

Barriers to Implementation of Primary PCI in Thailand and How We Overcome

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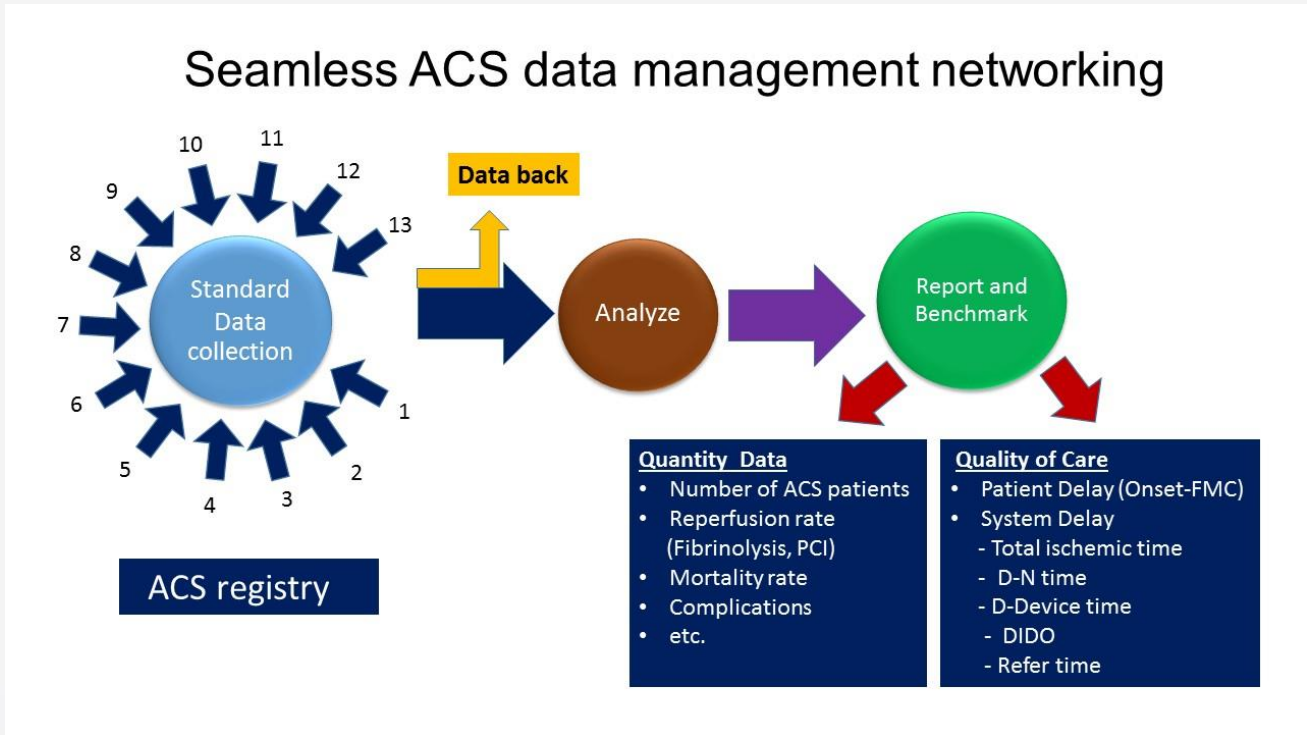
Disclosure

Speaker's name : Anek, Kanoksilp, MD.

I do not have any potential conflict of interest

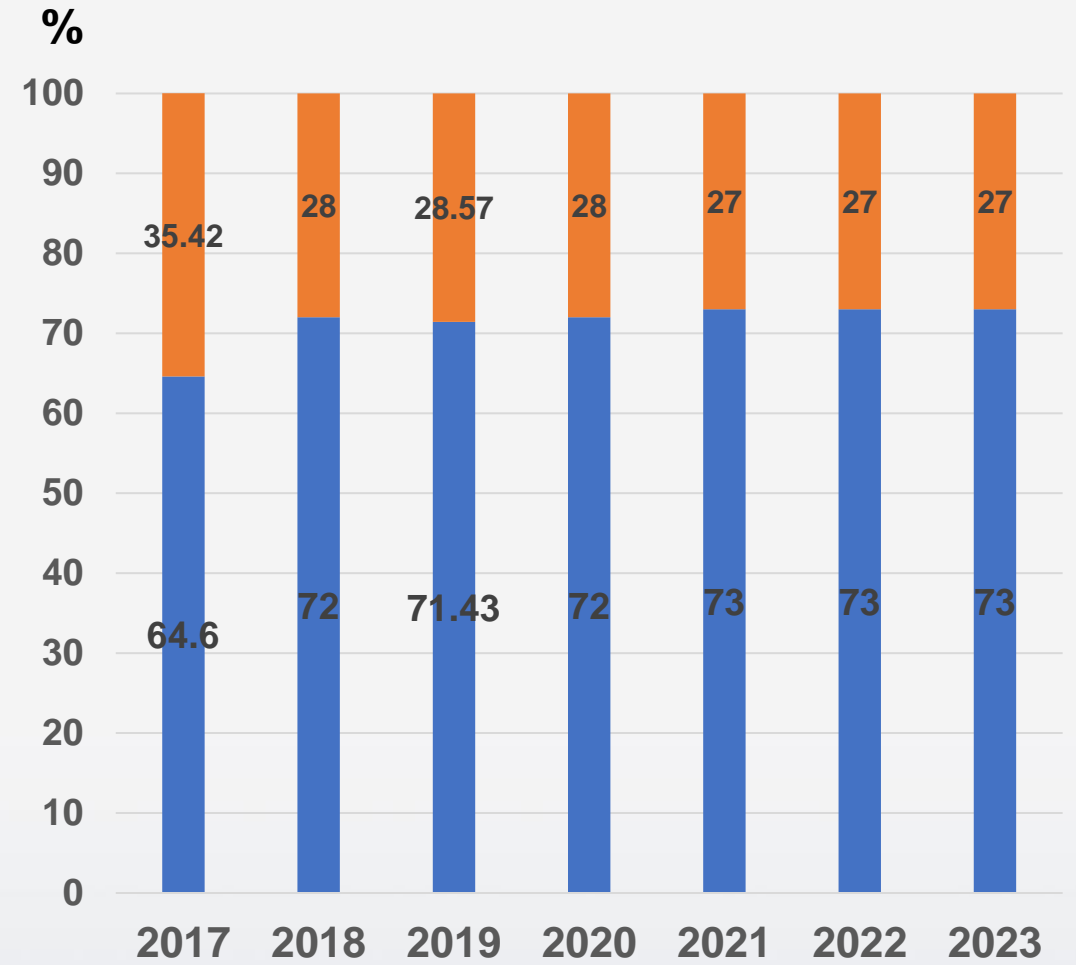
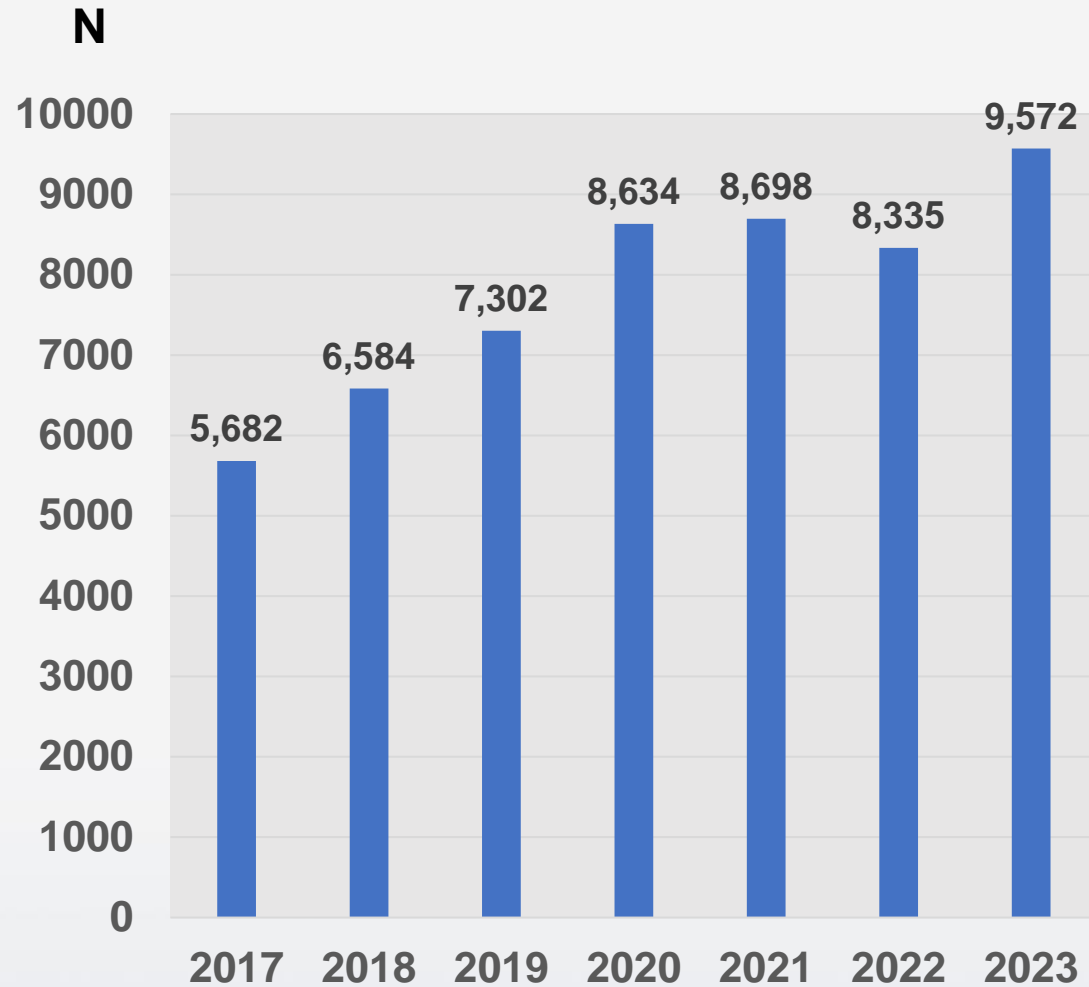
Thai ACS registry: MOPH, Service Plan (2017)

