



# GLOBAL SURGERY IN PAHANG DARULMAKMUR - A DIFFICULT CHALLENGE BUT NOT IMPOSSIBLE. WHERE ARE WE NOW?

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## Introduction

Nearly 10 years ago, Lancet Commission on Global Surgery was launched in 2014 to improve access to safe and affordable surgery and anaesthetic care. It was concluded that surgery is an indivisible and indispensable part of healthcare and investment in surgical and anaesthetic services not only saves lives but promotes economic growth.

This cannot be more true than in the state of Pahang Darulmakmur, the largest state in Peninsular Malaysia (35,956 km<sup>2</sup>) with two-thirds covered in dense forest. With a population of 1,563,700, the population density is only 47/km<sup>2</sup>. In addition, the terrain is diverse with the Titiwangsa mountain range running across the state splitting it into east and west, not to mention the longest river in Peninsular Malaysia, the Pahang river, traversing the state and dividing it into north and southern regions. Pahang is also home to the largest number of native (Orang Asal) in Malaysia, a total of 64,000, mainly from the Negrito, Senoi and Proto Malay tribes, where 40% lives at the fringe or within the jungles with some living a seminomadic lifestyle. There are also inhabited islands off the coast of Pahang with Tioman island being the largest with 2000 population. All these factors contribute to the difficult access to surgical and anaesthesia care and has made it a real challenge. Prior to 2014, surgical and anaesthetic care have been concentrated on larger hospitals but with the advent of Global Surgery, surgical and anaesthetic care have made inroads into the interiors of Pahang and made accessible to its population. Here, we reviewed the progress and development of surgical and anaesthetic care over the past 20 years (2000-2022) and where does Pahang stand with the Global Surgery initiatives.

## Aim

To review the evolution of surgical and anaesthetic services and the access to surgical services in the whole state of Pahang with particular reference to Global Surgery, for the year 2000-2022.

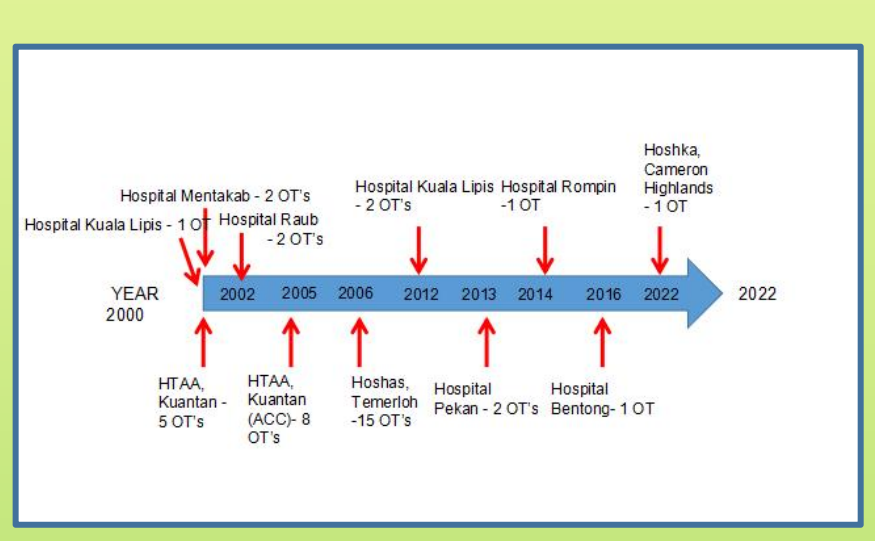
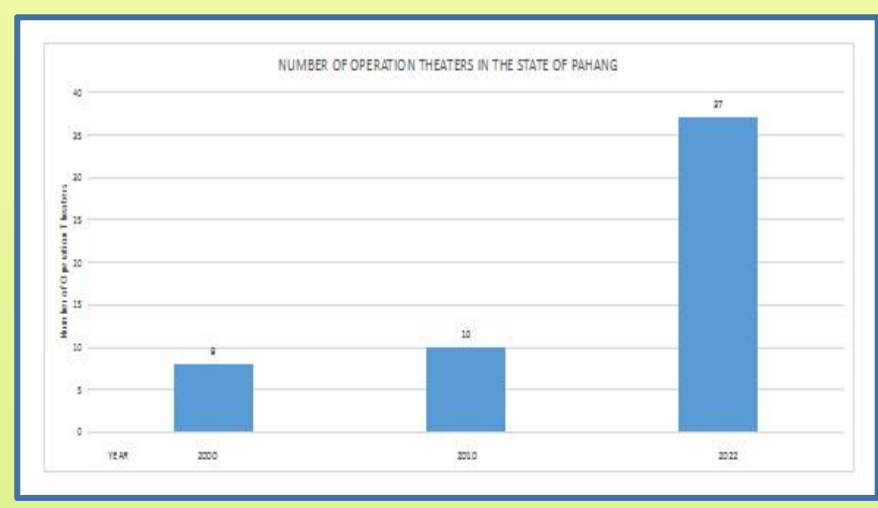
## Method

Records from 2000-2022 from all hospitals in Pahang were retrieved and reviewed. Staffs who were working since 2000 were interviewed. Data collected were compared with the indicators of Global Surgery.

