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**EMERGENCY SURGERY DATA AND DOCUMENTATION REPORTING FORMS
FOR SUDDEN-ONSET HUMANITARIAN CRISES, NATURAL DISASTERS AND THE
EXISTING BURDEN OF SURGICAL DISEASE**

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ABSTRACT

Following large-scale disasters and major complex emergencies especially in resource-poor settings, emergency surgery is practiced by Foreign Medical Teams sent out by different actors including governmental and Non-governmental Organizations. However these experiences have not yielded an appropriate standardized collection of data and reporting to meet the World Health Organization and the Inter-Agency Standing Committee's Health Cluster

requirements. Utilizing the 2011 International Data Collection guidelines for surgery developed by Médecins Sans Frontières the authors developed an individual patient-centric form and an International Standard Reporting Template for Surgical Care to record data from victims of the disaster itself as well as the co-existing burden of surgical disease within the affected community. These include surgical patient outcomes and perioperative mortality and referrals for rehabilitation, mental health and psychosocial care. The purpose is fourfold to provide universally acceptable forms that meet the minimal needs of Health Cluster reporting; to ensure that all surgical providers, especially from indigenous first responder teams, as well as others performing emergency surgery before and after the arrival of established Foreign Medical Teams contribute relevant and purposeful reporting; to increase transparency and accountability contributing to improved humanitarian coordination and to facilitate a comprehensive review of services provided to the crisis.

INTRODUCTION

In the days and weeks following the January 2010 earthquake in Haiti, thousands of surgical procedures were performed to alleviate suffering, save lives, and allow for rehabilitation and recovery. Surgery was provided by a large, disseminated group of clinicians from Haiti and around the world – some with considerable experience in humanitarian or disaster settings, many with none. Many Foreign Medical Teams (FMTs) or Foreign Field Hospitals (FFHs) were mobilized but of the 44 deployed in the first 3-15 days, only 25% adhered to the essential deployment requirements and none followed the full requirements of the World Health Organization/ Pan American Health Organization (WHO/PAHO).[1] Whereas more FMTs were sent to Haiti in 2010 than any previous sudden-onset disaster, the lack of data and transparency made it impossible to reliably compare the activities or outcomes of these FMTs, leaving little concrete evidence to guide future deployments or improvements to this system [1]. Recent reviews of the humanitarian response to the earthquake have showed that while many FMTs provided high-quality care, they were not coordinated and lacked common terminologies, definitions and frameworks.[2] However, in the absence of systematic information management and data collection, it is unlikely that we will ever know the true impact (both positive and negative) of FMTs in crisis settings.

The final number of FMTs deployed to Haiti is unknown but anecdotally may number as high as 70. Similarly, a 2008 study of FHH in sudden-onset disasters in Iran (2003), Haiti (2004) Indonesia (2004), and Pakistan (2005) showed that FMTs, while designed to provide emergency trauma care for the initial 48 hours post-disaster, tended to be operational much later. Of the 43 FFHs which responded to these events, none met the WHO/PAHO essential requirements nor did they provide “detailed information” on their activities.[3] This problem is not new. It is symptomatic of what is at risk of occurring in both chronic and sudden-onset crises where emergency surgery is required. In a recently published review of the surgical caseload data researchers located 2,171 publications that focused on emergency surgery. Ninety-nine were relevant to surgical care in crisis settings, of which only 18 contained surgical caseload data; and of these only 11 studies contained sufficient epidemiological data of value in the overall assessment of the burden of surgical disease, half of which in one study was related, not to the

crisis event, but to the chronic unmet burden of surgical disease (e.g., obstetrical, hernia repairs, etc.). In all crises reported there was a call for “standardization of data collection and reporting tools.” [4]