12 Area health + 1 Metropolitan (5-6 Million people / area)



Year 2023
 Population = 66 Million people
 Intervention Cardiologists = 371

Numbers of STEMI patients in Thailand

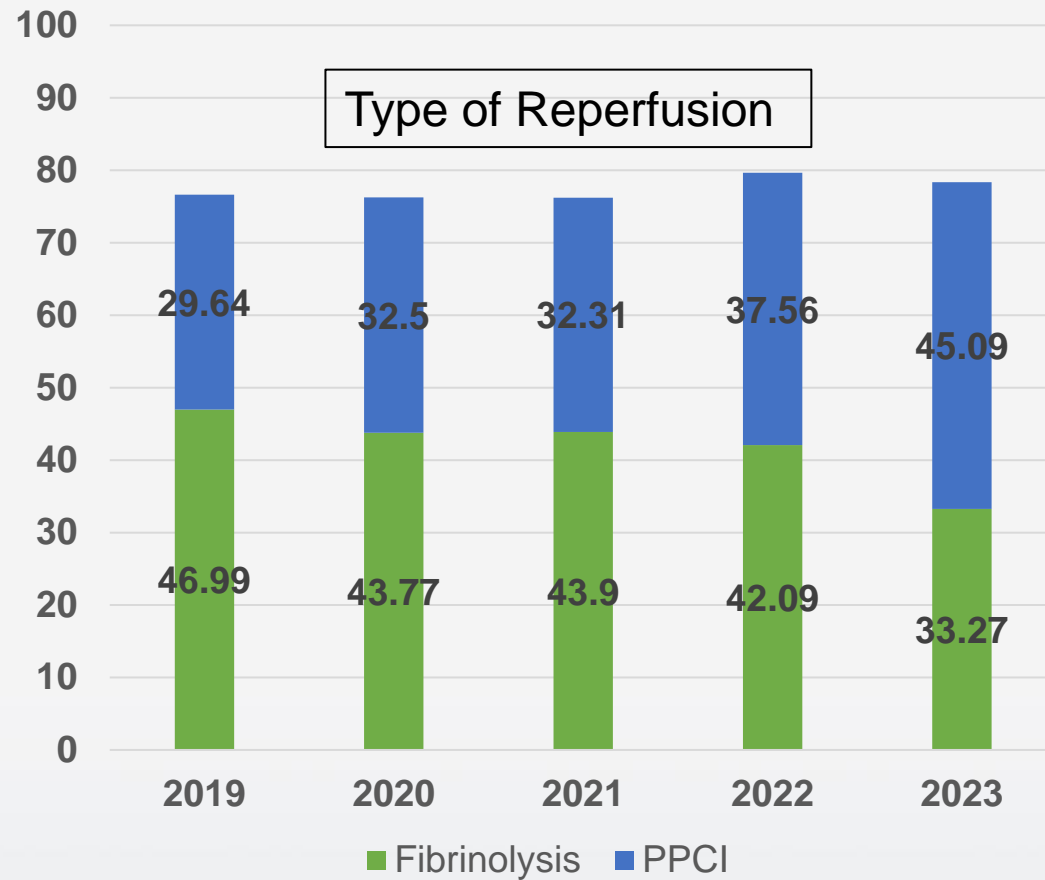


■ Male ■ Female

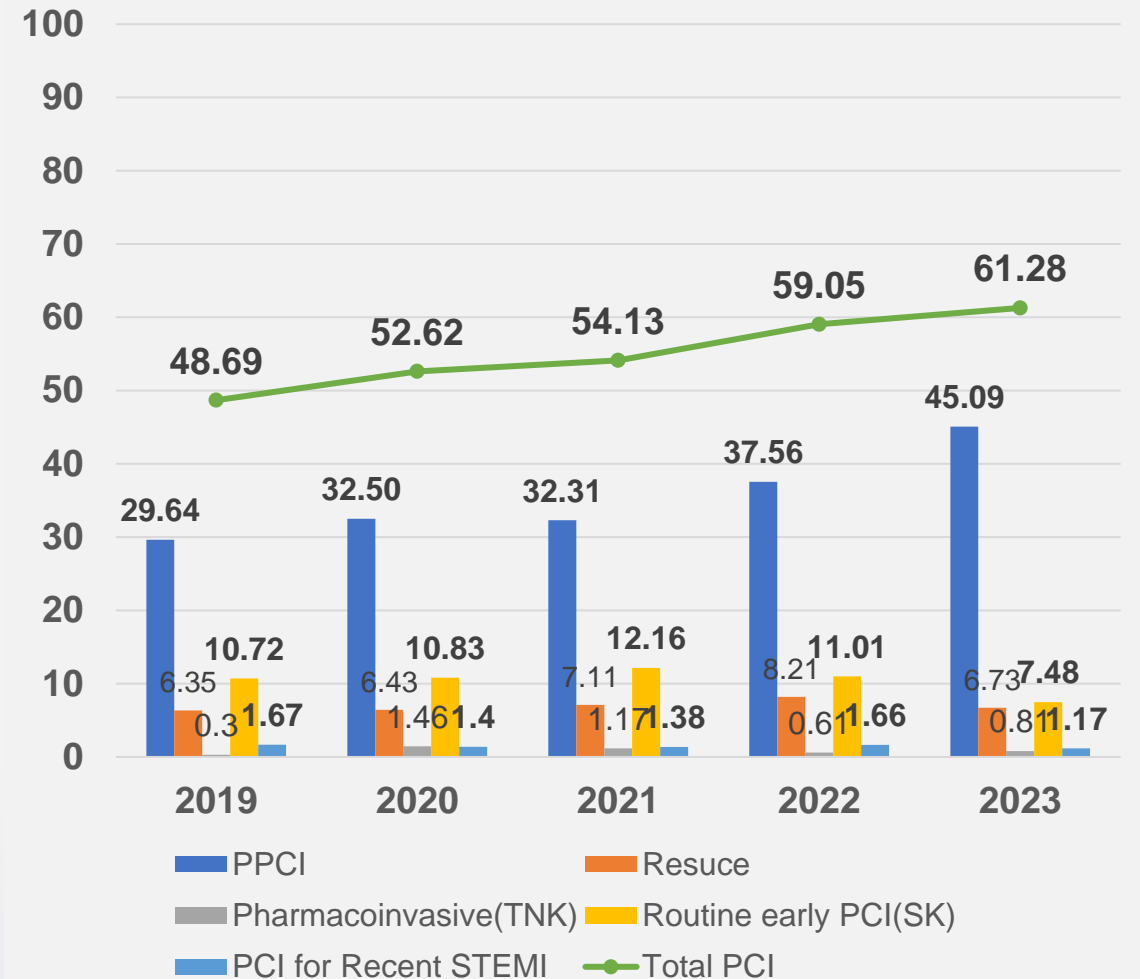
Thai ACS registry (MOPH, Budget year)

