



Asia  
Pacific  
Sepsis  
Alliance



# CRITICAL CARE RESOURCES AND SEPSIS MANAGEMENT IN ASIA PACIFIC REGION



Australian Sepsis Network

*just ask...  
could it be sepsis?*

DR ASHWANI KUMAR



## BACKGROUND & RATIONALE

- Sepsis is a time-critical complex condition that requires evidence-based care delivered by appropriate levels of well trained, qualified and experienced healthcare providers.
- Limited information on the organisational structures, resources, clinical standards, laboratory support, and therapeutic options available in the Asia Pacific region to treat sepsis.
- The Asia Pacific Sepsis Alliance (APSA) a regional network of the Global Sepsis Alliance (GSA) conducted a survey across the Asia Pacific.

**Purpose:** To inform healthcare workers and systems, policy makers, governments and facilitate improvements in sepsis care



## **SURVEY DESIGN**

Adapted from a similar critical care resources survey designed by the Latin America Intensive Care Network

Developed by working group of critical care clinicians and researchers with representation from both HICs and LMICs

Included questions in three broad categories of critical care resources, sepsis guidelines and management, and disaster (Covid-19) preparedness

Approved by Chinese University of Hong Kong Survey and Behavioural Research Ethics (SBRE-19-565).



## WORKING GROUP

- Professor Simon Finfer: The George Institute for Global Health, Critical Care Division, Australian Sepsis Network
- Dr Naomi Hammond: The George Institute for Global Health, Critical Care Division, Australian Sepsis Network
- Dr Bharath Kumar Tirupakuzhi Vijayaraghavan: Department of Critical Care Medicine, Apollo Hospitals, Chennai, India and Honorary Senior Fellow, The George Institute for Global Health, New Delhi, India.
- Dr Lowell Ling: Department of Anaesthesia and Intensive Care, The Chinese University of Hong Kong, Hong Kong, China
- Dr Louise Thwaites: Oxford University Clinical Research Unit, Vietnam
- Dr Brett Abbenbroek: The George Institute for Global

# **SURVEY ADMINISTRATION**

- Duration: April 15, 2020 and June 1, 2020
- Sampling method: Asia Pacific Sepsis Alliance network in each country and snowballed to their contacts
- Survey was administered via Survey Monkey and completion time ranged from 7 to 9 minutes.
- Deidentified survey data was stored on a secure server hosted by The Chinese University of Hong Kong.