The goal of the Health Cluster, which serves as the external coordinating mechanism during crises, is to “reduce mortality, morbidity and disability, and restore the delivery of, and equitable access to, preventive and curative health care as quickly as possible and in as sustainable a manner as possible.” [5] This requires “up-to-date information and monitoring of the health situation and regular situation reports/health bulletins.” [5] In total, data reported from the *Health Cluster Bulletin* indicated that in the “health sector alone, 390 agencies” (mostly international) were registered with the Health Cluster, but admittedly many health providers did not register and data from indigenous surgical care are lacking. [6] Arguably, this always requires an understanding of the complexity of the resource poor setting in the immediate aftermath of the earthquake, but also the complexity of the healthcare system before the earthquake. The Haitian system was fragmented, under-resourced, and failed to provide access to basic health services in the years before the earthquake. The disaster itself compounded these effects resulting in a massive humanitarian crisis on a scale previously unseen by even seasoned humanitarian workers. Many of the providers of health assistance – both Haitian and international – provided excellent care under very difficult situations, though there was an absence of a system for monitoring the availability and functionality of health services, leading to the duplication of some services and the absence of others. [7] Furthermore, little is known of the burden of surgical disease in crisis settings, nor about the quality of care provided to patients. [8]

Redmond and colleagues in a combined quantitative and qualitative assessment of available surgical data in Haiti concluded that the quality of care in humanitarian surgical operations needed to be improved especially in regards to the development of minimum dataset and uniform reporting. These recommendations were based on observing several inconsistencies in the available data, and several concerns such as the large variation in amputation rates among surgical providers, ranging from 1% to >45%. [9] Benjamin and colleagues in their “lessons from Haiti” emphasized that “prospectively” healthcare professionals should “rigorously prepare themselves and make provisions for collecting and reporting data.” [10] Reporting of earthquake related injuries has been “incomplete and often inadequate,” suffering from “incomplete record keeping especially during the first 7-10 days of field hospital operations” (before FMTs become mobilized), and resulting in the “underestimation of total earthquake-related injuries and deaths reported.” [11] Patterns of poor decision-making are caused as much by the lack of data as by problems with data interpretation. [9]

At a PAHO/WHO meeting in Cuba in December 2010, participants again stressed the need for international standards, greater accountability, more stringent oversight, better coordination, and improved reporting. The meeting stressed that there must be a mechanism to ensure the “complementarity” of FMTs and to coordinate their different services before deployment and on arrival. The need to collaborate with the Inter-Agency Standing Committee response coordination mechanisms and to collect and share data through agreed health coordination mechanisms (including completing and keeping medical records) was also emphasized as a priority for enhancing the role of FMTs deployed during sudden-onset disasters. [12] Additional Consensus Statements regarding the multidisciplinary care of limb amputation patients, and

rehabilitation medicine in disasters or humanitarian emergencies, [13],[14] and Best Practice Guidelines on Surgical Response in Disasters and Humanitarian Emergencies have since been established, based on a broad consensus from a number of different experts in surgical care in humanitarian crises who met in 2011 to discuss the challenges faced in the field.[15] These papers emphasize the need for accountability in humanitarian surgical care in emergencies, and the need for minimum standards in surgical care and basic medical record keeping, basic infrastructure, and the establishment of a referral system to other care providers.

A 2011 Davos Global Health Risk Forum conference reviewed emergency surgical findings to date and again called for improved data collection.[16] Surgical, anesthesia and orthopedic attendees, while agreeing fully with the need for proper data collection, voiced concern that they themselves did not possess field level epidemiological skills but were fully aware through their own practices in their countries of origin of the need for the routine reporting of data gathered by trained staff within their surgical departments or hospital systems. When asked what they felt was optimal for greater transparency, reporting and data documentation during a crisis setting, the consensus called for reporting guidelines inclusive of:[16]

- A utilitarian and universal form for reporting and data documentation, ideally a one-page format that could be easily reproduced and completed under austere conditions, including pertinent medical information identifying the patient plus prior comorbidities/surgeries/medications/allergies
- Essential indicators for the disaster event itself and outcomes
- Essential indicators for those interventions arising from the chronic global burden of surgical disease and outcomes which may account for over 50% of cases during the post-crisis phase [4]
- Disposition and transfer data
- Simple check-off whether patient will require physical therapy/Rehab Medicine, psychosocial care, etc.
- Data acceptable to the required Health Cluster reporting scheme
- Minimal data set and indices necessary for scientific documentation and analysis

As such, two forms were developed to meet these requirements: Table 1 provides an inclusive individual surgical patient template; Table 2 provides an international standardized reporting form that documents both the crisis event including relevant global burden of disease register. The content of these forms is based on a previously published systematic review, [4] reporting guidelines from Médecins Sans Frontières (MSF) surgical programs, and the expert opinion of the authors to establish an acceptable reporting format.