Proportion of STEMI Reperfusion in Thailand

Percent

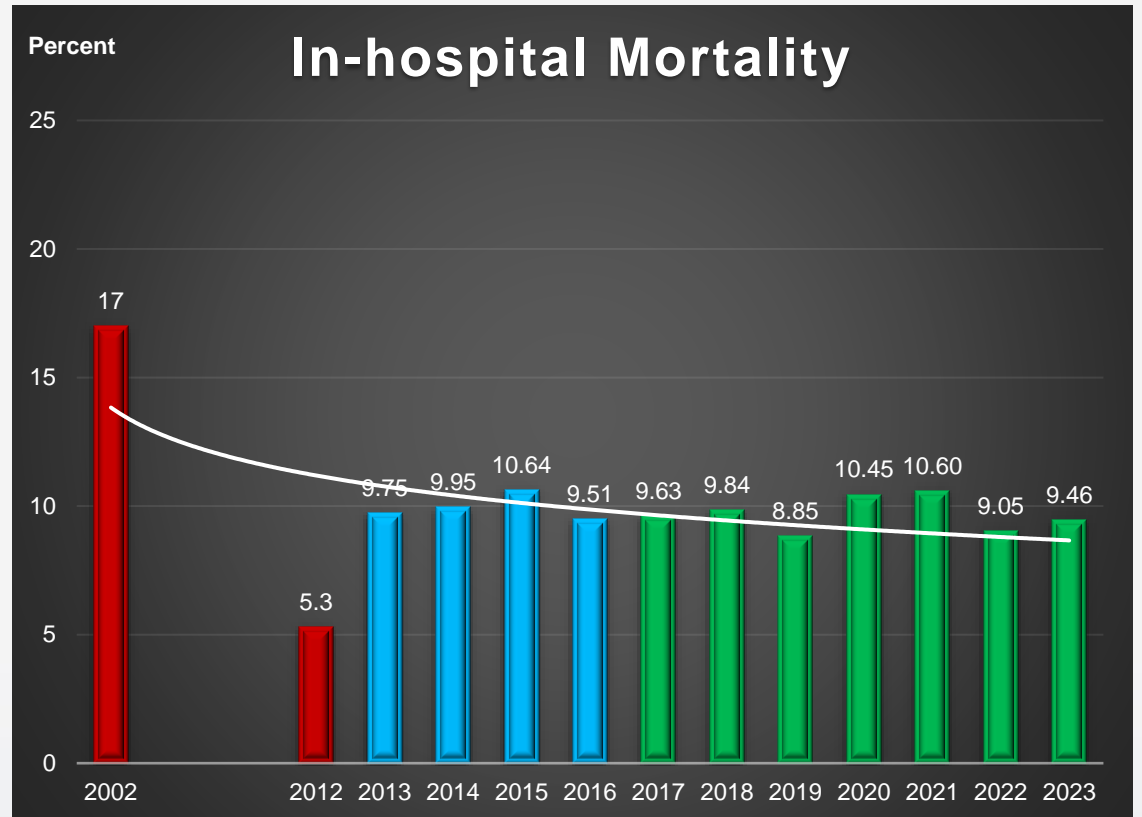
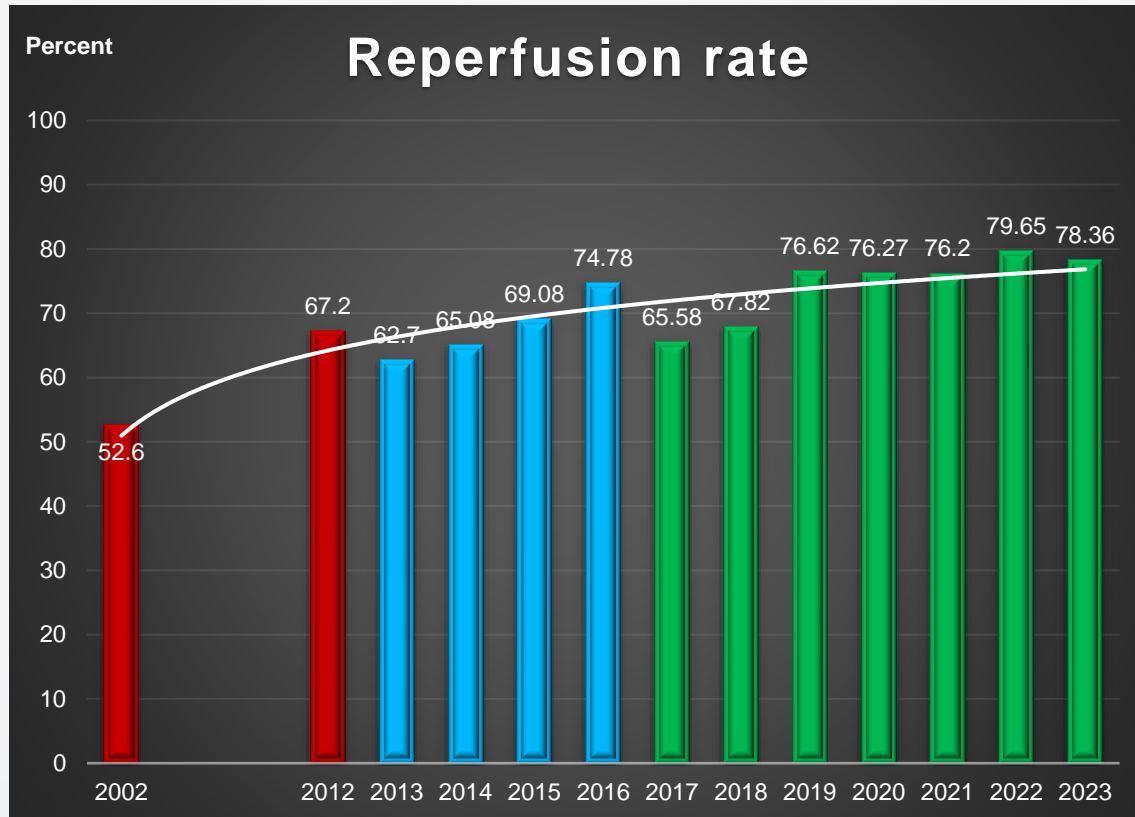


Percent



Thai ACS registry (MOPH, Budget year)

