

Trauma and orthopaedic capacity of 267 hospitals in east central and southern Africa

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Abstract

Background Trauma and road traffic accidents are predicted to increase significantly in the next decade in low-income and middle-income countries. The College of Surgeons of East, Central, and Southern Africa (COSECSA) covers Ethiopia, Kenya, Tanzania, Uganda, Rwanda, Burundi, Mozambique, Malawi, Zimbabwe, and Zambia. Ministry of Health websites for these ten countries show that 992 hospitals are covering an estimated 318 million people.

Methods The WHO Tool for Situational Analysis to Assess Emergency and Essential Surgical Care was used with added questions relevant to trauma and orthopaedic care. A web-based survey platform was used and hospitals were contacted via COSECSA representatives. Consent to share data was requested, anonymised for country and hospital.

Findings 267 (27%) of 992 hospitals completed the survey. 185 were district level hospitals and 82 were referral or tertiary level hospitals. Formal accident and emergency departments were present in only 29% of district hospitals (95% CI 22.5–35.5) and 35% (24.7–45.3) of referral or tertiary level hospitals. The mean number (SD) of surgeons was 1.4 (3.0) in district hospitals and 2.6 (4.6) in referral or tertiary level hospitals. The mean number (SD) of orthopaedic surgeons was 0.3 (0.9) in district hospitals and 0.5 (0.9) in referral or tertiary level hospitals. Medically qualified anaesthetists were available in 16% (95% CI 10.7–21.3) of district hospitals and 20% (11.4–28.6) of referral or tertiary level hospitals. C arm radiography was available in 3% (95% CI 0.5–5.5) of district hospitals and 32% (21.9–42.1) of referral or tertiary level hospitals. CT scanning was available in 6% (95% CI 2.6–9.4) of district hospitals and 21% (12.2–29.8) of referral or tertiary level hospitals. Closed fracture treatment was offered in 75% (95% CI 68.8–81.2) of district hospitals and 82% (73.7–90.3) of referral or tertiary level hospitals. 37% (95% CI 30.1–43.9) of district hospitals and 40% (29.4–50.6) of referral or tertiary level hospitals had adequate instruments for the surgical treatment of fractures, but only 7% (3.4–10.6) of district hospitals and 8% (2.1–13.9) of referral or tertiary level hospitals had a sustainable supply of fracture implants. Elective orthopaedic surgery took place in 30% (95% CI 23.4–36.6) of district hospitals and 34% (23.8–44.2) of referral or tertiary level hospitals. Ponseti treatment of clubfoot was available at 46% (95% CI 38.8–53.2) of district hospitals and 44% (33.3–54.7) of referral or tertiary level hospitals.

Interpretation This study has limitations in that only 27% of eligible hospitals completed the survey, and it is certainly possible that there could be bias in that the less well resourced institutions could also be less likely to cooperate with data collection. Thus, it is possible that the figures we present overestimate the resources available in the region as a whole. However, despite the limitations in data quality, it is clear that current capacity to treat trauma and orthopaedic conditions is very limited, with particular areas of concern being manpower, training, facilities, and equipment. COSECSA will use these data as a baseline for further surveys and to develop a strategy to improve trauma and orthopaedic care in the region.

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Contributors

CBDL, LC, ML, and HP conceived and designed the study. LC, DB, and GL collected data. LC, DB, and KJ interpreted the data. CL and HP wrote the Abstract. All authors approved the final version of the Abstract for publication.

Declaration of interests

We declare no competing interests.

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