## Results

### 80% 2 Hour Access for Surgery

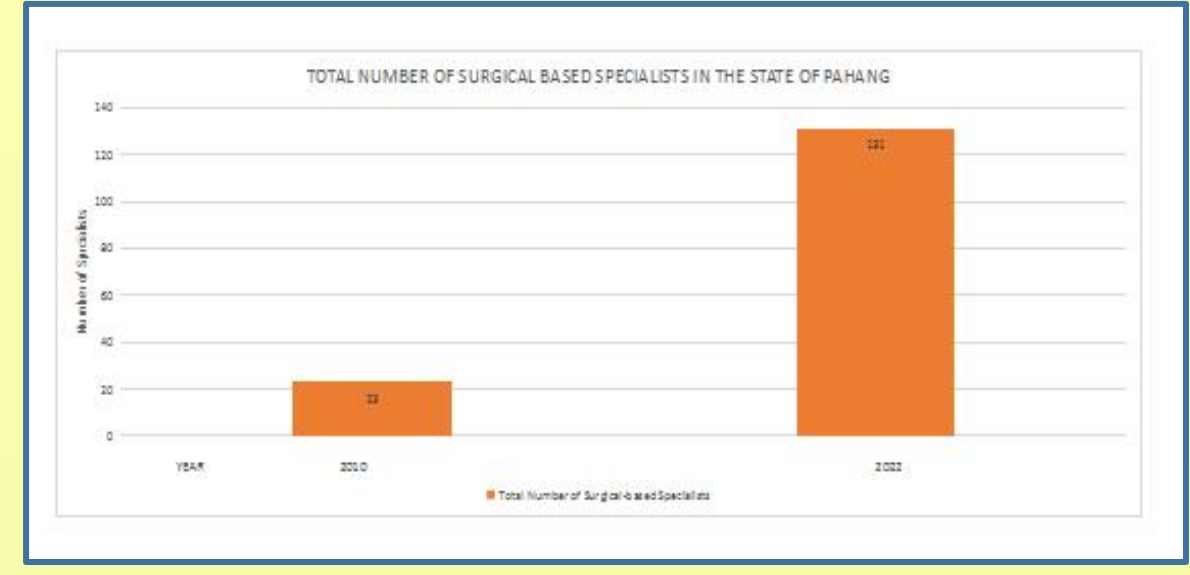
In 2000, there were only 8 operation theaters in Pahang, namely in Kuantan, Mentakab and Kuala Lipis. In 2022, this number has swelled to 37 operation theaters with new theaters in Hospital Raub (2002), addition of 8 theaters in Hospital Tengku Ampuan Afzan (2005) with the building of an Ambulatory Care center, a new Hospital Sultan Haji Ahmad Shah with 15 operation rooms in Temerloh (2006) to replace the older Hospital Mentakab, 2 operation theaters in the new extension of Hospital Kuala Lipis (2012), 2 operation theaters in the new Hospital Pekan (2013), 1 operation theater in new Hospital Rompin (2014), 1 modular operation theater Hospital Bentong (2016) and finally 1 operation theater in Hospital Sultanah Hajjah Kalsom (2022).



As a result, apart from the interiors of Jerantut, 80% of the population of the state of Pahang have access to surgical and anaesthetic services.