Thailand STEMI Registries



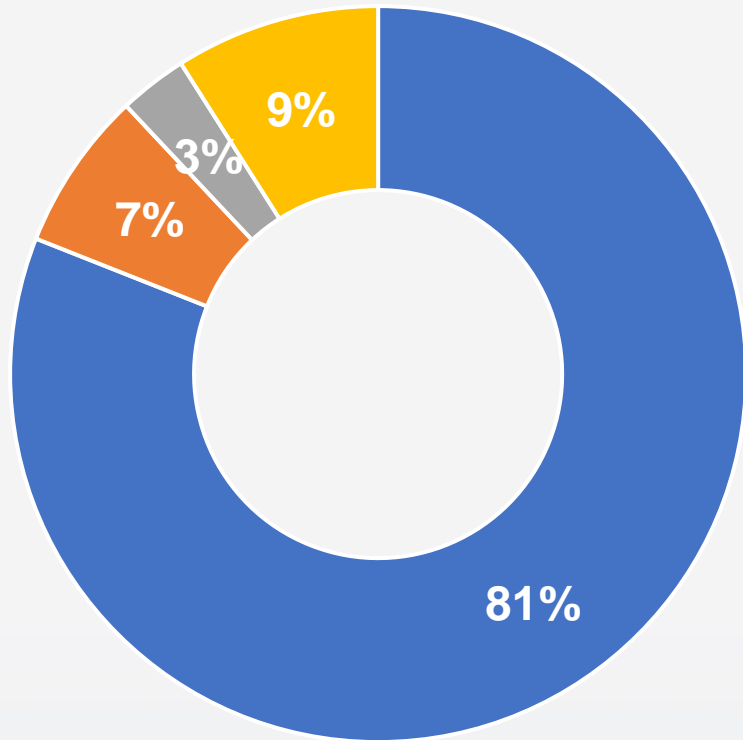
TRACS

UCHA

Thai ACS registry

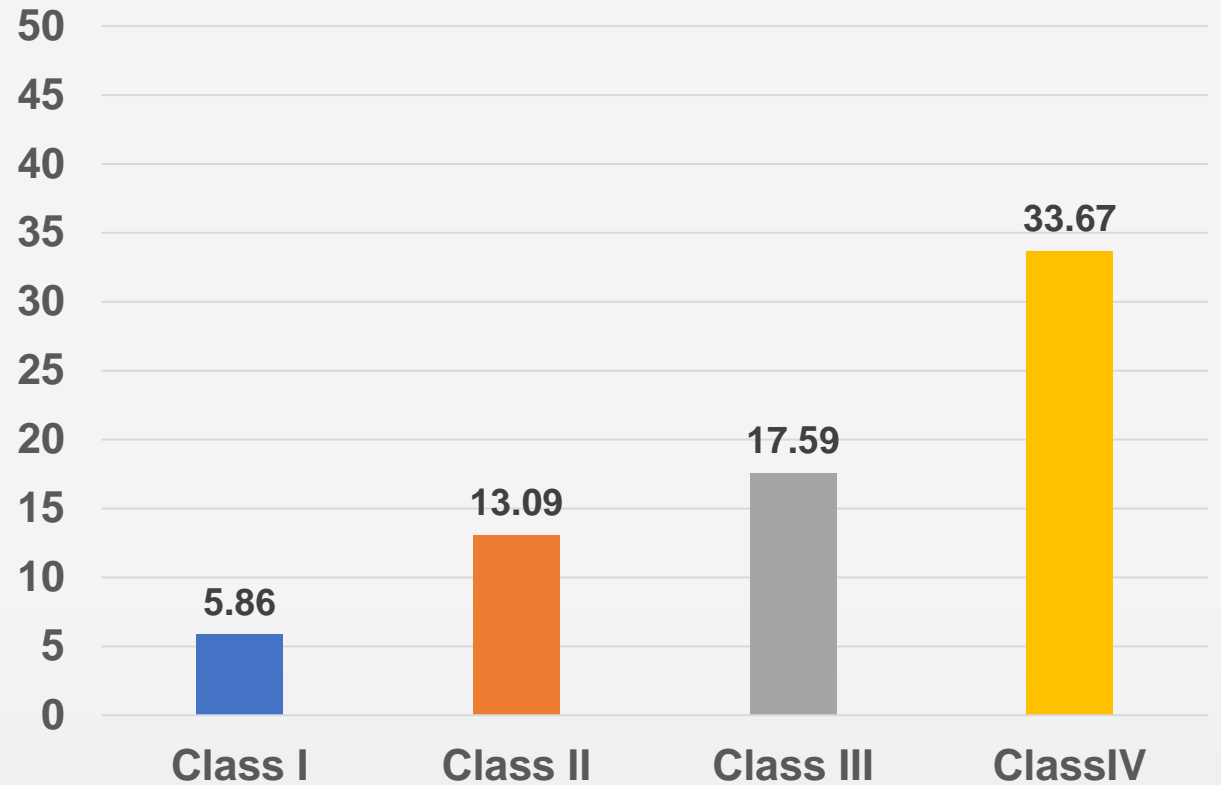
Association of Killip class and Mortality rate

Proportion of Killip class in STEMI



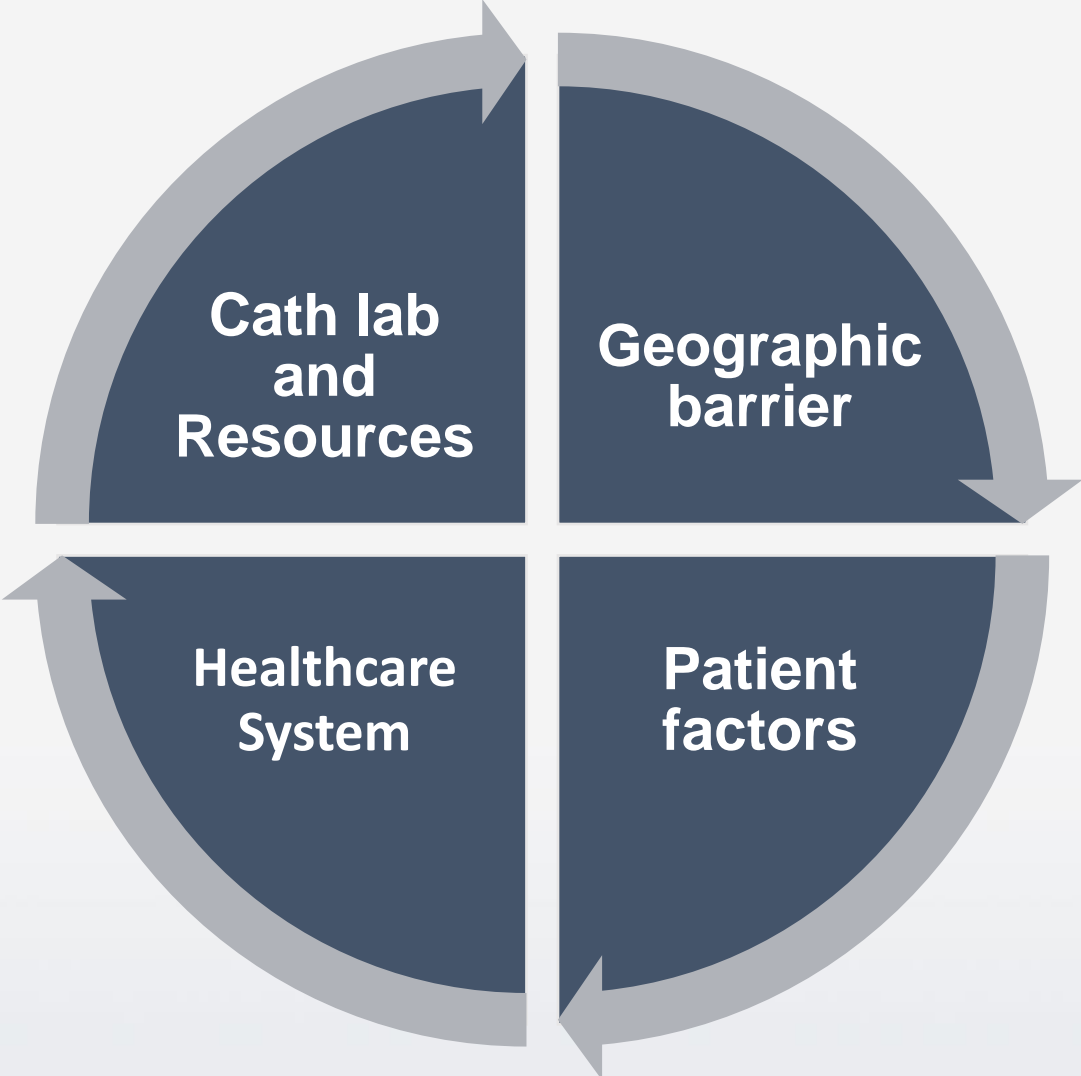
■ Class I ■ Class II ■ Class III ■ Class IV

