

GLOBAL SURGERY INITIATIVE BY PEDIATRIC SURGERY TEAM OF HOSPITAL WANITA DAN KANAK-KANAK SABAH, AN AUDIT

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AIM:

According to Lancet's Commission on Global Surgery 2030 (GS) report, surgical and anaesthesia care in many lower-income and middle-income countries (LMIC's) has been largely neglected. There are 6 indicators for the 2030 target so that 80% coverage of essential surgical and anaesthesia service able to be achieved.

Despite being the second largest state in Malaysia with a total area of 73,904km² and house the third largest population approximately 3.5million people, Sabah still struggle to provide adequate essential surgical care for her citizens. Some of the attributing factors are logistics (distance to health centers, availability of transportation), infrastructures (no proper roads, lack of health centers) and financial issues. However, the shortfall of medical personnel serving in Sabah still remains as the main challenge to provide the bare minimum of essential surgical and anaesthetic care.

Pediatric surgery department (PS) of Hospital Wanita dan Kanak-kanak Sabah (HWKKS) is the only center providing elective and emergency neonatal and pediatric surgical service across Sabah and Union Territory of Labuan. In accordance with the GS, we have established visiting clinic in main districts across Sabah and Labuan conducting elective and emergency surgeries including major surgeries in district with established health centers, apart from consultation. Visiting clinic had withold during Covid-19 pandemic due to travel restrictions and other local Covid-19 guidelines. Visiting clinic sessions were restarted in 2022. The aim of this audit is to study the diversity of cases that have been encountered in district hospitals.

METHODS:

This was a cross-sectional study undertaken by HWKKS's PS team between January 2022 till December 2022 where both emergency and elective operations were reviewed. We also included the number of clinic consultations during visiting sessions.

RESULTS:

Surgeries with clinic consultations were done at 6 district hospitals namely; Hospital Tawau, Hospital Lahad Datu, Hospital Duchess of Kent (Sandakan), Hospital Beaufort, Hospital Keningau and Hospital Labuan, throughout the year 2022. In addition to these 6 district hospitals, clinic consultation sessions were also held at Hospital Kota Marudu, Hospital Kudat and Hospital Ranau with an average of 20-25cases per visiting.

A total of 77 surgeries have been conducted all around 2022. Table 1 shows the number of visiting sessions and total number of surgeries done in 6 major district hospitals in 2022. Out the 77 cases, 11 surgeries (14%) were emergency cases and the remaining was daycare and elective surgeries each 33cases (43%) as shown in Chart 1 and Table 2. Besides, an average of 25-30 pediatric surgical cases, both new cases and follow up cases, are consulted during each visiting session.

Chart 2 shows that the majority of surgery done at district hospital are daycare surgeries. It is followed by abdominal surgeries, ARM related surgeries, urology cases, HD related surgeries and other cases. A small fraction of thoracic and hepatobiliary surgeries are also conducted. It is also noted that a total of 32 major surgeries and 45 minor surgeries have been carried out, about 42% and 58% respectively. In addition to this, about 13% of total surgeries, which is about 10 cases were neonatal surgeries done in 4 different district hospitals that are equipped with NICU and dedicated pediatric team for post operative care of neonates.

Table 1: Total number of visiting and surgery done based on district

District	Total visiting	Total surgeries
Tawau	4	16
Lahad Datu	8	26
Sandakan	6	15
Beaufort	3	10
Keningau	1	4
Labuan	1	6