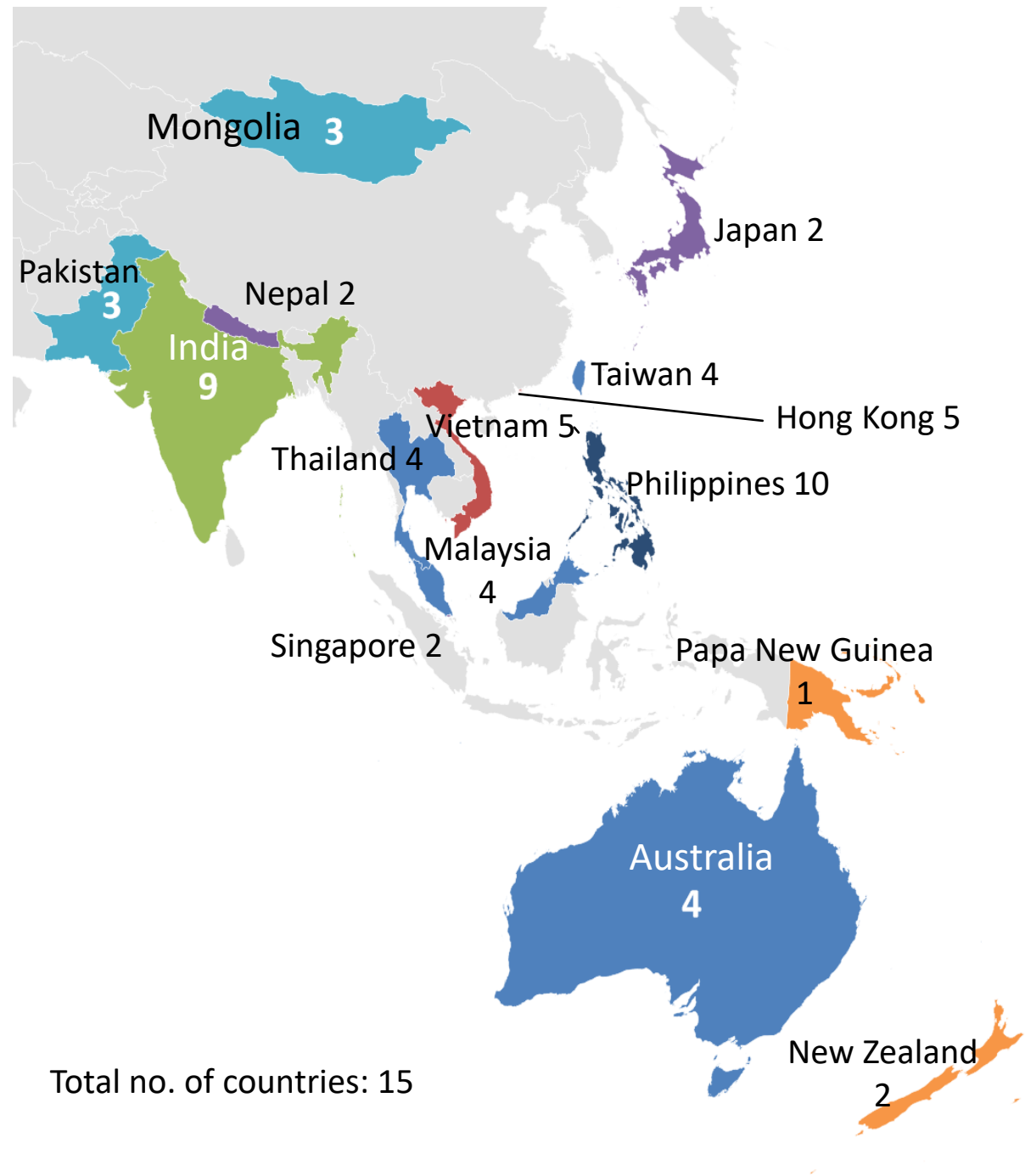
**RESULTS**



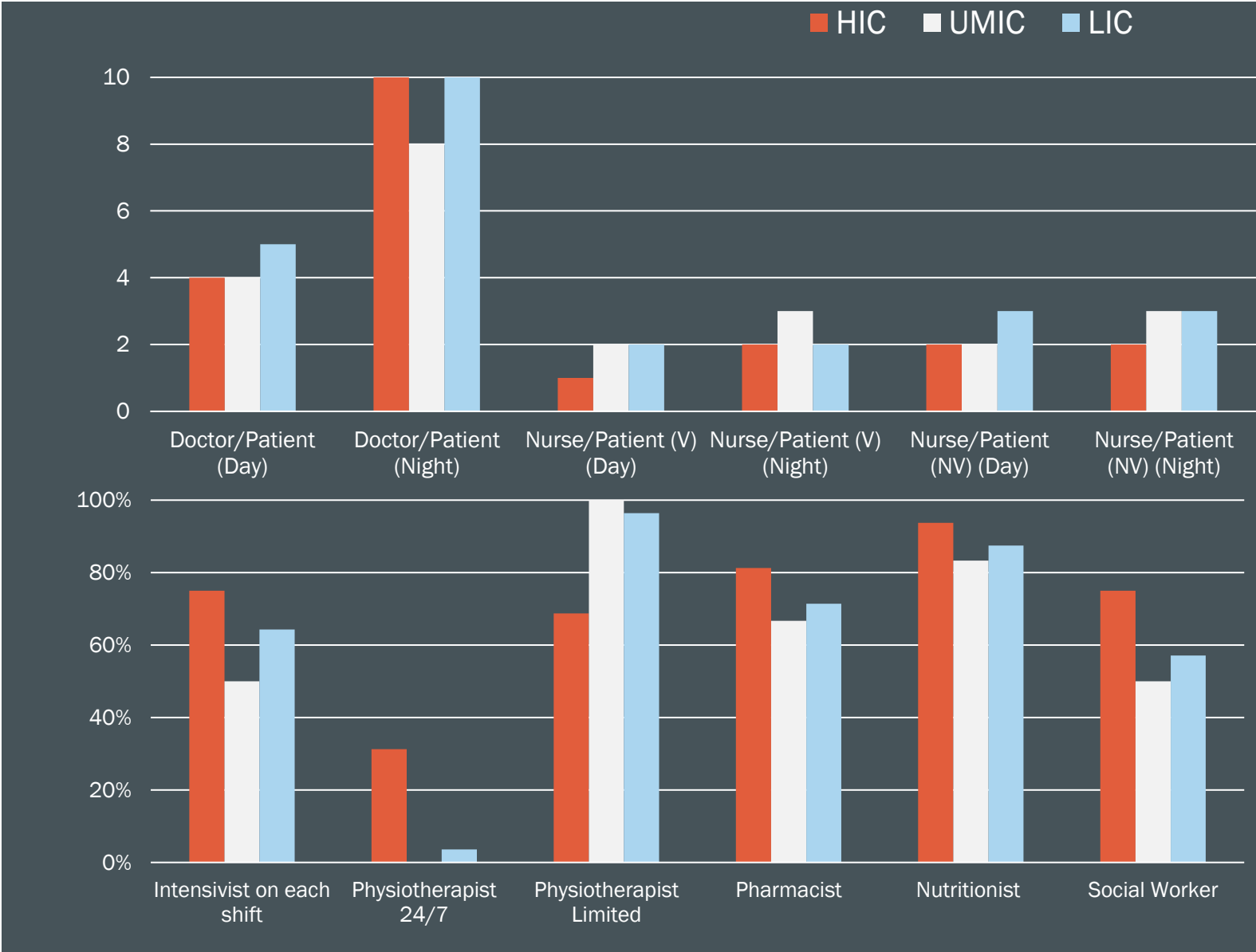
# RESPONDENTS

## DEMOGRAPHIC CHARACTERISTICS

Characteristics	All	HIC	UMIC	LMIC
- N	59	18	8	33
Hospital population; n (%)				
- Adult	9 (15%)	3 (17%)	1 (12.5%)	5 (15%)
- Mixed	59 (85%)	15 (83%)	7 (87.5%)	28 (85%)
Hospital type; n/N (%)				
• Tertiary/University	45 (76%)	6 (33%)	7 (87.5%)	26 (79%)
• Regional	11 (19%)	12 (67%)	1 (12.5%)	4 (12%)
• District/community	3 (5%)	-	-	3 (9%)
Hospital bed; median (IQR)	798 (500.5)	1187 (856)	1000 (629)	599 (398)
Hospital admissions; median (IQR)	3000 (4539)	3510 (3180)	3429 (4386)	2495 (5049)
ICU beds; median (IQR)	37 (40)	50 (60)	49 (87)	35 (23)
HDU beds; median (IQR)	25 (34.5)	22 (53)	35 (26)	20 (28)
ICU level; n/N (%)				
I	1 (1%)	-	-	3 (9%)
II	13 (23%)	1 (83%)	1 (12.5%)	10 (30%)
III	45 (76%)	17 (95%)	7 (87.5%)	20 (61%)