Mortality rate

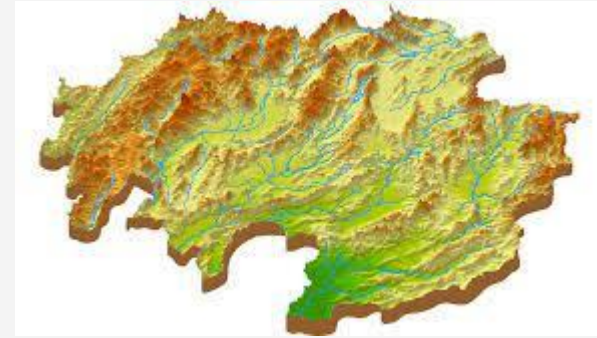


Thai ACS registry 2023(Budget year)

Barriers to implementation of Primary PCI in Thailand



Geographic barrier



Several mountain ranges



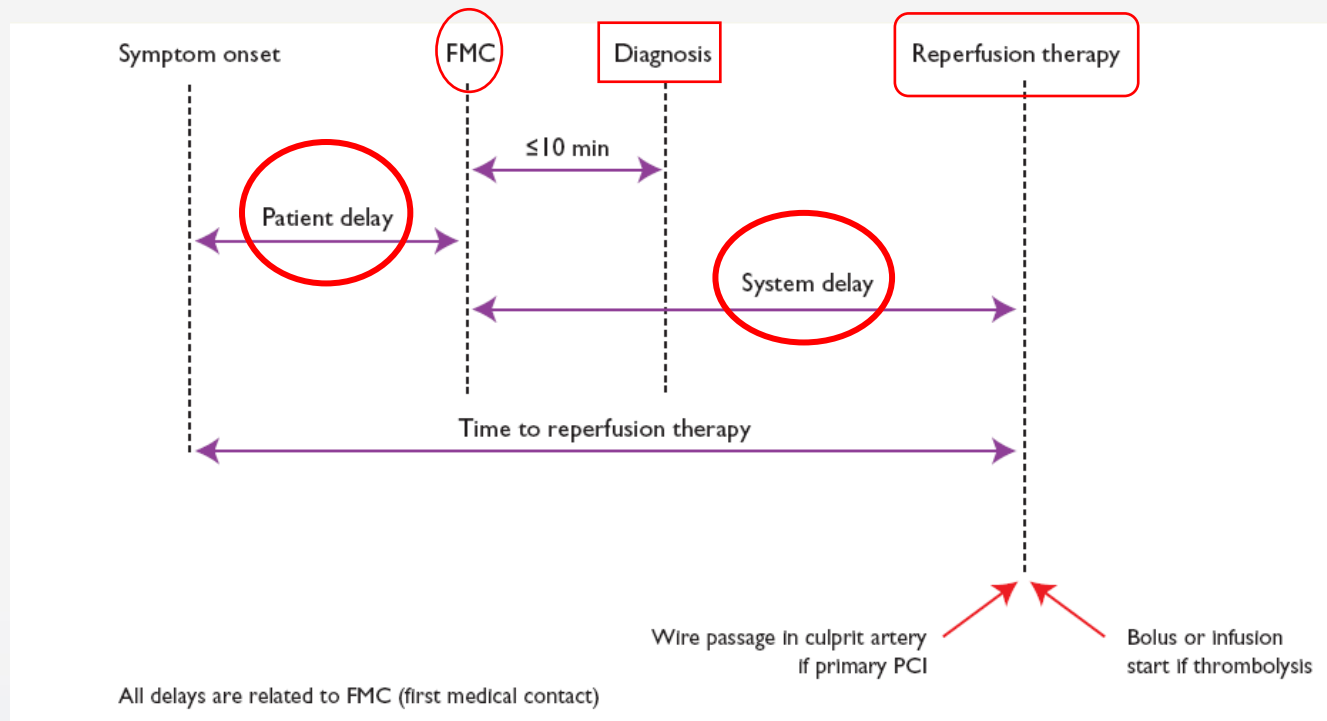
Malay Peninsula



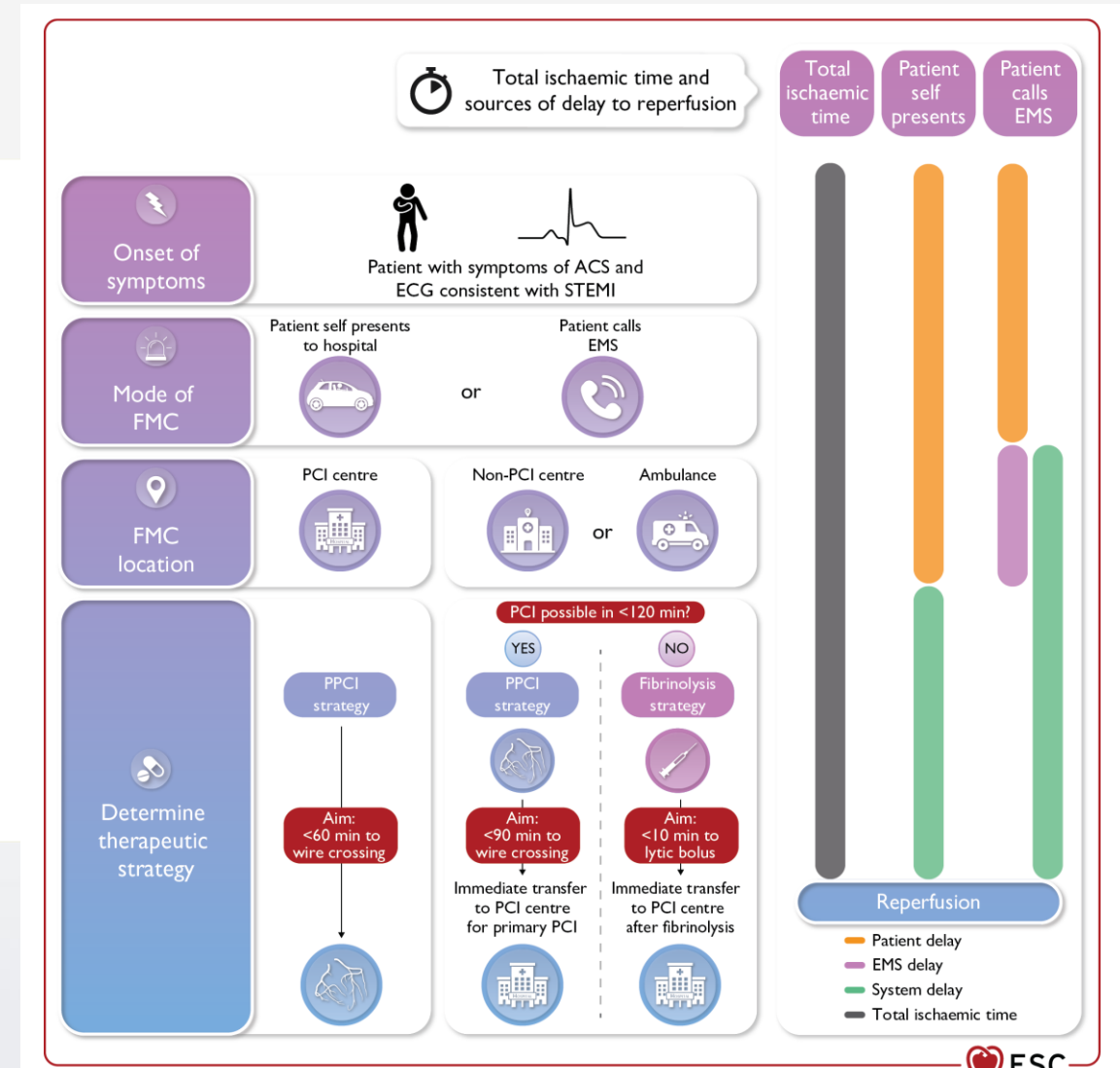
Plain



Components of delay in STEMI and ideal time intervals for intervention



ESC Guideline 2012 => 2017 => 2023



Pre-hospital Delay

Public awareness of STEMI symptoms and need for immediate medical attention might be low

