



14-16 MAY 2026

Singapore Primary Care Conference Academia, SGH Campus, 20 College Road, Singapore 169856

Sustainable & Resilient Primary Care: Identity · Innovate · Integrate · Impact

### Primary Care-level Digital Health Innovations for Non-Communicable Diseases in the Underserved ASEAN Populations: A Scoping Review

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#### Background:



In Southeast Asia, distances, distribution of health services, and costs shape access to healthcare, with physician ratios frequently below the WHO standard  $\geq 1/1000$  populations.



10.8% of its 726 million ASEAN people live in poverty and are at higher risk of poor non-communicable disease (NCD) outcomes.



Digital approaches may help efficiently address these gaps.



Aim: to examine the scope of available research on digital innovations in NCDs in primary care for underserved populations in ASEAN.

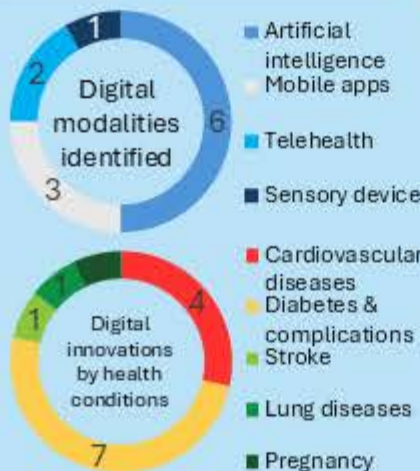
#### Methods:



#### Results:

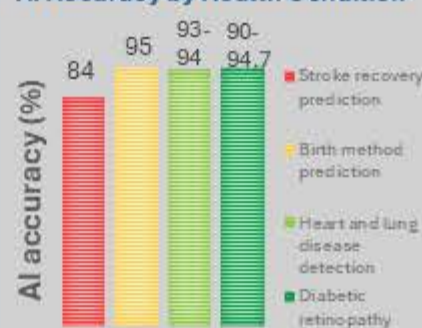
- Search result: 204
- Selected articles: 12 (11 primary studies, 1 systematic review)
- Mostly pilot studies.
- Majority of the studies addressed rural populations.

#### Distribution of identified articles in ASEAN countries



#### Studies using artificial intelligence

##### AI Accuracy by Health Condition



AI innovations were mostly used for care provided by specialists

In cost-effectiveness studies, AI strategies were cheaper than manual grading.

#### Study using remote sensing devices

97% accuracy for heart rate and SpO<sub>2</sub>.

#### Studies using mobile apps among rural patients

- Blood pressure  $\downarrow$  8.3 mmHg ( $p < 0.001$ )
- $\uparrow$  Diabetes treatment compliance ( $p = 0.036$ )

#### Studies using telehealth to facilitate the remotely located

- Train health workers in chronic wound care
- Support eye specialist remote examinations

#### Discussion:



Digital health interventions varied across populations, diseases, and technologies.



Most interventions were pilot projects addressing a small number of conditions, indicating a gap in scaling up.



Most innovations addressed workforce shortages and geographic barriers, but not specifically for poor and vulnerable groups.



AI health tools reported high accuracy, but limited benchmarking against specialists, sensitivity, and specificity, constraining scale-up.

#### Conclusions:

This study identified gaps in digital health innovation in ASEAN, including targeted population, technologies, and evidence needed to scale up. Addressing these gaps could help expand access to underserved populations.

Studies cited:



Organisers



Secretariat

