
Surgical Cornucopia

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CANADIAN NETWORK FOR INTERNATIONAL SURGERY: DEVELOPMENT ACTIVITIES AND STRATEGIES

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The Canadian Network for International Surgery (CNIS) is a surgical development and research organization, whose objective is to reduce death and disability from surgical disorders in low income countries. The organization has 4 main activities: (1) the Essential Surgical Skills (ESS) program teaches surgery to general practitioners and is predicated on the assumption that there will not be enough surgeons in Africa in the foreseeable future and therefore nonsurgeons must do surgery; (2) the injury control program, which is predicated on the conclusion that the incidence of injury in Africa is unacceptably high, therefore injury prevention is an imperative surgical strategy; (3) the library project, which sends new and recent books and journals to the surgical libraries of our African partners; and (4) the members' projects, which encourage individual or organization members to use their own creativity in meeting CNIS objectives. The CNIS has direct activity in 4 African countries and presents its project check list as a means to help others succeed. Canadian surgical and allied specialists can help in the reduction of needless suffering by supporting the CNIS.

Le Canadian Network for International Surgery (CNIS) est un organisme de développement et de recherche en chirurgie qui vise à réduire les taux de mortalité et d'incapacité à la suite de troubles chirurgicaux dans les pays à faible revenu. L'organisme mène quatre grandes activités : 1) le programme des compétences essentielles en chirurgie (CES) enseigne la chirurgie aux omnipraticiens et repose sur l'hypothèse selon laquelle il n'y aura pas suffisamment de chirurgiens en Afrique dans l'avenir prévisible et que des non-chirurgiens doivent donc pratiquer des interventions chirurgicales; 2) le programme de contrôle des traumatismes, qui repose sur la conclusion selon laquelle l'incidence des traumatismes en Afrique atteint un niveau inacceptable et c'est pourquoi la prévention des traumatismes constitue une stratégie chirurgicale impérative; 3) le projet de bibliothèque, qui envoie des ouvrages et des journaux nouveaux et récents aux bibliothèques chirurgicales de nos partenaires de l'Afrique et 4) les projets des membres, qui encouragent des personnes ou des organismes membres à se servir de leur propre créativité pour atteindre les objectifs du CNIS. Le CNIS est actif directement dans quatre pays d'Afrique et présente sa liste de contrôle des projets comme moyen d'aider d'autres intéressés à réussir. Les spécialistes en chirurgie et des disciplines connexes du Canada peuvent aider à réduire les souffrances inutiles en appuyant le CNIS.

The Canadian Network for International Surgery (CNIS) provides an opportunity for Canadian surgeons to make a contribution in the global village, where suffering often goes unrelieved because of the lack of basic surgical skills.¹ The

specific objective of the CNIS is to promote the delivery of essential surgical care for the underprivileged and reduce the death and disability caused by surgical disorders. The network is a non-governmental agency, which, however, obtains two-thirds of its funding from

the Canadian International Development Agency (CIDA), a branch of the Canadian government. The CNIS is a surgical development and research organization that works with academic departments or professional associations in the southern hemisphere.

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DEVELOPMENT ACTIVITIES

Essential surgical skills training program

The Essential Surgical Skills (ESS) program is predicated on the assumption that there will be a lack of surgeons in Africa in the foreseeable future, so nonsurgeons will be required to perform surgical procedures.² The target of the program is the primary care physician. More than 1000 African general practitioners in Ethiopia, Uganda, Mozambique and Malawi have participated in the course. The objective of the program is to teach surgical technical and management skills using simulation models in a 5-day workshop.

The first step in introducing the ESS program to a country involves an invitation to conduct an instructors' workshop within a surgical department or association. Over 3 days, an ESS faculty is created. The educational issues associated with the ESS are presented and debated, and the teaching techniques used in the course are reviewed and practised.

The second step requires a second invitation to the CNIS by the local surgical department and the implementation of a providers' workshop. This is conducted by the newly created faculty within 6 months of the instructors' workshop. The providers' workshop is conducted in a 5-day format with a different unit covered each day. The units include: surgical fundamentals, anesthesia and life support, gastrointestinal emergencies, obstetric and urologic emergencies, and orthopedics and trauma.

Three World Health Organisation manuals designed for use in district hospitals are used as reference books for the ESS course. The CNIS is collaborating with the WHO in a revision of these books, one objective of which is to make the books completely compatible with the format of the ESS

course. The simulation techniques used in teaching technical skills require the use of animal material and mannikins. The management skills are taught using case-based learning. The ESS course has been evaluated and shown to be a highly effective teaching program.

Injury control program

The injury control program is predicated on the conclusion that the incidence of injury in Africa is unacceptably high, and therefore injury prevention is imperative. (For example it has been determined that the lifetime risk of an injury causing death for an individual in urban Kampala, Uganda is 10%.) The objective of the program is to facilitate and develop the human resources required to implement injury control and to create an infrastructure within which these activities can occur. In Uganda the CNIS has helped found the Injury Control Center-Uganda (ICC-U), which is directed by a surgeon-epidemiologist Dr. O.C. Kobusingye. Uganda is the first sub-Saharan country to establish a lead agency for injury control. A second organization, the Injury Prevention Initiative for Africa (IPIFA), has been established to allow the testing and dissemination of the work from Uganda by the IPIFA, whose members include Uganda, Egypt, Ethiopia, Kenya, Zambia, Zimbabwe and South Africa.