Delays in EMS reaching patients due to traffic or limited resources

Healthcare System Factors

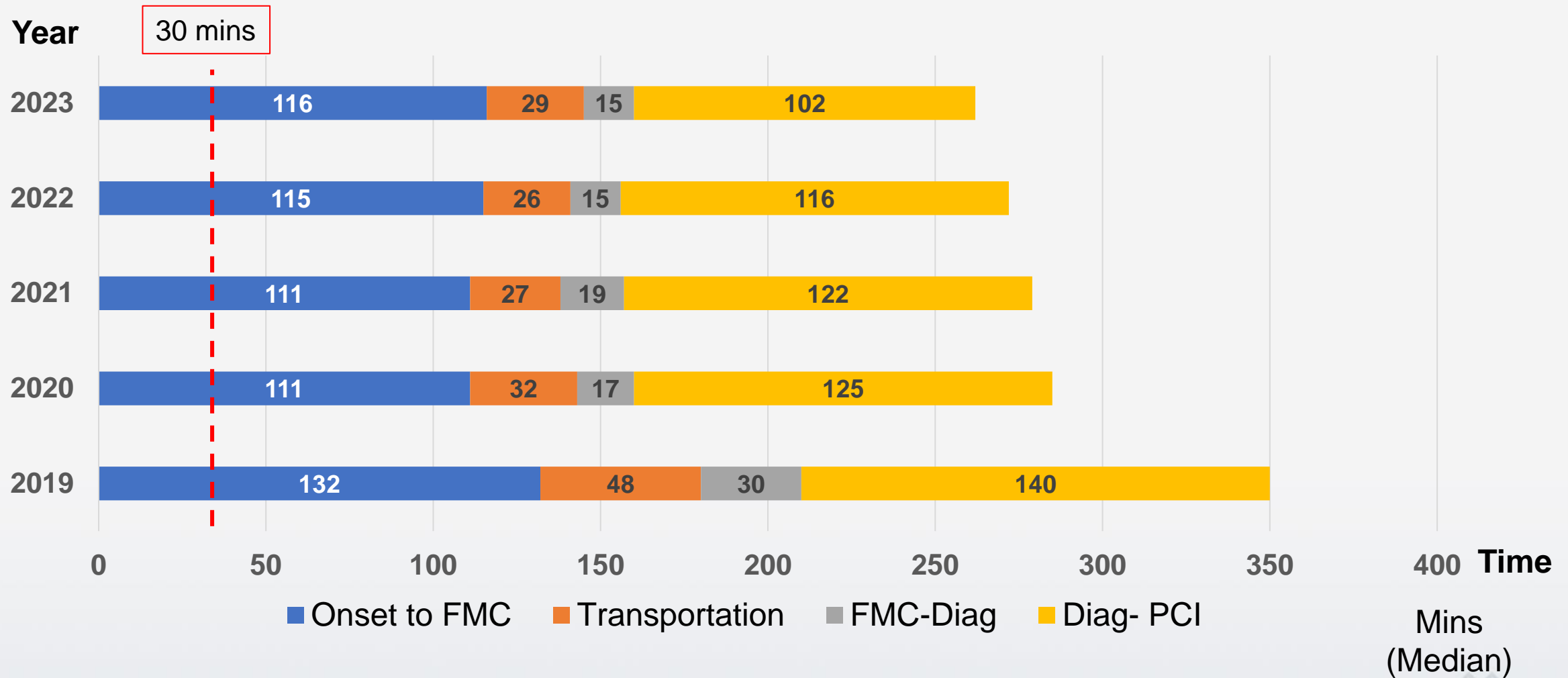
Limited Resources

Shortages of trained interventional cardiologists, especially in rural areas

Insufficient numbers of Cath labs and ICU beds dedicated to PPCI

Lack of specialized equipment

Time delay in Primary PCI

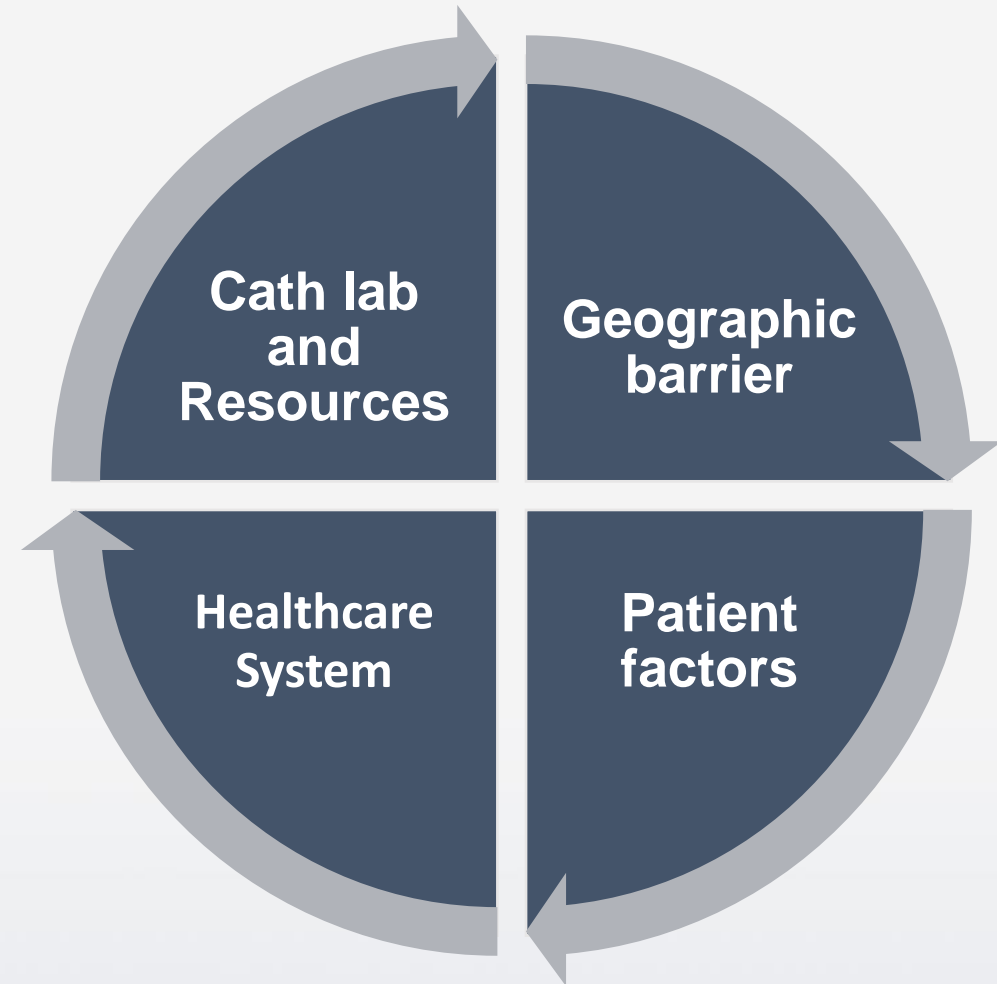
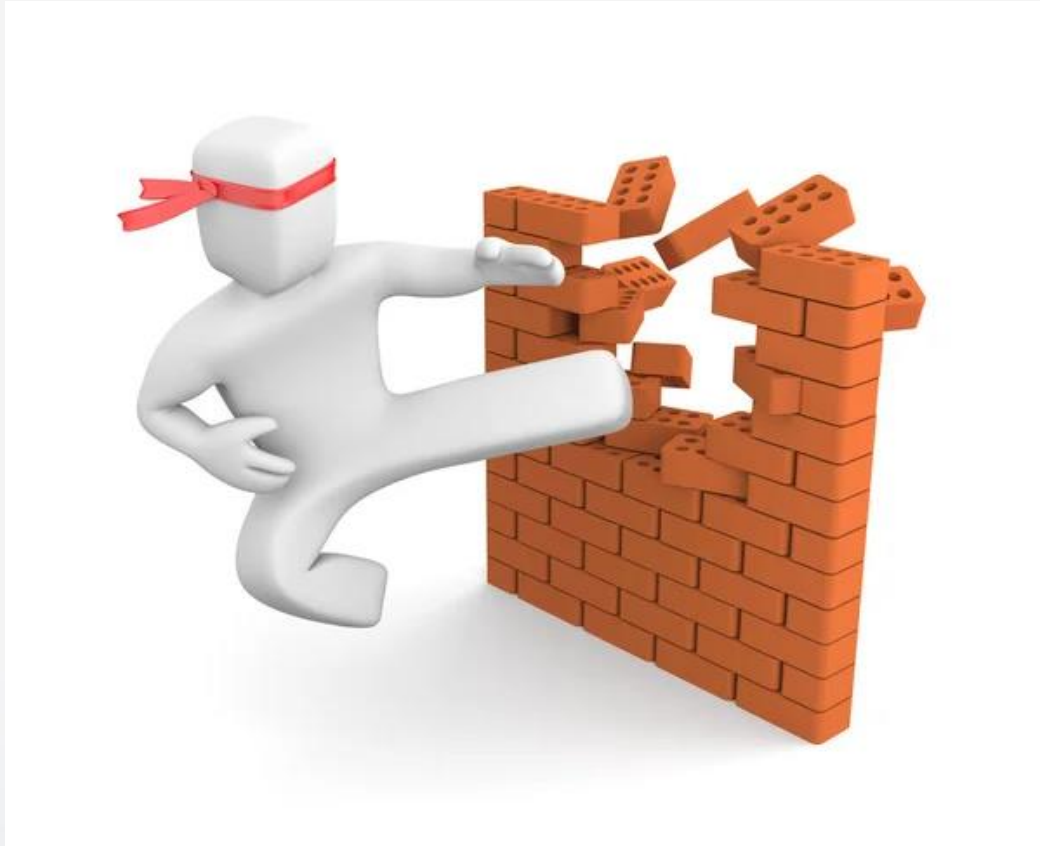


In-hospital Delay

Inefficient protocols for recognizing and prioritizing STEMI cases in the emergency department

Delays in activating the Cath lab team

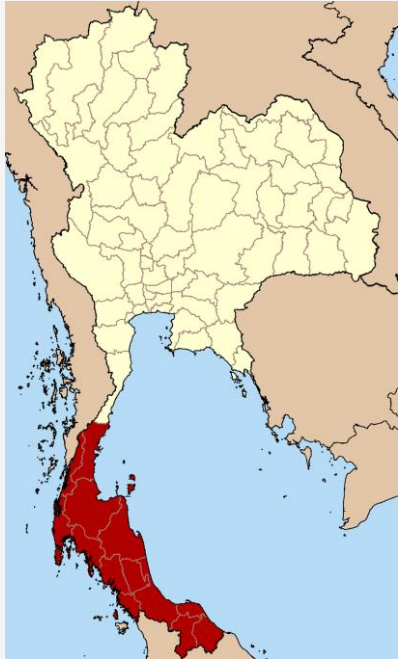
How to Overcoming the Barriers?



Transportation



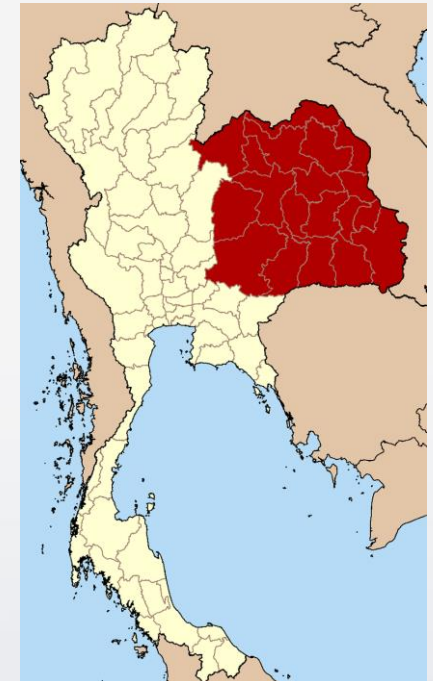
Several mountain ranges



Malay Peninsula



Plain



Public Awareness Campaigns



Educate the public about STEMI symptoms and the importance of seeking immediate medical attention



