

Baseline Findings of an Innovative Safe Surgery Training & Mentorship Program in Cambodia

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Background:

Safe Surgery 2020 is a collaborative and innovative training and mentorship initiative that aims to build the surgical capacity of Cambodian hospitals. Under the scope of SS2020, a prospective, observational study was conducted in 5 hospitals (1 national and 4 provincial) in February 2019, immediately before the implementation of an intervention package. This study evaluates the baseline state of surgical care and performance in SS2020 intervention hospitals in Cambodia.

Methods:

Surgical observations were conducted in intervention hospitals to assess baseline adherence to global standards of surgical care. An observation tool was used by trained data collectors to assess adherence to several surgical performance items. These data were collapsed into 18 performance indicators, most of which (14) are found on the WHO Safe Surgery Checklist (SSC), with four additional SS2020 program-specific indicators. Data collectors observed as many surgeries as feasible over a 10-day period, including business hours, weekends and evenings, largely relying on a convenience sample. Descriptive analysis was conducted to aggregate indicator outcomes across all hospitals, and by hospital type. Scores between 0 to 18 were assigned to each surgery to indicate how many performance indicators were successfully achieved.

Findings:

Data collectors observed 111 surgical procedures across all intervention hospitals. The most commonly observed procedures were cesarean delivery (n=48) and appendectomy (n=18). No observed procedures had a perfect score, where standards for all 18 indicators were achieved; 5.4% scored between 13-17, 46.8% scored 7-12, and 47.7% scored 1-6. The lowest performing items were communication indicators, such as *discussion of equipment/instrument issues* and *discussion of patient concerns*, which were completed in only 3.7% and 5.4% of all procedures, respectively. The highest performing items were *post-op removal of all instruments for decontamination* (96.4%), and *cleansing of the operative site* (93.7%). The national hospital performed better than provincial hospitals for some indicators, including *rate of SSC utilization on paper and read aloud* (87% v. 1.3%), and *use of visible chemical sterilization tape for instruments* (100% v. 29.1%).

#	Indicator	All Hospitals	National Hospital	Provincial Hospitals
1	Patient identity, consent, and procedure confirmed	48.2%	80.0%	36.3%
2	Prophylactic antibiotic administered	52.7%	60.0%	50.0%

3	Pulse oximeter used	91.9%	100.0%	88.8%
4	Discussion of blood loss risk	12.6%	38.7%	2.5%
5	Discussion of airway difficulty	19.1%	64.5%	1.3%
6	Discussion of instrument/equipment sterility	48.6%	80.6%	36.3%
7	Surgical instruments free of visible soil	62.2%	100%	47.5%
8	Visible chemical sterilization tape	48.6%	100.0%	29.1%
9	Operative site cleansed	93.7%	100.0%	91.3%
10	Vaginal cleansing performed for cesarean sections	22.9%	0.0%	33.3%
11	Surgeon's discussion of patient concerns	7.3%	19.4%	2.6%
12	Anesthesiologist's discussion of patient concerns	5.4%	9.7%	3.8%
13	Surgeon's discussion of procedure difficulty	23.4%	51.6%	12.5%
14	Instrument, sponge, and needle counted	58.6%	74.2%	52.5%
15	Discussion of equipment/instrument issues	3.7%	6.5%	2.6%
16	Discussion of patient post-op recovery	13.5%	29.0%	7.5%
17	Post-op removal of all instruments for decontamination	96.4%	100.0%	94.9%
18	Safe Surgery Checklist utilization rate (paper checklist, read aloud)	25.2%	87.1%	1.3%

Interpretation:

This baseline observational study demonstrates that hospitals targeted for SS2020 program implementation have varied surgical performance scores. The lowest scores were associated with teamwork/communication. These hospitals may benefit greatly from SS2020's emphasis on building both clinical and leadership capacity. After completion of the training and mentorship package, an endline assessment will be conducted. Results will be compared to baseline findings to assess the program's capacity to improve surgical performance and potentially provide compelling evidence to scale SS2020 for greater impact.

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