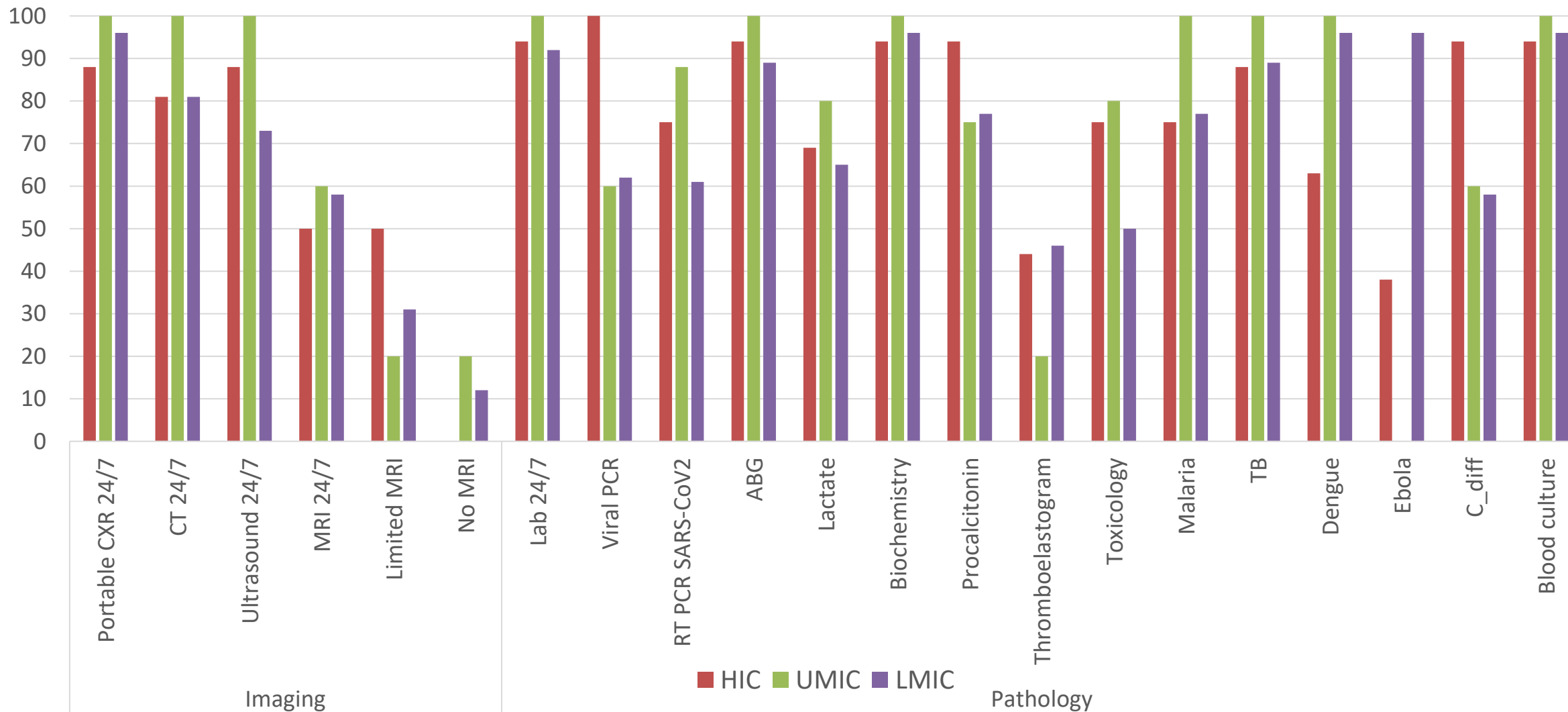


# ICU WORKFORCE