Train communities on basic CPR techniques

Government and Healthcare Policymakers



Increase funding for training and deployment of interventional cardiologists, particularly in underserved areas

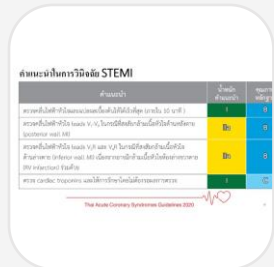


Develop and implement national guidelines for STEMI care, including standardized protocols and quality control measures

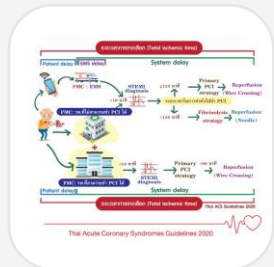


Invest in expanding Cath lab facilities and ensuring proper equipment availability

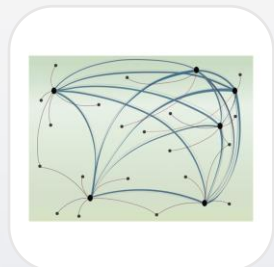
Healthcare System Improvements



Streamline emergency department procedures to identify and prioritize STEMI cases

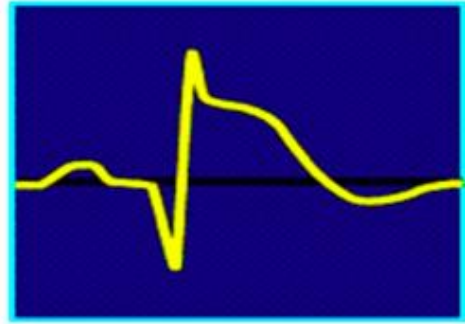


Implement efficient Cath lab activation protocols to minimize delays in treatment



Establish regional STEMI networks to coordinate care between hospitals and ensure access to PPCI for a wider population