Together these two forms provide the minimal data required to improve surgical care in humanitarian settings and to further inform the international community about the growing burden of surgical disease, and the outcomes data for patients receiving surgical interventions and anesthesia in austere settings. But further guidance is required from large institutions including the WHO, the International Committee for the Red Cross (ICRC) and the Sphere Project, each of which provide unique services and recommendations for the surgical care of patients in conflict and humanitarian settings. The Sphere Project which leads the humanitarian

community with guidelines on each component of aid delivery must expand its section of surgical care and anesthesia to insure that organizations and providers alike supply all that is required for the complexity of surgical delivery in austere settings. For example, MSF's basic list also includes water requirements for surgery, sterilization, blood products and essential anesthesia medications (including antibiotics and pain medications).

Reporting of the activities of FMTs was the subject of a recently published systematic review of surgical care in crisis settings.[4] In developing the form for a global burden of disease register to report on the delivery of surgical services (Table 1), the first task was to identify relevant reporting domains and concerns that emerged through this systematic review and analysis. These included the need for sex and age disaggregated data, basic patient outcomes (such as perioperative mortality) and an indication of the origin of surgical pathology as being either a direct or indirect result of the event, or an unrelated condition. Furthermore, the systematic review revealed a paucity of data on the proportion of patients presenting to health facilities requiring surgical intervention, frequently as a result of incomplete or selective reporting of caseload data. The analysis was again further compromised by incomplete reporting of dates, with very limited data available to understand the evolution of the nature of and need for surgical intervention following rapid-onset crises.

A further limitation of data reporting uncovered in the systematic review was the inconsistent terminology and procedural grouping of surgical procedures. For instance, some reports referred only to groups of procedures ("general surgery" or "trauma surgery", for example), rather than the specific identification of the surgical procedure. To address these concerns, we based our procedural groups and records of the sequence of intervention (first/primary, planned re-intervention, unplanned re-intervention) on the 2011 International Data Collection guidelines for surgery developed by MSF, which have been in use in support of MSF's surgical programs.[17,18] To address concerns of loss of follow-up or referral mechanisms for post-operative patients,[9, 13] a data collection section was included to record surgical patient outcomes, including perioperative mortality and referrals for rehabilitation and mental health and psychosocial care.

The individual patient surgical record (Table 2) was developed using a similar approach. To ensure consistency in reporting, the procedural groupings of surgical interventions are the same in the two forms presented, though the patient surgical record also includes space for listing relevant comorbidities. It is presumed that such a form would be used in addition to a more robust patient chart where a thorough medical history and physical findings would be recorded, as well as a standard anesthesia record.

We have also included other relevant data sources that would be useful for evaluating the nature of surgical services provided and the physical status of the patient. An American Society of Anesthesiologists (ASA) Physical Status Classification System score has been included, as well as an indicator of the degree of urgency.[19] Given that austere anesthesia approaches have been employed in the past[20], a record of the types of anesthesia provided, using standard descriptors and types, was included. Patient outcomes are again based on the MSF surgical data, with the addition of data collection for recording patient referrals to other health facilities and providers.

While comprehensiveness has given way to brevity and utilitarianism, we nonetheless propose that these forms offer a preliminary contribution to the development of robust reporting criteria and guidelines for FMTs. These forms are easily completed in a short time by all providers of surgical, orthopedic, anesthesia and obstetrical care irrespective of surgical facilities. The purpose is to provide a universally acceptable form that meets the minimal needs of Health Cluster reporting to ensure that all surgical providers, especially from indigenous first responder teams, as well as others performing emergency surgery before and after the arrival of established FMTs contribute relevant and purposeful reporting, contributing to improved humanitarian coordination and facilitating a comprehensive review of services provided following the emergency.