A public health approach to injury³ is used. It involves 4 steps: surveillance, risk evaluation, intervention evaluation, and program implementation.

Surveillance

The first step in the public health approach, surveillance, was absolutely necessary because in 1996 there was no information on the incidence of, and mortality associated with, injury in Uganda. The surveillance informa-

tion is collected using 3 techniques. A 1-page health facility registry, which includes an injury severity instrument (the Kampala trauma score), has been developed to assess injury in the clinical situation.⁴ Because many injuries, including serious and fatal injuries, are not treated, a 3-part community surveillance instrument has been developed. The community instrument has been translated from English into 4 African languages and tested in all the IPIFA countries. It has also been used in rural, urban and post-conflict situations. Anthropologic techniques have been used to evaluate the specific issues associated with violence.

Risk analysis

The second step, risk analysis, looks at the details of injuries that have been identified as priorities by surveillance. Specific studies have evaluated traffic, head and occupational injuries in Uganda.⁵ A study of the effect of trauma registries demonstrated that the implementation of a trauma registry standardized patient assessment and resulted in better clinical care.⁶ Priority areas that need evaluation are burns in children, falls, drowning and poisoning.

Intervention evaluation

The third step is intervention evaluation, where much progress must be made. Interventions have been performed in an attempt to reduce the incidence of injury to the vulnerable road user, which our surveillance and risk analysis demonstrated as a priority in urban Uganda. These recent activities have yet to be evaluated. Feedback of the information from these studies to the affected communities, part of the interventional process, has occurred, and strategies such as safe community interventions are expected to be implemented with the involvement of the communities. The objec-

tive is to have community ownership and support of the interventions to reduce injuries. At the health facility level, a team training course has been developed. The course objective is to develop a trauma care team to successfully resuscitate trauma victims rather than focus only on medical personnel.

Program implementation

Program implementation is the prerogative of a ministry of health and should await well-evaluated interventions before scarce resources are allocated. Due to the lobbying of the ICC-U, injury has been identified as a top 10 priority in Uganda, but there is still no line-item for injury control within the Ministry of Health budget. There are no data-driven national injury prevention programs in sub-Saharan Africa at present.

Continuing education

The CNIS supports scientific meetings in Canada and in Africa. The subjects of the Canadian meetings are focused on surgical development in Africa. The support of the African meetings involves facilitation of the participation of rural African surgeons in national academic meetings. The CNIS also has a library project in which new and recent books and journals are supplied to the surgical libraries of its African partners.

Members' projects

The CNIS encourages individual or organization members to use their individual creativity in meeting the objective of providing surgical care through educational or research projects. At present there is a urology project in Ethiopia and Uganda and a burn project being conducted in Mozambique. Several other proposals are being reviewed for approval and support by the CNIS.

DEVELOPMENT STRATEGIES

The CNIS activities that are funded in part by CIDA undergo extensive scrutiny. However, the overall program is made up of numerous projects. Each project requires evaluation. To answer the question on where, when and how to implement a successful development project, the CNIS project checklist is presented (Table I). It has an ordinal scale from 1 to 10. An (a) gives no points, a (b) or a (c) gives 1 point each so that the maximum score for any domain is 2 points. If a project scores 7 or less it should be redesigned, delayed or abandoned. If it scores 8 or above it has a chance of success, although it must be accepted that even well-designed development projects risk failure. This checklist assumes that both northern and southern objectives must be met. It would be naive to believe that northern needs are not a consideration and exploitive to create a project that does not address

Table I

Canadian Network for International Surgery: Project Checklist

Domain	Scoring
1. Project	(a) Not worth doing (b) Northern benefit (c) Southern benefit
2. Southern partner	(a) Uninterested (b) Agreeable (c) Involved
3. Northern partner	(a) Uninterested (b) Enthusiastic (c) Culturally sensitive
4. Time	(a) Not considered (b) Sufficient and convenient for northern partner (c) Sufficient and convenient for southern partner
5. Resources	(a) Inadequate (b) Sufficient for northern needs (c) Sufficient for southern needs

southern requirements. Use of this checklist will reduce the chance of failure by cancelling inappropriate projects and making sure that good projects consider important criteria.

CONCLUSIONS

The CNIS overseas activities use a strategy of development rather than service or relief. The CNIS collaborates with southern partners through professional associations and academic departments. These strategies have been successful and sustainable. Canadian surgeons, obstetricians or anesthesiologists who would like to teach are encouraged to join the CNIS and volunteer to participate in essential surgical skills training. Others who may wish to implement a specific project of their own, are welcome to develop member projects. All Canadians are asked to consider helping in the reduction of needless suffering due to surgical disorders by joining the CNIS.

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