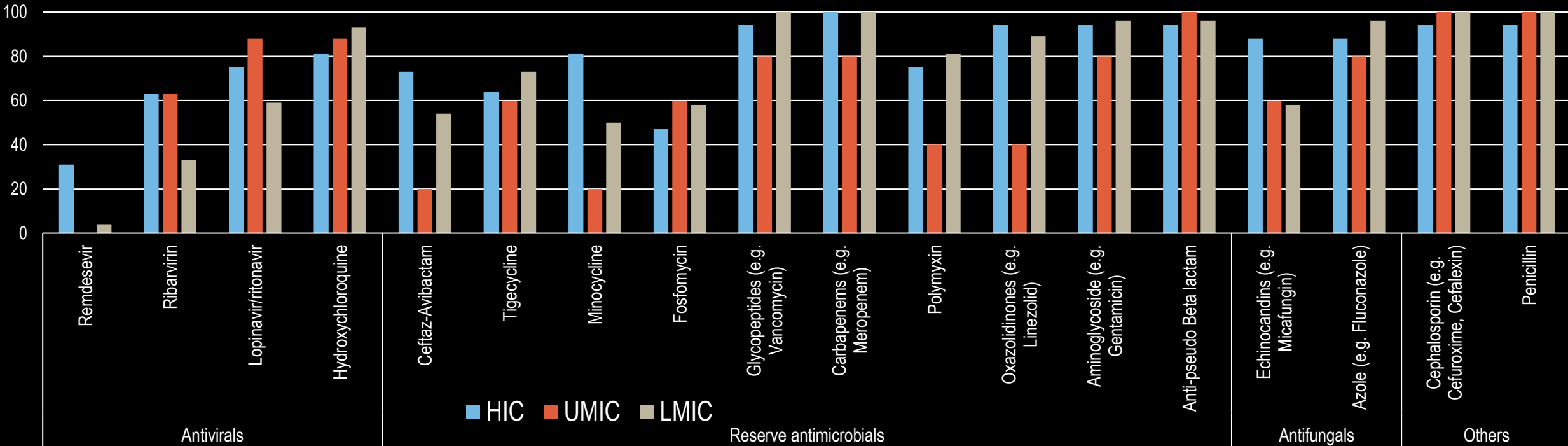
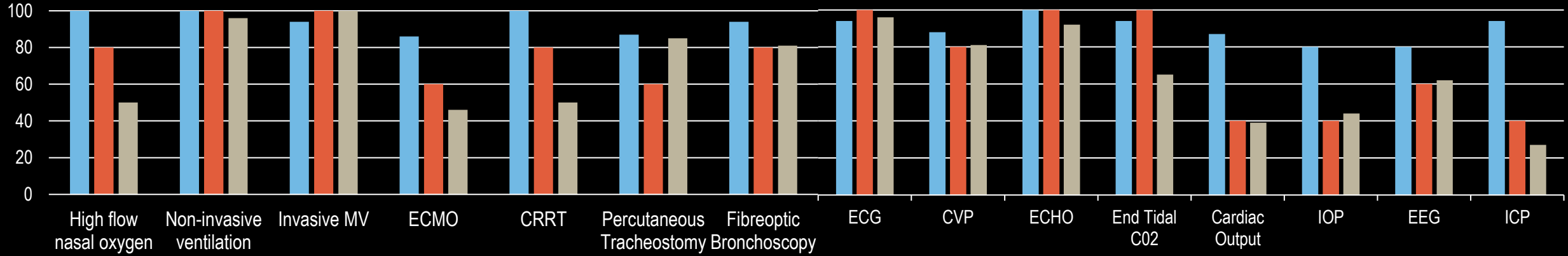