Chart 1: Division of type of surgery

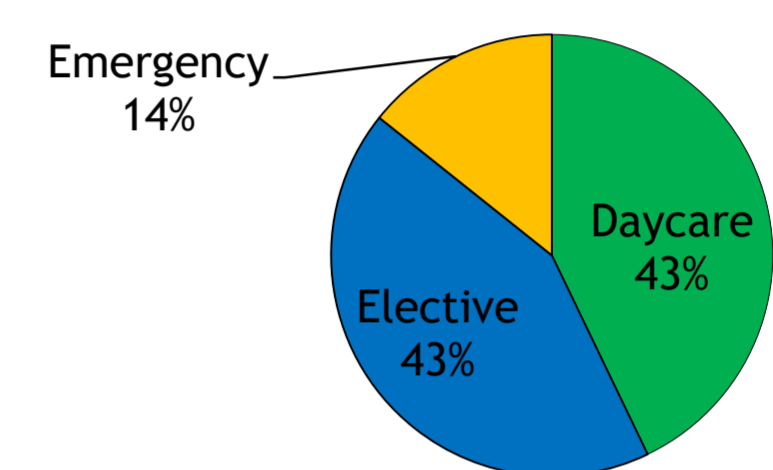


Table 2: Total number of cases and type of surgery based of list of surgery

Surgery	Total Number	Type of surgery
Herniotomy	11	Daycare
Orchidopexy	15 + 1(laparoscopic)	Daycare + 2 elective
Circumcision	8	Daycare
Duodenojejunosotomy	2	Emergency
PSARP	5	Elective
Anorectoplasty	1	Elective
Anoplasty	1	Elective
Urethroplasty / chordee release / hypospadias repair / modified circumcision	9	Elective
CDH repair	2	Emergency
Resection of patent omphalomesentric duct	2	Elective
Perineal stoma trimming	2	Elective
Colostomy	3	Emergency
Reversal of stoma	5	Elective + 1 emergency
Excision biopsy	2	Elective
Contracture release + SSG	1	Elective
Orchidectomy	1	Elective
Exploratory laparotomy + bowel resection + stoma	1	Emergency
Transanal pullthrough	1	Elective
Hickmann catheter insertion	1	Emergency
Laparotomy + adhesiolysis + proximal jejunostomy	1	Emergency
Laparotomy + cyst excision + hepaticojejunostomy	1	Elective
Laparoscopic assisted cystectomy	1	Elective

Chart 3: Distribution of major and minor case based on district

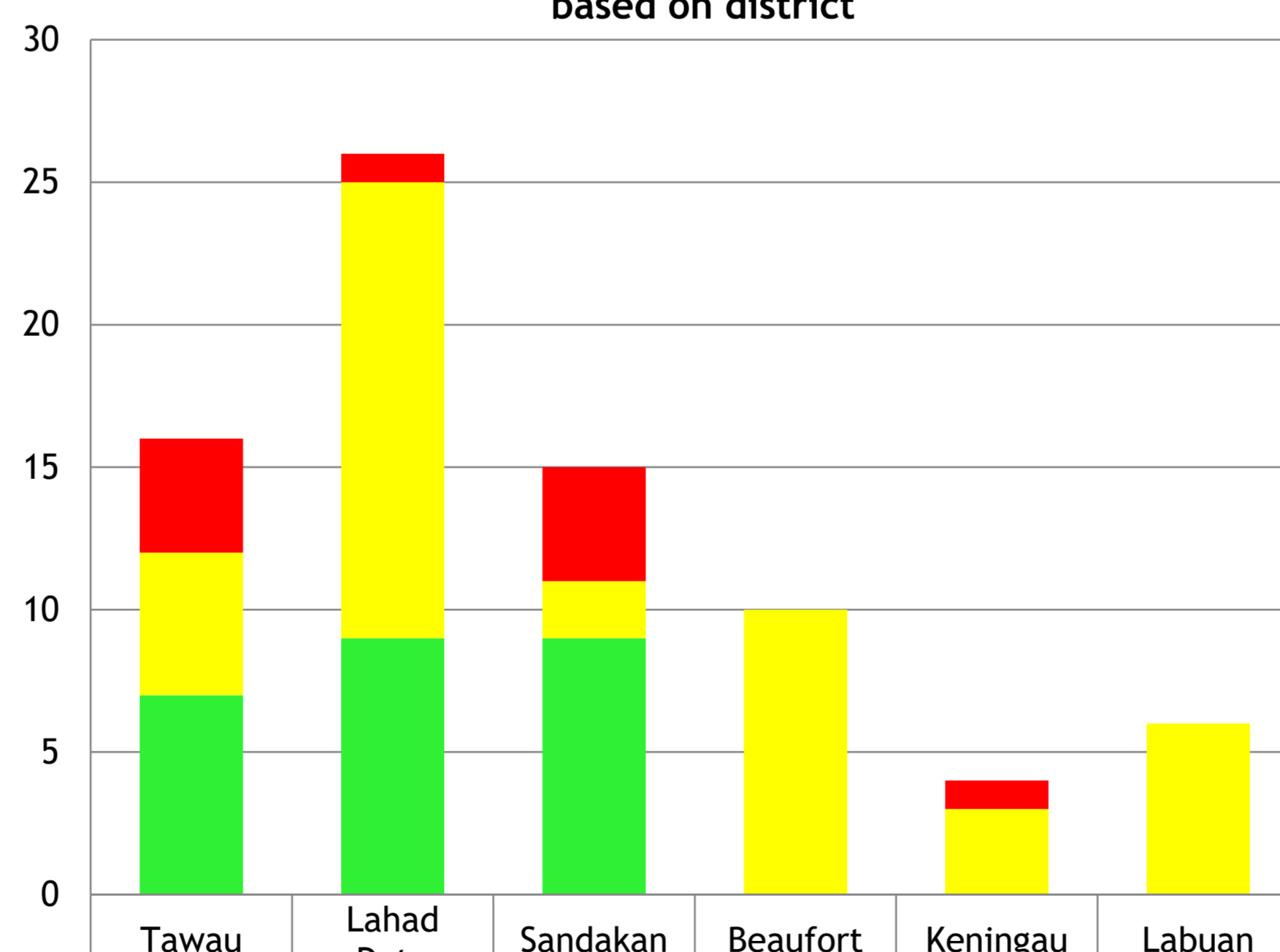
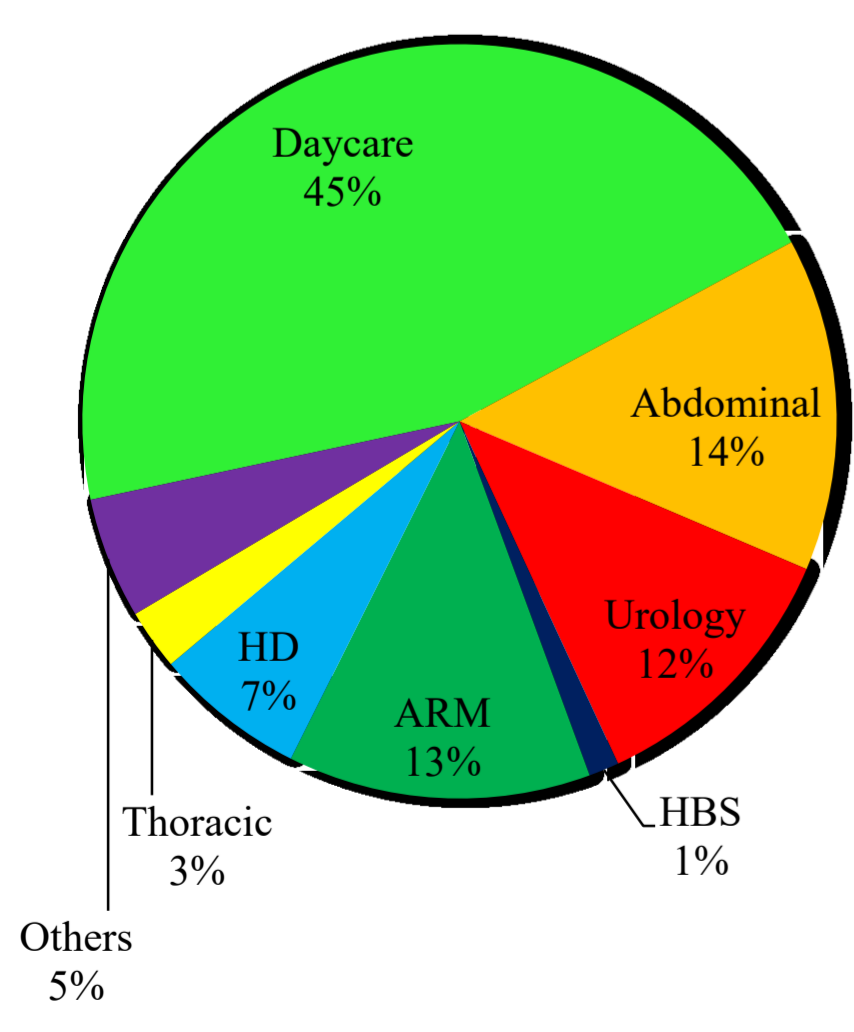


