

CONSULTATION REPORT
ON
CAPACITY-BUILDING IN HEALTH SECTOR THROUGH PUBLIC-PRIVATE PARTNERSHIP
(PPP) IN SHINYANGA, TANZANIA

Shinyanga, Tanzania

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BACKGROUND:

We have been working with Dr. Rashid Said, currently the Regional Medical Officer of Shinyanga Region, since our first meeting in Korogwe in 2013. We have been working together in the field of capacity-building through public-private partnership (PPP), clinical training and job retention surveys; as an example of our efforts, our previous PPP products include the introduction of Operation Hernia (OH) to Tanzania and publication of our brief survey in Tabora regarding job retention. Ongoing since November 2017, our third collaboration now aims to develop point-of-care pulse oximetry (POC Pox) and an inpatient handoff tool (IHOT). Our collaboration has accordingly grown to include Dr. Chacha Ngutengyi, head of Pediatrics Dept, as well as Dr. Herbert G. Masigati, the Hospital Medical Director of Shinyanga Regional Referral Hospital.

Shinyanga is a city of approximately 107,000 people, within Shinyanga Region in Northern Tanzania, one of 26 regions within the country. Geographically, Shinyanga Region belongs to the lake regions of Tanzania, and consists of three districts - Shinyanga, Kahama and Kishapu - covering an estimated population of 1.534 million (as of the 2012 census) over more than 18,000 sq. Km, with 80% of the population residing in rural areas. Most of them are subsistence farmers. The region is further subdivided into six councils which serve as Local Government Authorities, and at an annual growth rate of 2.2%, the 2017 population is estimated to be greater than 1.7 million.

The Shinyanga Regional Health Office oversees a total of 222 healthcare facilities in the region; 3 government-owned hospitals (1 regional referral in Shinyanga, 2 district level in Kishapu and Kahama), 3 additional hospitals (two for-profit, one charity), 22 health centers (serving the district and ward level) and 194 dispensaries (serving the village and hamlet level).

Following our previous visit to Shinyanga Regional Referral Hospital in November 2017, we visited again in May 2018 to assess whether we can further strengthen clinical skills and improve services through a novel Pox device, as well as app-based handoff tools to improve bedside clinical education. Our overall goals are 1) to provide high-quality bedside clinical training for interns on service on the floor; 2) obtain feedback on our ongoing development of a novel portable pulse oximetry device and examine whether Tanzanian clinicians are interested in training to use the new device in their practice; and 3) collaborate to design and develop an app-based inpatient handoff tool (IHOT) to improve the quality of care, confidence and competence of clinical care providers at the bedside.

FINDINGS/ASSESSMENTS:

Over the course of five days in May 2018, we focused on evaluating current bedside training at Shinyanga Regional Referral Hospital and current practices of handoff and use of pulse oximetry on the floor.

- Morning report/floor rounds:

It is still notable that a sense of urgency is missing across services in the hospital, whether they are provided by nurses or doctors, in Pediatrics or Internal Medicine wards. Vital signs are not monitored appropriately, urine output is frequently not recorded properly, and there are regular and widespread delays in calling for help.

Housestaff often rely on the easy diagnosis of ‘sepsis, malaria and anemia’ with knee-jerk prescription of ampicillin and gentamycin with artemisinin treatment, without further elaboration of symptoms and signs. As a telling example, one young woman was admitted after a syncopal episode without preceding illness, and no signs of infection; she was given the presumptive diagnosis of malaria and was treated with antimalarials until her urine pregnancy test resulted positive – a much better explanation.

Furthermore, reassessment of patients is rarely done and premature closure of cases is common without re-evaluation or new diagnoses based on new developments. Interns are generally very passive and rarely ask enough questions to senior doctors. There is no formalized handoff process for interns, leading to gaps in care during coverage and – again – occasional adverse outcomes.

Overall the low level of learning and teaching significantly affects the training of junior housestaff and interns, and ultimately results in subpar patient care.