DISCUSSION

Simple and robust data collection is the backbone of a responsible health system, even in a resource scarce disaster setting. The Foreign Medical Teams Working Group of WHO and the Global Health Cluster [12] have commissioned a stream of work to provide a more robust reporting form. This manuscript is complimentary to that process and is part of a wider move to improve professionalization of FMTs. There has long been a call for the improvement of standardization of minimum essential datasets within disaster response and crisis field epidemiology, though few guidelines exist outside of internationally recognized standards (such as the Sphere Standards).[21] There is a strong need to establish international consensus among major humanitarian surgical providers on how to collect relevant surgical data in crisis settings. A component of this must be standardized reporting guidelines using an approach similar to what we have advocated through our assessment forms.

Our approach is limited in that the systematic collection of evidence to guide the development of reporting criteria is limited; few studies exist that comprehensively report on patterns of morbidity and mortality in patients treated by FMTs. Operational research in crisis settings is still a developing field, with limits on the amount of robust data available to guide the development of guidelines and consensus statements. The field of disaster medicine continues to be driven by field-level providers – many with considerable experience in acute and protracted humanitarian emergencies. Reporting guidelines must be responsive to their needs and the realities of clinical practice in austere settings. At the same time balance must be achieved in ensuring the comprehensiveness of the data collected and provided so as to facilitate evidence-based decision making and aid prioritization within the Health Cluster and Ministries of Health. Given the evidence available, the reporting forms presented achieve this balance, and provide a preliminary contribution to better reporting standards for surgical care in crisis settings. As authors we currently fill academic positions but all have extensive field experience dating back to the 1960s. Inclusivity is crucial and we welcome further commentary and contributions from others as these forms are dynamic documents that represent a first step in a process that has not yet received proper attention but must be open to further debate, change and amendments.

Surgical care will continue to take place in non-FMT settings where there is equal need for proper documentation and reporting of data. These forms are also applicable to a larger group of emergency surgery providers who are not part of the FMT system. These utilitarian forms are more likely to find themselves in standard stock in low- and middle-income countries and used

routinely in daily caseload monitoring within District Hospitals, in addition to being in the hands of surgical providers traveling to a disaster site. The suggested forms are part of a long process to improve the quality of care provided by FMTs. A key challenge in the future is to define the normative body responsible for compiling data and ensuring that benchmark criteria are being met. Ideally this body should be the Ministry of Health of the affected country but given the multiple post-disaster requirements and other priorities this may be beyond their capacity. A professional body is needed; open to any agency willing to be transparent and accountable. Such a body, in order to be credible, should be based on experience from the difficult austere disaster context. Any surgical provider will admit that it remains impossible to ensure quality of care and accountability without data collection. Gone are the days when we can claim that it is the good intention of our action that counts, we have to show that they do.

REFERENCES

- [1]. Gerdin M, Waldis A, von Schreeb J. Foreign field hospitals after the 2010 Haiti earthquake: how good were we? *Emerg Med J*. 2012 Mar 7 [Epub ahead of print].
- [2]. Lind K, Gerdin M, Waldis A, et al. Time for order in chaos! A health system framework for foreign medical teams in earthquakes. *Prehosp Disaster Med*. 2012 Jan-Feb;27(1):90-3.
- [3]. von Schreeb J, Ridder L, Samnegard H, et al. Foreign field hospitals in recent sudden-onset disasters in Iran, Haiti, Indonesia, and Pakistan. *Prehosp Disaster Med*. 2008 Mar-April;23(2):144-51.
- [4]. Nickerson JW, Chackungal S, Knowlton L, et al. Surgical care during humanitarian crises: A systematic review of published surgical caseload data from foreign medical teams. *Prehosp Disaster Med*. 2012 Mar-April;27(2): 184-9.
- [5]. World Health Organization. Inter-Agency Standing Committee. Global Health Cluster: A practical guide for country-level implementation of the Health Cluster. June, 2009. Available at: http://whqlibdoc.who.int/hq/2009/WHO_HAC_MAN_2009.7_eng.pdf. Accessed 12 May 2012.
- [6]. de Ville de Goyet C. Health Response to the Earthquake in Haiti. January 2010: Lessons to be learned for the next massive sudden-onset disaster. Pan American Health Organization. 2011. Available at: http://reliefweb.int/sites/reliefweb.int/files/resources/Full_Report_3342.pdf. Accessed 12 May 2012.
- [7]. Chu K, Stokes C, Trelles M, Ford N (2011) Improving Effective Surgical Delivery in Humanitarian Disasters: Lessons from Haiti. *PLoS Med* 8(4). e1001025.
- [8]. Chu, K, Trelles, M, Ford, N. Rethinking surgical care in conflict. *Lancet*. 2010;375(9711):262-263.
- [9]. Redmond AD, Mardel S, Taithe B, et al.. A qualitative and quantitative study of the surgical and rehabilitation response to the earthquake in Haiti, January 2010. *Prehosp Disaster Med*, 26 (6), 449-56.

