enhancing regional capacities through establishing regional hubs to catalyse collaborative efforts towards building resilience and protecting communities from the escalating threat of extreme heat.

For more information on GHHIN, please visit <https://ghhin.org/>

About the GHHIN Southeast Asia Hub

As the first regional hub of GHHIN anchored at HRPC, the objectives of the Hub are to advance partnership, collaboration, and advocacy within Southeast Asia to protect and prepare for the impacts of heat on human health and well-being. The following are the goals for the regional node:

- a. To champion the establishment of collaborative approaches and platforms to bring together and engage with key stakeholders;
- b. To develop SEA-focused reports on community, policy, research lessons, impacts and challenges;
- c. To advocate for evidence-based information, policies and guidelines to address heat related health risks; and
- d. To develop programmes and associated resources to share activities, experience, and research approaches.

For more information on the Hub, please visit <https://ghhin.org/southeastasia/>