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world is no easy task. WHO has long advocated a set of interventions to fortify a nation's blood supply,[9] but countries will have difficulty solving these problems on their own. Nations with the lowest donation rates also have high rates of malnutrition, chronic anaemia, and TTIs, severely restricting the donor pool.[2]

Blood availability must be addressed as a global priority. Until the international community develops feasible equity-based transnational strategies, billions will continue to lack access to life-saving transfusions. First, we must build a donor pool fit for donation by combating malnutrition as aggressively as TTIs. Next, we must establish well distributed blood bank infrastructure capable of meeting demand. Although these efforts might lack a profit motive, global public–private partnerships have had success in developing drugs for neglected diseases, and should be considered as a structural response to this crisis.[10] As these changes lay the foundation for a better donor pool, so too must we change the fear and trepidation that surrounds blood donation in many regions of the world. We must engage local community leaders in concert with clerics in churches, temples, and mosques, both to dispel myths about blood donation and to encourage it as a civic responsibility.

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Strengthening emergency care: experience in central Haiti

Although substantial advances have been made in global health delivery, particularly within prevention and treatment of infectious diseases, including HIV/AIDS and malaria, under-5 mortality, and vaccine-preventable illness, gaps continue to exist in universal health coverage, especially with regard to management of non-communicable and surgical disease, including trauma.[1] In much of the world, injuries (intentional and, especially, unintentional) are now a leading cause of death in children and young adults.[2] The Declaration of Alma-Ata,[3] which affirmed "health for all by 2000", might have been endorsed in 1978 by almost all nations' ranking health officials, but this goal has yet to be met in most low-income and middle-income countries.

To meet this goal, however tardily, global health implementers have increasingly focused on building comprehensive health systems, providing a broad base of care with the flexibility and adaptability to meet these needs,[4,5] sustained by robust and integrated referral systems. As our experience in central Haiti at the University Hospital at Mirebalais shows, and as others have argued,[6] integrated systems of emergency care are a fundamental component of the health system. Emergency care systems are uniquely positioned to respond to the array of life-threatening emergencies, including acute trauma, surgical disease, acute infectious illnesses, exacerbations of chronic disease, and more routine medical needs that nonetheless require timely attention.

Panel: Most common diagnoses of patients admitted from UHM Emergency Department

Non-surgical admissions
- Congestive heart failure
- Pneumonia
- Stroke
- Tuberculosis
- Severe anaemia
- Gastroenteritis

Surgical admissions
- Fracture, extremity (non-femur, presumed closed)
- Fracture, femur
- Appendicitis
- Bowel obstruction
- Fracture, open
- Wounds

Historically, emergency care has been under-represented in the advances of global health, perceived as the domain of highly functioning and costly health systems.[7–9] In most developing countries, including those in which Partners In Health works, under-resourced Ministries of Health have been reluctant to include comprehensive emergency care in their essential packages of services, leaving a substantial gap that has been inconsistently and variably filled by private-for-profit and humanitarian organisations.

The scope of emergency practice has been variably defined globally. Generally, emergency care is deemed the component of health care focused on delivery of curative interventions, mainly for critical surgical and medical conditions with threat to life or limb. Elements of severity and immediacy are essential to the designation of an emergency condition. Emergency services themselves are broader than emergency care, including population-level interventions in addition to individual care.[4] The essential components of high-quality emergency services include pre-hospital (ambulance systems) and hospital-based services; trained personnel; supplies, such as biomedical equipment, medications, and other materials; information systems; and monitoring and assessment.[10]

Emergency care inherently addresses the wide array of illness and injury, including traumatic injuries, surgical disease, acute complications of chronic illness (eg, strokes, myocardial infarction, diabetic ketoacidosis, complications of HIV, tuberculosis, hepatitis C, and other chronic infections), and communicable diseases.[9] Evidence from the Global Burden of Disease Study[11] shows that mortality from non-communicable diseases and injuries continue to rise (the increase from 1990 to 2010 was 30% for non-communicable diseases and 24% for injuries).[11] For the 34·5 million annual deaths due to non-communicable diseases,[11] timely emergency care could address many of the time-sensitive causes.[6]

