

Surgical Quality Indicators in Three Pacific Island Countries

R.X. Qin¹, Z.G. Fowler¹, V. Tangi², J.A. Herman³, YY.M. Aung³, D. Teapa³, N. Mekoll⁴, K.B. Park¹, J.G. Meara¹, B. Kafoa⁵, K. Maoate⁶

¹The Program in Global Surgery and Social Change, the Department of Global Health and Social Medicine, Harvard Medical School, Boston, Massachusetts, USA; ²Department of Surgery, Ministry of Health, Nuku'alofa, Tonga; ³Te Marae Ora - Cook Islands Ministry of Health, Rarotonga, Cook Islands, ⁴The Ministry of Health, Ngerulmud, Palau; ⁵Clinical Services Program, Public Health Division, Secretariat of the Pacific Community, Suva, Fiji; ⁶Department of Paediatric Surgery, Christchurch Hospital, University of Otago, Christchurch, New Zealand

BACKGROUND

The Lancet Commission on Global Surgery highlighted the gap in access to surgical care worldwide.¹ 143 million additional surgical procedures are required to bridge the unmet need in low- and middle-income countries (LMICs) each year.

The Lancet Commission on High-Quality Health Systems in the Sustainable Development Goals Era found that low-quality care is a more significant barrier to reducing mortality than insufficient access.²

As LMICs scale up surgical care, the quality of surgical services must be improved and maintained.

Assessment of health system quality is difficult and complex even in high-income countries. However, an evidence-based metric of assessing surgical quality in low-resource settings had been developed and validated.^{3,4}

Figure 1. Indicators of surgical care quality.

		IOM MEASURES					
		Safe	Effective	Patient Centred	Timely	Efficient	Equitable
DONABEDIAN FRAMEWORK	Structure	Morbidity and Mortality Conference	Provider Density	-	Travel time to hospital	-	Comparative income of patients to catchment population
	Process	Safe Surgery Checklist use inc. patient name bands, pulse oximetry	Procedure Rate	Use of informed consent	Time from ED presentation to non-elective abdominal surgery	Daily OR usage	-
	Outcomes	Peri-operative mortality rate Cases Clavien Dindo >2	Caesarean Section Rate	Patient Hospital Satisfaction Questionnaire	Follow up plan	-	Catastrophic Patient reported expenditure

Sourced from Citron et al 2018. IOM: Institute of Medicine

RESULTS

Table 1 describes the number of facilities meeting the target for each surgical quality indicator.

		Institute of Medicine Measures	
		Safety	Effectiveness
Donabedian framework	Structure	Morbidity & mortality conference (minimum 9 per year) 3/4	Specialist surgical, obstetric, and anaesthesia provider density > 20/100,000 population 2/4
	Process	WHO safe surgery checklist used 100% of the time 2/4	Surgical procedure density > 5,000/100,000 population 2/4
		Pulse oximeter use 100% of the time 4/4	
	Outcome	Post-operative mortality rate (1-2%) 4/4	Caesaren section rate 10 - 15% 3/4

Overall, the three national referral hospitals met more surgical quality indicator targets (4-7/7) than the one district hospital surveyed (3/7). All facilities met the post-operative mortality rate (POMR) target. However, POMR is only prospectively monitored in 2/4 facilities.

AIM

We applied the above metric to assess surgical quality in Pacific Island Countries (PICs) currently developing National Surgical, Obstetric, and Anaesthesia Plans with technical support from the Program in Global Surgery and Social Change (PGSSC), the Royal Australasian College of Surgeons (RACS), and the Pacific Community (SPC).

METHODS

The World Health Organization – Program in Global Surgery and Social Change facility assessment tool was administered in four health facilities that provide surgical care in the Kingdom of Tonga, the Republic of Palau, and the Cook Islands. Data were collected both retrospectively and prospectively through a review of patient charts, operating theatre logbooks, and operative checklists. Seven indicators of surgical quality were extracted from this cross-sectional survey.



CONCLUSIONS

- The majority of the assessed surgical quality indicators were met by the national referral hospital in the three PICs studied.
- Quality surgical care can be achieved in a low-resource setting, sometimes through non-resource intensive measures.
- Further studies on other domains of surgical quality are required.

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