- Survey results

We performed a cross-sectional survey of healthcare providers at Shinyanga Regional Teaching Hospital to ascertain practices in the routine use of pulse oximetry and patient-care “handoffs” – the explicit transfer of patient care information during transitions between providers. Fifty surveys were distributed at morning report on May 9th, and we received 46 complete responses, split between 23 nurses, 22 MDs, and 1 clinical officer.

Pulse Oximetry:

According to the survey, pulse oximetry is used most commonly in patients with respiratory distress or disease, sepsis/shock/critical illness, and cardiac disease or congestive heart failure. However, in our experience rounding on the wards, pulse oximetry is rarely used due to the trouble involved. It is often applied at the time of admission and, if the reading is normal, never checked again during the admission. More than once during rounds, measuring SPO₂ required sending someone to another ward to obtain the device, then waiting several minutes for an accurate reading.

Results of the survey revealed numerous issues contributing to these delays. The most common were age-related difficulties, specifically attaching probes to pediatric patients and keeping them attached long enough for an accurate reading. This is especially problematic as pulse oximetry is regularly needed to judge severity of pediatric pneumonia. The other difficulties included inaccurate readings, troubles attaching probes to any patients, or cold limbs/extremities preventing analysis.

Handoffs and IHOT:

One-hundred percent of nurses reported using written documentation to provide patient handoffs, compared to 65% of MDs. Again, however, our experiences in rounding on the wards and speaking to providers individually indicate the frequency of handoffs is much lower. Cumulatively, MDs and RNs reported vitals, patient condition and overall management as the most common items included in a handoff report; other items included biographic data, provisional diagnosis, medications prescribed, and investigations. Only two respondents – one MD and one RN – reported a “to-do list” as a regular part of their handoff report. Most MDs recognized the importance of vital signs – 93% of those who reported using written handoffs included vitals, and most of those who do reported it the most important item.

Difficult scenarios:

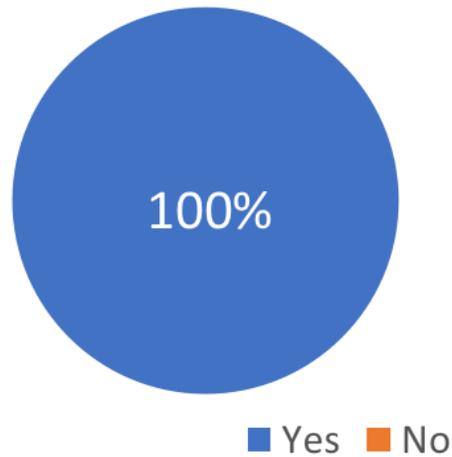
Finally, we assessed the comfort level of providers with various clinical conditions; the most commonly reported “uncomfortable scenarios” were an unconscious/unresponsive patient, respiratory distress, and chest pain/heart attack. This corroborated our experience on the wards, where the response to these scenarios was often delayed and sometimes incorrect.

RECOMMENDATIONS:

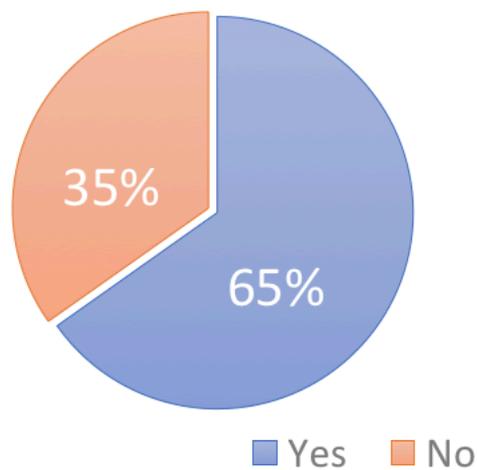
- Drastic, system-wide change is needed to change the mindset of handling medical and surgical emergencies.
 - Nurture a strong sense of urgency in dealing with medical emergencies. This should apply not only to interns but to all local Regional Referral Hospital Employees.
- Implement hands-on, practical training appropriate to the level of provider and job requirements.
 - Training for the intern, registrar, and clinical officer should be different to accommodate their various levels and required medical skills.
- Novel pulse oximetry should be developed and provided to the bedside both in pediatrics and adults, ICU, ED and clinics.
 - Hypoxia is under-recognized and undertreated throughout the hospital, and an improved pulse oximeter would undoubtedly save lives in Shinyanga.
- Bedside training to how to use the device should be paired with the distribution of the device.
- Develop and implement IHOT, an inpatient handoff tool, with the partnership of provincial healthcare leadership. This partnership should be formulated as a private entity or business in the framework of Public-Private Partnership (PPP).