STEMI Fast Track : Work Flow



Onset of STEMI

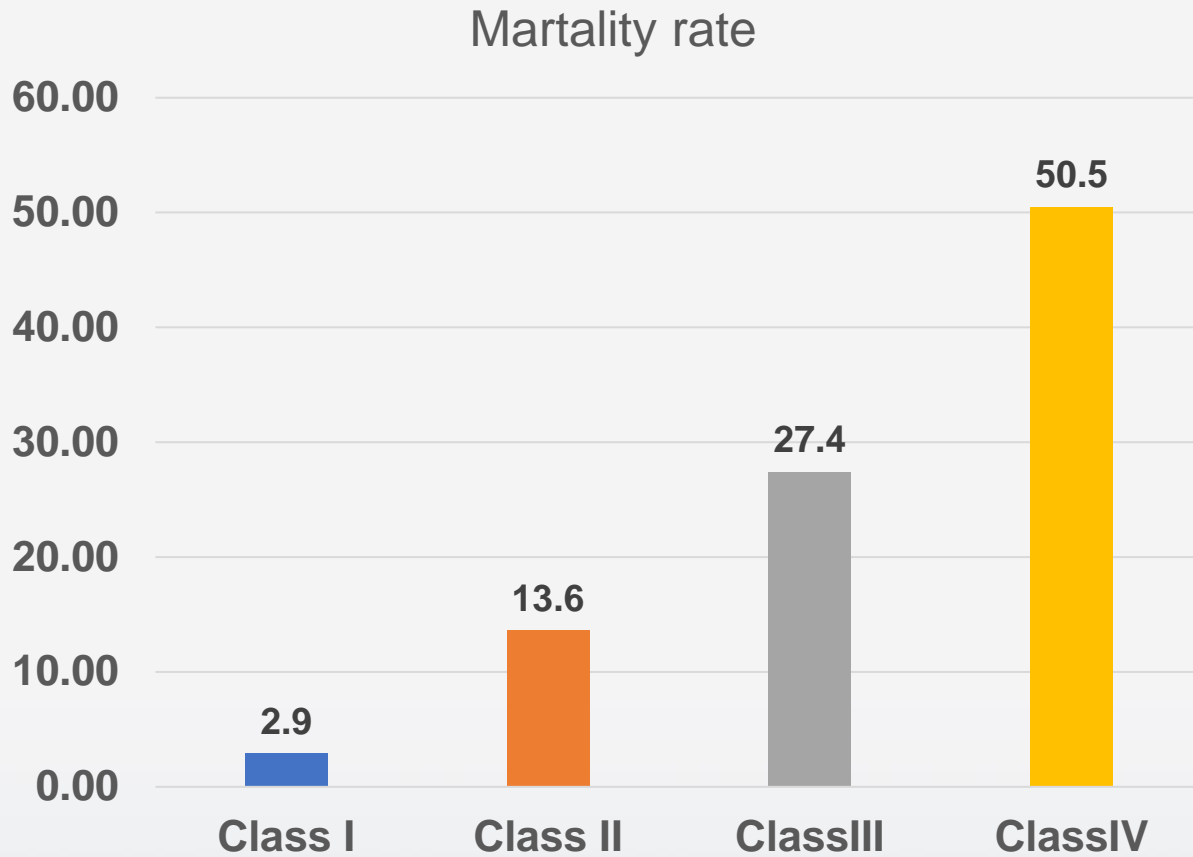


Time to Fibrinolysis \leq 30 min. (\geq 50%)

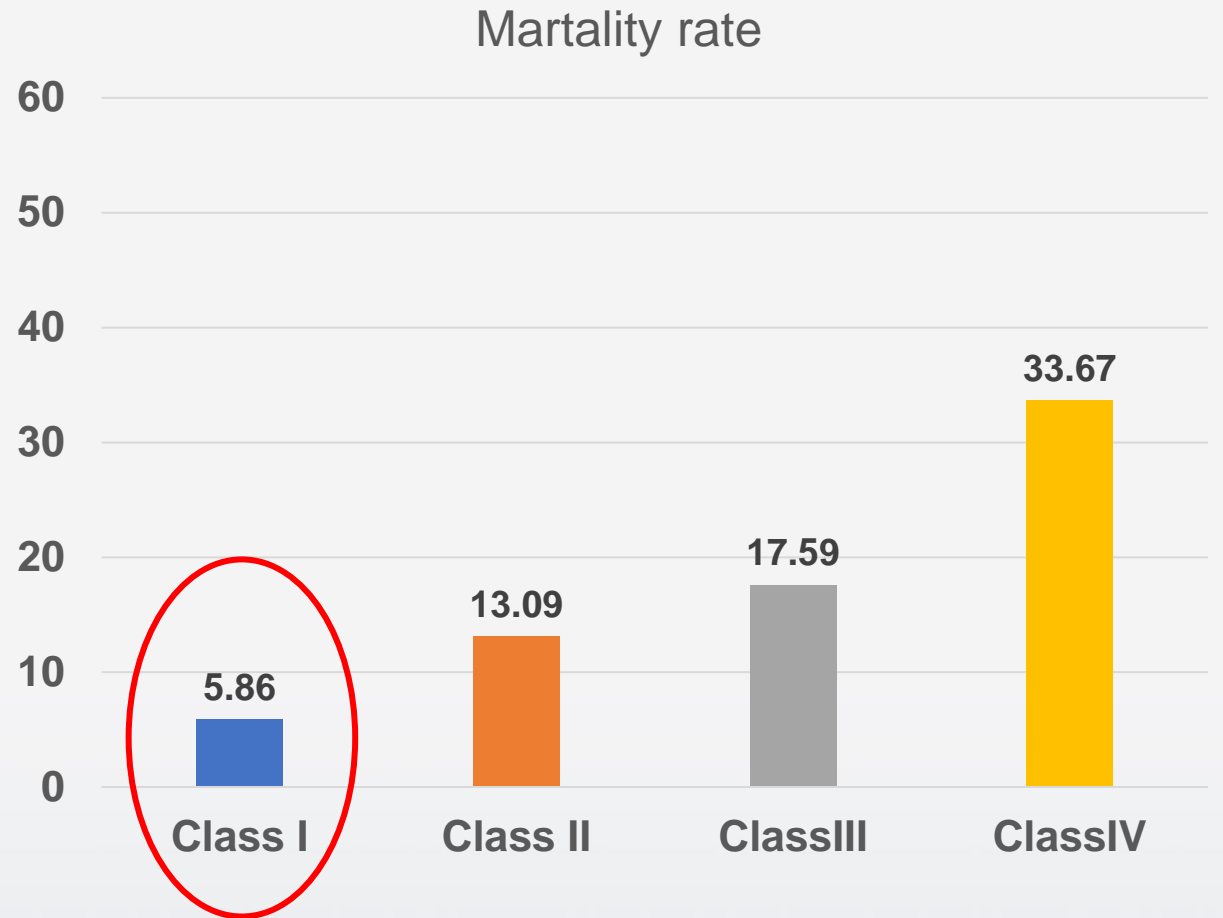
Time to Primary PCI \leq 120 min. (\geq 50%)



Association of Killip class and Mortality rate



Hashmi et al 2020. Jinnah Hospital, Lahore
Pakistan



Thai ACS registry 2023(Budget year)

Conclusion

- There may not be enough public knowledge of STEMI symptoms and the necessity for prompt intervention
- **Patient delays and System delays** continue to be issues with STEMI management
- Primary PCI in Thailand is constantly improving but **the country's primary PCI rate remains low**
 - Lack of interventional cardiologists and heart team, particularly in remote locations
 - Not enough cath labs and ICU beds specifically for Primary PCI

Conclusion(cont.)

- Although it is constantly improving, the in-hospital mortality rate for STEMI remains high
- Reducing the mortality rate in patients with Killip class I may have an effect on the overall mortality rate
- It is necessary to establish regional STEMI networks and systems, including any transportation concerns