Chart 2: Division of cases based on type of surgery



Type of surgery	Tawau	Lahad Datu	Sandakan	Beaufort	Keningau	Labuan
Neonatal	4	1	4	0	1	0
Minor surgery	5	16	2	10	3	6
Major surgery	7	9	9	0	0	0

CONCLUSION:

GS has ensured that the children across Sabah have access to essential surgical and anaesthesia care irrespective of their socio-economical status. Although there are limitations for the cases that can be done district, this has significantly reduced the waiting time for patient and the financial burden for parents if the surgery to be done at the main center. It also reduces the morbidity of delaying the operation. From this audit, we have proved that our visiting sessions were fruitful, despite lack of several technical aspects in certain centers such as unable to provide OT time, short of anaesthetist, OT under renovation. Hopefully in the future, more services can be provided to the community, finally reducing the global economic burden and making sure no child left behind.

References:

- The Lancet Commission on Global Surgery; <https://www.thelancet.com/commissions/global-surgery>
- Global Surgery 2030, Global Indicator Initiative; <https://www.lancetglobalsurgery.org/indicators>
- Global Surgery 2030: Evidence and Solutions for Achieving Health, Welfare, and Economic Development; written by The Lancet Commission on Global Surgery
- <https://en.wikipedia.org/wiki/Sabah>