- [10]. Benjamin E, Bassily-Marcus AM, Babu E, et al. Principles and practice of disaster relief: lessons from Haiti. *Mt Sinai J Med*. 2011 May-Jun;78(3):306-18.
- [11]. Centers for Disease Control and Prevention. Post-Earthquake Injuries Treated at a Field Hospital: Haiti, 2010. *Morbidity and Mortality Weekly*. January 7, 2011;59(51):1673-77.
- [12]. Global Health Cluster (GHC). Coordination and Registration of Providers of Foreign Medical teams in the Humanitarian Response to Sudden-onset Disasters: A Health Cluster Concept Paper. World Health Organization. Inter-Agency Standing Committee GHC Policy and Strategy Team Position Paper. Geneva, 2010. Available from: http://www.who.int/hac/global_health_cluster/about/policy_strategy/fmt_concept_paper_27_May.pdf. Accessed 11 May 2012.
- [13]. Knowlton LM, Gosney JE, Chackungal S, et al. Consensus statements regarding the multidisciplinary care of limb amputation patients in disasters or humanitarian emergencies: report of the 2011 humanitarian action summit surgical working group on amputations following disasters or conflict. *Prehosp Disaster Med*. 2011 Nov-Dec;26(6):438-48.
- [14]. Rathore FA, Gosney JE, Reinhardt JD, Haig AJ, Li J, Delisa JA. Medical Rehabilitation after natural disasters: Why, When and How? *Arch Phys Med Rehabil*. 2012 Jun 4. [Epub ahead of print].
- [15]. Chackungal S, Nickerson JW, Knowlton LM, et al. Best Practice Guidelines on Surgical Response in Disasters and Humanitarian Emergencies: Report of the 2011 Humanitarian Action Summit Working Group on Surgical Issues within the Humanitarian Space. *Prehosp Disaster Med*. 2011 Nov-Dec;26(6):429-37. Epub 2012 Apr 4.
- [16]. Emergency Surgery Workshop Davos 2011. Emergency Surgery during Disaster Relief Activities: Surgery under Critical Environmental Conditions. AO Foundation, Global Risk Forum GRF Davos, Switzerland. 10 December 2011. Agenda Available at: http://riskacademy.grforum.org/userfiles/Programme_ESWS_sm.pdf. Accessed 2 April 2012.
- [17]. Chu, K.M., Ford, N., Trelles, M. (2010) Operative mortality in resource-limited settings: the experience of Medecins Sans Frontieres in 13 countries. *Arch Surg*, 145 (8):721-5.
- [18]. Chu, K., Havet, P., Ford, N., & Trelles, M. (2010). Surgical care for the direct and indirect victims of violence in the eastern Democratic Republic of Congo. *Confl Health*, 4(6): doi:10.1186/1752-1505-4-6.
- [19]. American Society of Anesthesiologists. (2012). ASA Physical Status Classification System. Available from: <http://www.asahq.org/For-Members/Clinical-Information/ASA-Physical-Status-Classification-System.aspx>. accessed 16 July 2012.
- [20]. Osteen, K.D. (2011) Orthopedic anesthesia in Haiti. *Ochsner J*, 11(1): 12-13.
- [21]. Bradt, D. & Drummond C.M. (2002). Rapid Epidemiological Assessment of Health Status

in Displaced Populations — An Evolution toward Standardized Minimum, Essential Data Sets.
Prehosp Disaster Med, 18(1): 178-185.