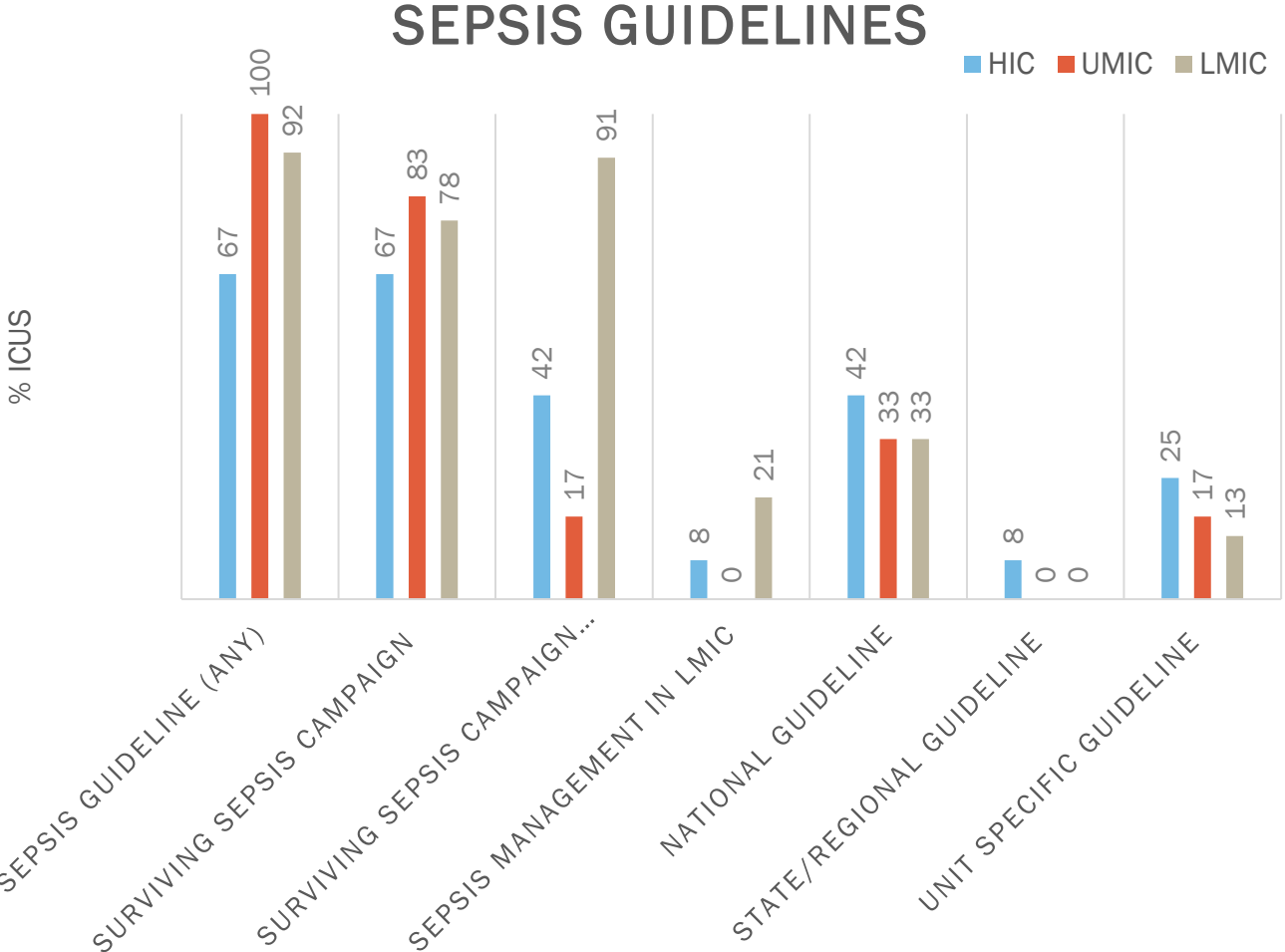
# DIAGNOSTIC FACILITIES



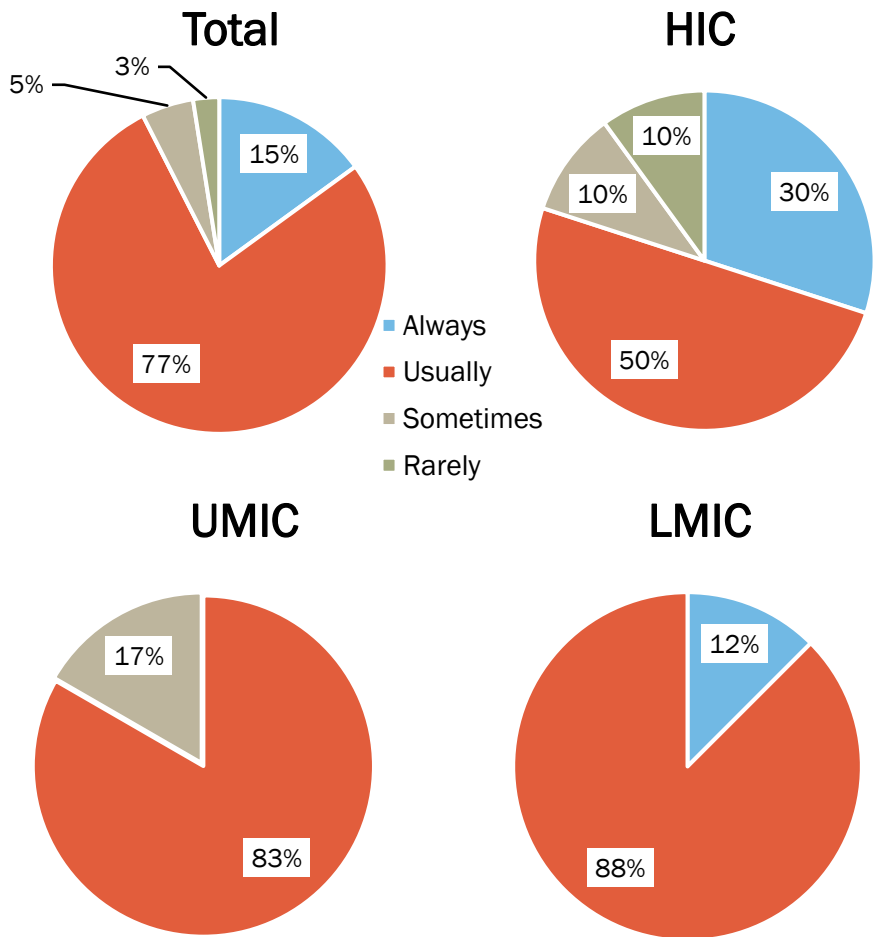
# CLINICAL MONITORING AND ANTIMICROBIAL USE