Despite a long tradition of medical training, which began in 1861 with the establishment of the National Medical School,[12] Haiti is not an exception to this general pattern of inattention to emergency care. Little recognition and few public resources are dedicated to these services in the Haitian health system. For example, residency-training programmes for emergency medicine to prepare physicians for the practice of emergency care do not exist. We have seen in Haiti, as elsewhere in low-income countries, that the focus on a basic minimum package has created a spurious dichotomous choice, in which primary care is deemed mutually exclusive of emergency and acute care.[13]

By 2030, road-traffic accidents will be the 5th leading cause of death worldwide with a disproportionate number of deaths occurring in poor countries like Haiti.[14] Estimates suggest that implementation of basic trauma care at the facility level could potentially avert 21% of the total injury burden in low-income and middle-income countries (LMICs). Additionally, basic interventions—many of which are done in emergency departments, such as trauma resuscitation, wound management, laceration repair, and tube thoracostomy—for a limited set of surgical diagnoses can reduce 18% of the total global burden of disease in LMICs.[15]

Further research is needed, in Haiti and elsewhere, to better estimate the number of deaths averted and DALYs reduced by emergency care. However, high-quality emergency services are likely to have a substantial effect by addressing acute presentations of communicable, non-communicable, and traumatic disease.[6,8,9] In more developed settings, emergency care provided by trained providers in an emergency department has been shown to improve quality and cost-effectiveness of the general health system. Further, by addressing the growing burden of non-communicable disease and trauma, emergency care serves as part of the public health system. Both of these effects are magnified in LMICs, where the magnitude of effect is potentially greater and the primary care systems are often weaker.[16]

As part of a comprehensive approach to supporting the Haitian public health system, in March, 2013, Partners In Health opened the University Hospital at Mirebalais (UHM), the largest reconstruction project in the health sector since the 2010 earthquake. The national referral hospital, operated in conjunction with the Ministry of Health, is providing high-quality primary and tertiary care, as well as training Haitian physicians and nurses. The UHM emergency department—a 21 bed modern emergency department, staffed by local physicians and nurses—opened in June, 2013, with clinical support and continuing education provided by US-trained and Canadian-trained emergency physicians.

In the first year of operations, the emergency department of the UHM electronically registered nearly 17 000 patient visits, with the number of visits continuing to increase every month. 9411 (56%) of 16 750 patients registered were women, and 4590 (27%) children younger than 15 years (1212 [7%] younger than 1 year, 2901 [17%] younger than 5 years). The most common diagnoses overall were gastritis, upper respiratory infections, chikungunya, urinary tract infection, and gastroenteritis. The recent epidemic of chikungunya, an acute viral disease previously unknown in Haiti, occasioned a large number of visits to the emergency department (448 recorded visits) during May to July. 2520 (18%) of 13 781 patients seen whose data were recorded electronically had sustained trauma, of whom nearly half (1205, 48%) were due to road-traffic accidents. The top diagnoses of admitted patients portray the growing burden of non-communicable disease, surgical, and traumatic disease (panel).

In the context of a Haitian health system previously unable to manage this volume of critically and acutely ill patients, high-quality emergency care at UHM should continue to improve health outcomes, as suggested in previous work.[7] By reducing fragmentation through truly comprehensive care addressing the full burden of disease,[4] implemented in partnership with robust surgical and other services, our implementation of emergency care has further strengthened the public health system in central Haiti.

Ultimately, our experience with the Ministry of Health in central Haiti suggests the need for high-quality emergency care training programmes to ensure quality care and to build robust emergency networks. Accordingly, Partners In Health and the National School of Medicine (Universite d'Etat d'Haïti) have recently launched the first residency-training programme for emergency medicine in Haiti.

We believe that emergency care should be integrated as an essential health service within a comprehensive approach to the health system. Thoughtful investment in emergency care and training in LMICs will meet the broad population health needs, from acute surgical and traumatic disease to acute infections and complications of chronic disease.

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