Appendix 1: Survey Data Results

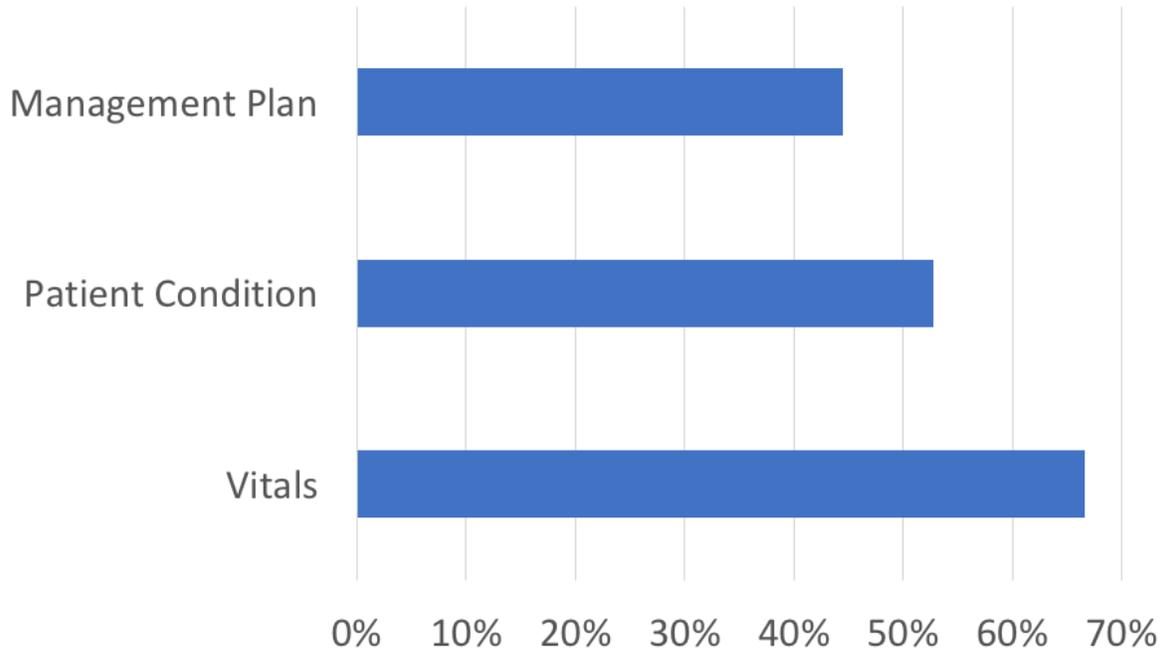
Nurses: Do you use a written handoff report?