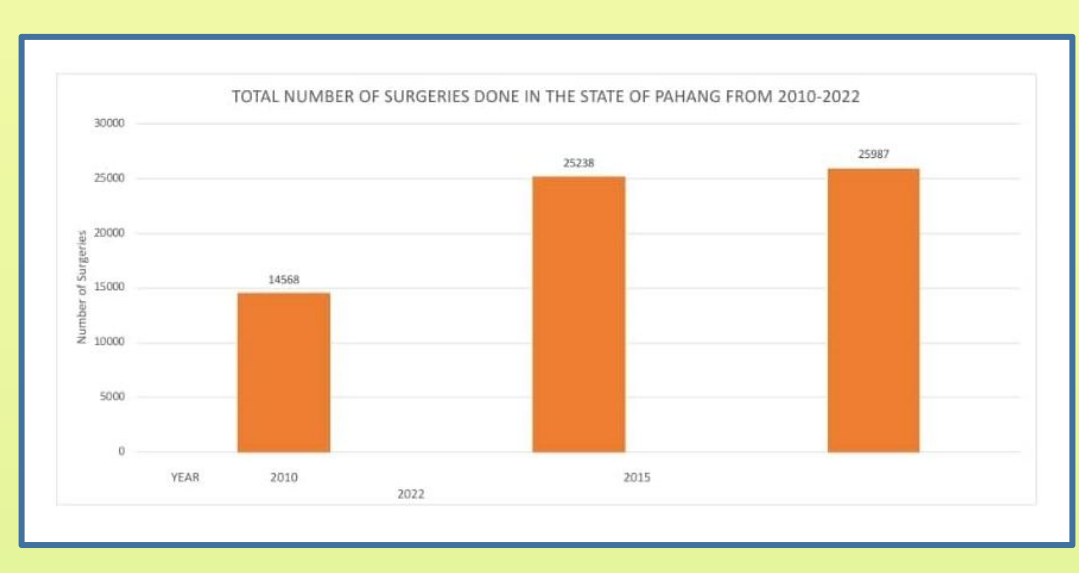
### Surgeon Anaesthetist Obstetrician.

The number of surgical based specialists including anaesthetist was a mere 25 in the year 2000 but the number has increased to 131 in the year 2022. However the Surgeon Anaesthetic Obstetrician to population ratio is 131/1,563,700 or 8,4/100,000, still short when compared to the Global Surgery ratio of 20/100,000.



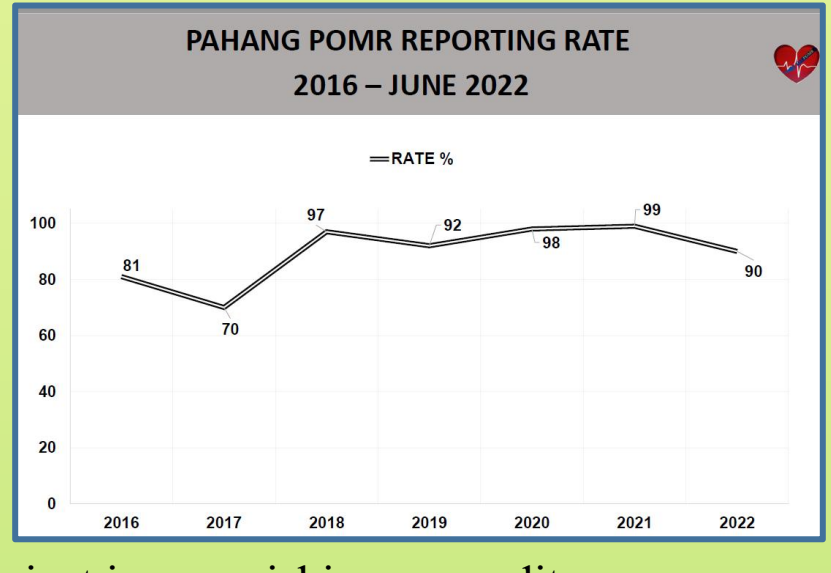
### Surgical Volume.

With the increment in number of surgical based speciality, it is understandable that the number of surgeries or procedures will increase in tandem. From a total of 14,568 surgeries done in 2010, the number has increased to 25987 in 2022. The surgical volume done is 1661/100000 population, as compared to Global Surgery initiative of 5000 procedures per 100000 population.



### Tracking Perioperative Mortality Rate (POMR)

Perioperative committees are mandatory in all hospitals with surgical services and is led by central state POMR committee chaired by the state health director.



- 100% Protection against impoverishing expenditure.
- 100% Protection against catastrophic expenditure.

Medical charges in the public hospital are minimal with a maximum total hospital charge of MYR500.00 for 3rd class. There are various welfare bodies available to aid especially for the indigenous natives eg Jabatan Hal Ehwal Orang Asli. All emergency services are provided immediately without deposit or charge. Hence, the population is protected against impoverishing and catastrophic expenditure for medical care in the state of Pahang, as well as the whole country Malaysia.

## Conclusion

When compared with Global Surgery blueprint, Pahang has achieved 80% 2 hour access. However the surgeon-anaesthetic-obstetrician population ratio is still low although the number of surgical based specialists has increased from 25 in year 2000 to 131 (2023). The surgical volume performed in 2022 is 1620/100000 population, still short of the desired 5000/100000 population.

Pahang has gone a long way in Global Surgery since 2000, with marked progress in geographical access but there is still much to be done especially in terms of human resource and surgical volume, to have Global Surgery fully realized in the state of Pahang by 2030.

## Reference

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