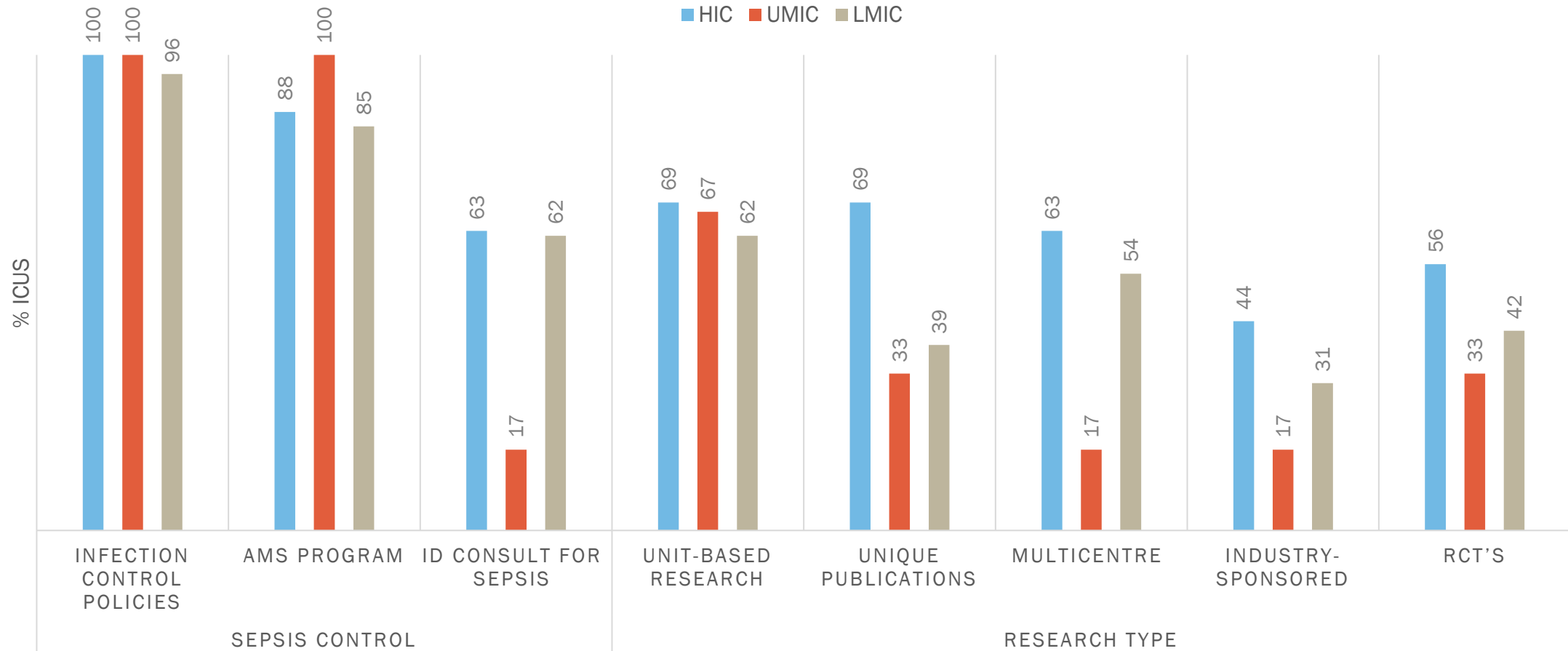
# SEPSIS EVIDENCE-BASED GUIDELINES



### Adherence to guidelines

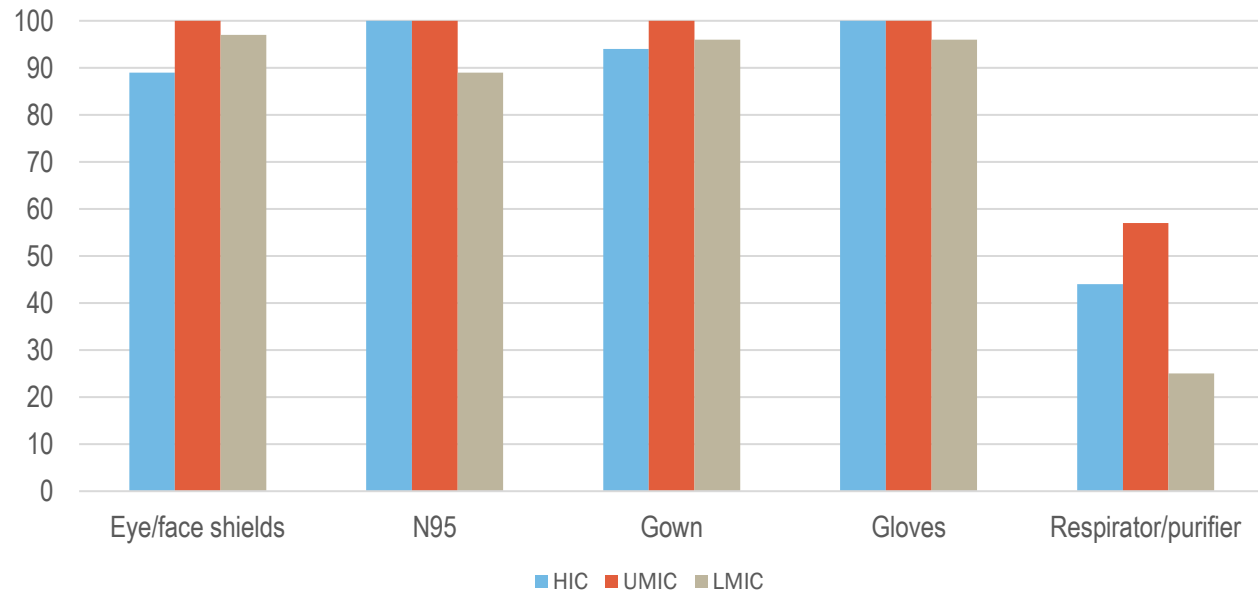


# QUALITY IMPROVEMENT ACTIVITIES AND CLINICAL RESEARCH

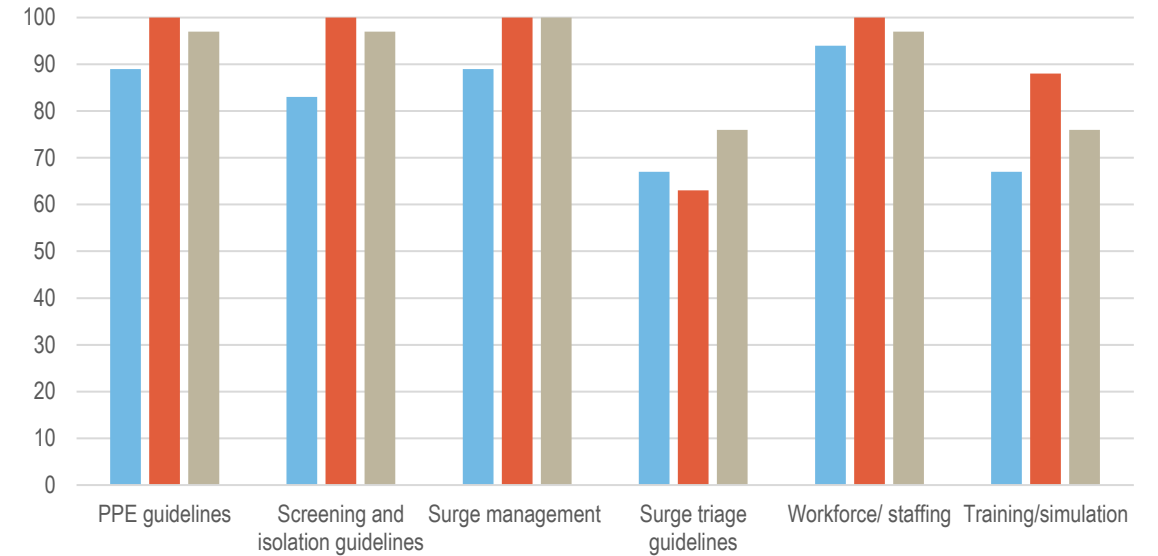


# COVID-19 PANDEMIC PREPAREDNESS

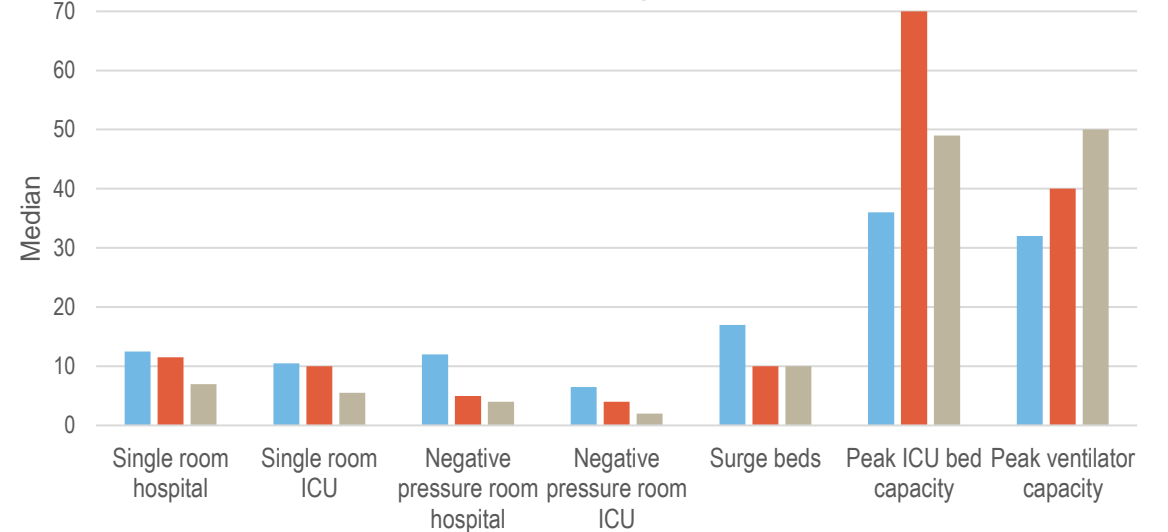
## Disaster resources availability



## Disaster Planning Preparation



## Isolation and Surge Capacity



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# SIGNIFICANCE

Healthcare  
Providers

- To improve healthcare delivery in the Asia Pacific region, particularly LMICs

Policy makers

- To facilitate optimal allocation of scarce healthcare resources

Researchers

- To generate evidence via focussed research

## KEY SURVEY FINDINGS

- Critical care management of sepsis varied across the Asia Pacific region particularly nurse to patient ratios and availability of allied health services
- Conventional organ support modalities such as mechanical ventilation and non-invasive ventilation were commonly available
- Advanced life support like ECMO was available in at least 60% of surveyed ICUs. However, in contrast, essential monitoring devices like EtCO<sub>2</sub> were not universally available.
- Most ICUs use the SSC guidelines or the adapted SSC guidelines for LMICs, though only 21% of LMIC ICU's used the adapted version of the SSC guidelines.
- Essential antimicrobials were accessible across most ICUs in the region, but availability of reserve antibiotics was limited.
- In terms of pandemic and disaster planning, whilst basic PPEs were widely available, LMICs had much lower provisions for isolation and surge capacity.



# Q&A