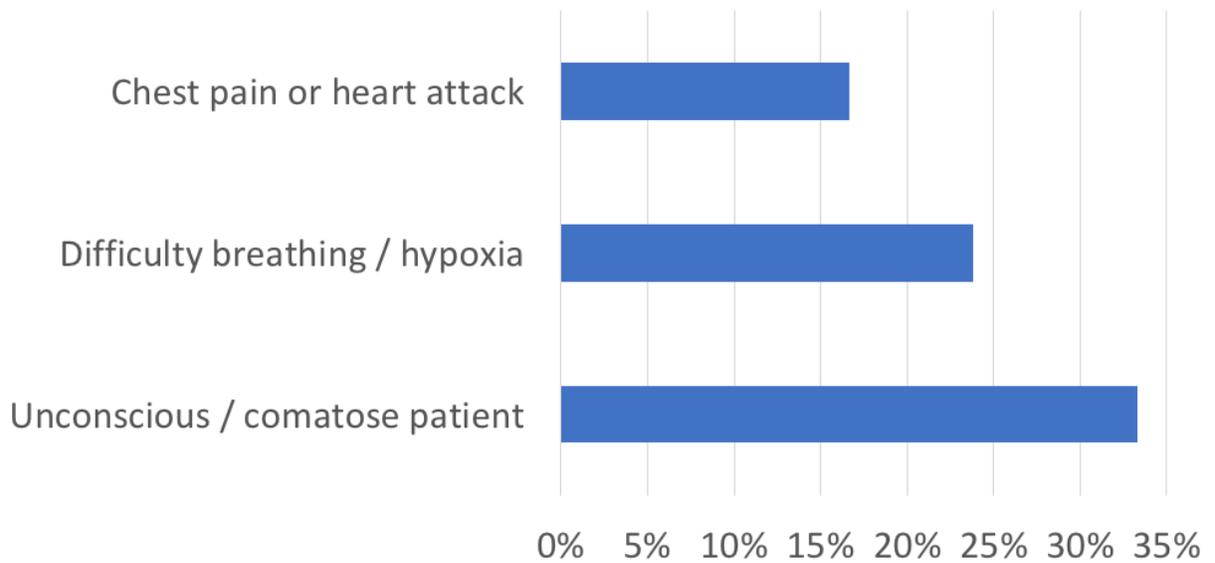
MDs: Do you use a written handoff report?



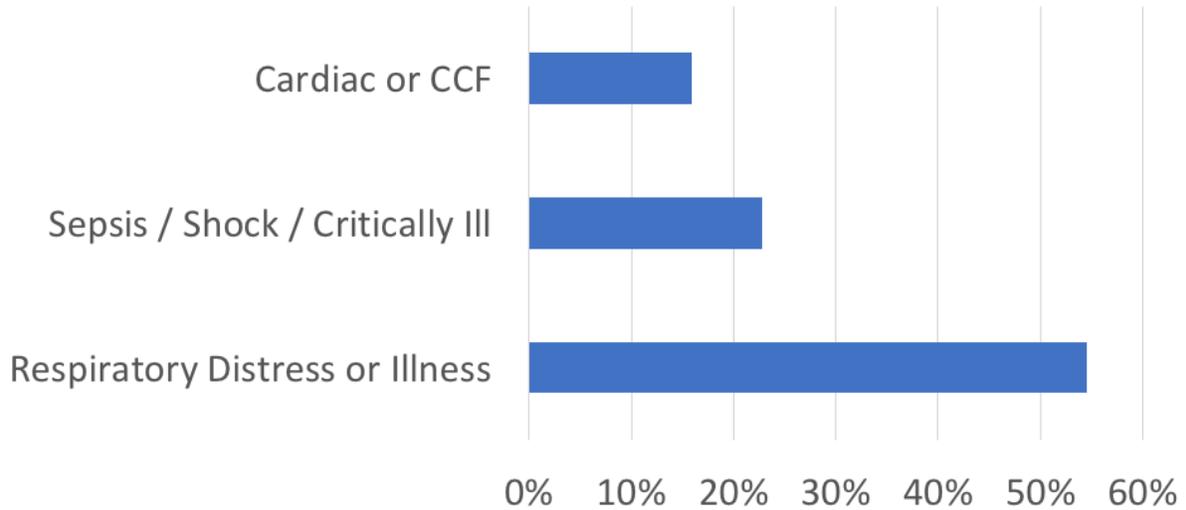
What is included in current handoff reports?



Which scenarios make you feel uncomfortable on shift?



For which conditions do you use pulse oximetry?



What difficulties do you encounter with current pulse oximetry?

