Surgical interventions can address leading causes of mortality and morbidity in resource-limited settings, but surgical services are poorly available due to lack of skilled professionals, infrastructure, and equipment (Chu et al. 2009). To address the surgical workforce shortage and improve access to surgical services in resource-limited settings, countries are exploring various strategies in training physicians and non-physicians to perform surgical procedures. As new surgical training programs are developed and implemented, careful consideration of local priorities will be crucial to creating innovative and sustainable solutions.

A GHDonline Expert Panel discussion on surgical training in resource-limited settings took place in February 2012. Managers, physicians, and students involved in these training efforts discussed how to implement contextually appropriate surgical training programs, how to ensure local training needs are prioritized, the challenges of providing surgical training for non-physicians, creating incentives for clinicians to train in surgery, and generating and sustaining political commitment to surgical training.

**Key Points**

- Contextually appropriate surgical training to address local needs
  - Identification of surgical conditions in the local setting is key to developing a goal-oriented curriculum.
  - Training should be responsive to local pathology, resources available, backgrounds and expectations of trainees, and working environment.
  - Training time should be allocated based on the local pathology, emphasizing trauma and rural surgery.
  - Appropriate training resources, such as textbooks, should be developed for local needs and provided to trainees.
  - Regional standards should be adopted by training institutions.
- Prioritizing local training needs
  - Training directors should ensure local trainees receive adequate attention while continuing to support expatriate collaborators and supporters.
  - Training should emphasize skills to address the local disease burden, incorporating expatriate skills, tailored to the available local resources.
  - Trainers should continuously monitor logbooks and appraisals to ensure trainees’ needs are met.
- Providing surgical training to non-physicians
  - Accreditation standards, as well as a system for continuing education and recertification, should be formalized.
  - Regulation of non-physicians who provide surgery is a concern, especially in remote rural areas.
  - Some countries are exploring training for surgeons below the specialist level but beyond general practitioner, with success in ophthalmology and anesthesia.
  - In Malawi, successful non-physician clinician training programs in orthopedics and anesthesia have existed since the 1980s.
  - Conferring recognition of advancement in a career path in order to keep the trainee engaged in the specialty is a challenge; a solution would be to offer a university degree at the end of training.
  - The Global Emergency Care Collaborative has created a train-the-trainer model that embraces task-shifting and trains nurses to operate at a higher clinical level as well as how to become educators, managers, and researchers.
- Creating incentives for clinicians to train in surgery
  - Early exposure to surgery in medical school can build interest among clinicians to train in surgery.
  - Doctors who want to train in surgery are concerned about inadequate supervision, inadequate hospital resources, limited personal time, and lack of financial incentives.
  - Better job prospects and remuneration exist for those working in the private sector or the urban public sector, so the challenge is to retain trained surgeons in rural areas.
  - Upgrading the infrastructure and physical resources available in rural facilities, combined with a system for continuing education and career advancement, would help attract surgeons to rural settings.
  - Additional training opportunities, especially in more developed settings, could attract clinicians to surgical training.
- The General Reference Hospital in Bukavu, Democratic Republic of Congo is building surgical capacity without government funding by providing support for advanced surgical specialty training for doctors who want to remain in the community long term.
- How to generate and sustain political commitment to surgical training
  - The first step should be to characterize the magnitude of the problem by gathering epidemiological data on the burden of disease and assess the availability of surgical services.
  - Evidence that surgical diseases are a major cause of mortality and morbidity as well as long term disability, with long term economic consequences, should be provided to policy makers.
  - Trauma could serve as the launching pad for surgical advocacy.
  - Shiffman’s model for gaining political priority for global health initiatives can be used to define a plan of action.
  - Surgeons should take on advocacy for surgery in the community, public health organizations, and Ministries of Health.

Key References

Enrich the GHDonline Knowledge Base
*Please consider replying to this discussion with the following information*
- If you currently are involved in a surgical training program in a resource-limited setting, whether as a trainee or trainer, please post descriptions of your experiences.
- If you are interested in implementing such a training program or want advice on improving training, consider posting your challenges, questions, observations, and feedback.