

Physical school closures as a public health response to high heat index in the Philippines: a critical perspective

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The Philippines is currently grappling with some of the hottest temperatures on record, presenting substantial public health challenges. Alarming, the temperature in Metro Manila reached a staggering 38.8 degrees Celsius (°C) this year, producing a perilous heat index (i.e., “feels like” temperature) of 45 °C due to high humidity (1). This recent spike in heat has surpassed the previous record set in 1915, and with Philippine Atmospheric, Geophysical and Astronomical Services Administration’s (PAGASA) reporting that heat indices could potentially soar above 52 °C in certain areas (2), the risk to public health is significant (3). According to the Department of Health (4), the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) classified temperatures ranging from 33–41 °C as “extreme caution” levels, while 42–51 °C falls into the “danger” category. Temperatures of 52 °C and above are classified as “extreme danger”, where heat stroke is imminent. This issue is not confined to the Philippines, as many Asian countries are experiencing unprecedented heatwaves (5), making this a broader regional crisis that demands urgent attention and action.

Health impacts of extreme heat conditions

Extreme heat conditions pose severe health risks, significantly escalating the incidence of heat-related illnesses such as heat exhaustion and heatstroke. These medical emergencies can result in dizziness, fainting, severe dehydration, renal failure, and potentially life-threatening conditions. Particularly vulnerable are the

elderly, children, and individuals with pre-existing health issues like cardiovascular or respiratory diseases. Beyond acute impacts, prolonged exposure to high temperatures can exacerbate chronic health problems by heightening physiological stress on the body. This sustained strain can lead to a higher incidence of respiratory difficulties, worsening of heart conditions, and elevated levels of heat-related chronic kidney disease, particularly in populations lacking access to adequate hydration and cooling systems. Furthermore, energy insecurity complicates these challenges by limiting access to essential cooling systems during peak heat periods (6). The psychological effects of heat, including increased incidents of anxiety and stress disorders, add another layer of strain on mental health resources, compounding the overall public health crisis.

School closures as a public health response

Given these dangers, school closures have become the common response in the Philippines and Southeast Asia (7). In the absence of national guidelines that dictate suspensions due to heat, the Department of Education (8) has empowered school heads with the authority to suspend in-person classes and shift to alternative delivery modes as necessary. Local government units have also established specific ordinances, such as automatically suspending classes when temperatures rise to 42 °C and above. While prioritizing the immediate safety of students and staff, the transition to remote education reveals significant gaps in the nation’s readiness to handle educational

and health disruptions caused by climate change. The immediate benefits of school closures during high heat days are undeniable—reduced risk of heat-related health problems and potential long-term physical harm. However, this solution is not devoid of significant drawbacks. It inadvertently highlights and exacerbates existing inequalities within the educational system—students from lower socioeconomic backgrounds might struggle with access to adequate internet services, learning devices and air conditioning, leading to a gap in educational attainment (9). Moreover, reliance on remote learning assumes all educators are equally prepared to deliver quality education through digital means, an assumption that is often far from reality. The abrupt transitions also risk disrupting the educational momentum, leading to lower academic engagement and achievement, which can indirectly affect mental health and long-term well-being. Importantly, these disruptions come as we are just beginning to recover from the impacts of the pandemic (10), further complicating the efforts to stabilize educational systems.

Building resilient educational systems in a warming climate

This letter advocates for a strategic, long-term approach to sustain educational continuity and protect public health in the face of increasing environmental adversities. A critical and holistic policy overhaul is required to genuinely address the recurrent school closures due to high heat indices. Investments should not only target infrastructural resilience through the integration of sustainable, climate-appropriate school designs and cooling systems but also ensure equitable access to technology and resources for all students. The government must allocate funds for upgrading school facilities to withstand extreme weather conditions, incorporating green building materials and designs that naturally regulate temperature. Providing robust internet infrastructure and affordable digital devices to all students is essential to bridge the digital divide, ensuring that no student is left behind during remote learning periods. Furthermore, the policy framework should include training for educators in digital literacy and online pedagogy. This training should encompass not only the technical aspects of using digital tools but also effective strategies for engaging students in a virtual environment. Coupled with this strategy, curriculum adjustments are necessary to create a flexible and adaptable learning structure that seamlessly transitions between in-

person and remote learning modalities. A broader societal engagement in climate education is also crucial. This approach involves integrating climate science into the curriculum at all educational levels, promoting community awareness programs, and encouraging active participation in environmental sustainability initiatives. By equipping communities with knowledge and strategies to adapt to and mitigate the effects of increasing temperatures, the education sector can foster a more resilient society.

By integrating effective public health strategies with adaptable educational policies, these comprehensive measures can better prepare both the education system and public health for future challenges. This approach ensures that safety, health, and quality of education are prioritized simultaneously, creating a robust framework that supports both the well-being of students and the continuity of their education in an increasingly volatile climate. In the face of rising temperatures and environmental instability, decisive and innovative actions must be taken, as the future of the next generation and the resilience of society depend on it.

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