LEGENDS:

Table 1: Individual Patient Surgical Reporting Template

Table 2: International Standard Reporting Template for Surgical Care

For Peer Review

Patient Surgical Record Template

Patient Name:		Date of Birth/Age:	
Gender:		Address:	
Name of Medical Team:		Type: <input type="checkbox"/> Governmental <input type="checkbox"/> NGO <input type="checkbox"/> FMT <input type="checkbox"/> Red Cross/Crescent <input type="checkbox"/> University <input type="checkbox"/> Other	
Location:		Contact Info:	
ASA Score: 1 2 3 4 5 6 E		Degree of Urgency: Urgent Delayed Elective	
Surgical Procedures Performed		Reporting Period: __/__/20__ - __/__/20__	
Minor Surgery	Date	Wound Surgery	Date
Simple, suturing, abscess		Dressings Change	
Dressings under sedation, drains		Debridement, fasciotomy	
		Skin/Muscle Grafting	
		Foreign body removal	
Other Minor Surgery		Other Wound Surgery	
Visceral Surgery		Orthopaedics	
Hernia, hydrocele, hemorrhoids		Reduction of fractures	
Exploratory laparotomy		Fracture fixation	
Solid viscous resection or repair		Curettage for osteomyelitis	
Gut resection/repair		Amputation	
Other general surgery		Other orthopaedics	
Gynaecology/Obstetrics		Specialized Surgery	
Caesarean Section		Neurosurgery	
D&C		Vascular surgery	
Other OB/GYN		Thoracotomy	
Comorbidities?		ENT	
		Other	
Anesthesia: <input type="checkbox"/> Local <input type="checkbox"/> Regional <input type="checkbox"/> Spinal <input type="checkbox"/> General <input type="checkbox"/> Combined <input type="checkbox"/> Ketamine			
Intervention: <input type="checkbox"/> First/Primary <input type="checkbox"/> Planned Re-Intervention <input type="checkbox"/> Unplanned Re-Intervention			
Outcome			
<input type="checkbox"/> Complete Recovery	<input type="checkbox"/> Expected Recovery	<input type="checkbox"/> Mild/Moderate Impairment	<input type="checkbox"/> Severe Impairment
<input type="checkbox"/> Problem Unresolved	<input type="checkbox"/> Poor Prognosis	<input type="checkbox"/> Deceased	<input type="checkbox"/> Anesthesia complications? (List)
Patient transferred? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Physical rehab? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Psychosocial care? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	

Brief Operative Note:

International Standard Reporting Template for Surgical Care

Name of Medical Provider/Organization:				Type: <input type="checkbox"/> Governmental <input type="checkbox"/> NGO <input type="checkbox"/> FMT			
				<input type="checkbox"/> Red Cross/Crescent <input type="checkbox"/> University <input type="checkbox"/> Other			
Location:				Contact Info:			
Patient Caseload				Reporting Period: __/__/20__ - __/__/20__			
Total # Adult Patients Seen				Total # Adult Patients Requiring Surgery			
Male		Female		Male		Female	
Total # Pediatric Patients Seen				Total # Pediatric Patients Requiring Surgery			
M(≤5):	F(≤5):	M(>5):	F(>5):	M(≤5):	F(≤5):	M(>5):	F(>5):
Suspected Origin of Surgical Pathology (Number of Cases)							
Direct Result of Disaster		Secondary/Indirect Result of Disaster		Pre-existing/acute unrelated condition			
Number of Surgical Procedures Performed							
Minor Surgery		# of Procedures		Wound Surgery		# of Procedures	
Simple, suturing, abscess				Dressings Change			
Dressings under sedation, drain insertion/removal				Debridement, fasciotomy			
				Skin/Muscle Grafting			
				Foreign body removal			
Other Minor Surgery				Other Wound Surgery			
Visceral Surgery		# of Procedures		Orthopaedics		# of Procedures	
Hernia, hydrocele, hemorrhoids				Reduction of fractures			
Exploratory laparotomy				Fracture fixation			
Solid viscous resection or repair				Curettage for osteomyelitis			
Gut resection/repair				Amputation			
Other general surgery				Other orthopaedics			
Gynaecology/Obstetrics		# of Procedures		Specialized Surgery		# of Procedures	
Caesarean Section				Neurosurgery			
D&C				Vascular surgery			
Other OB/GYN				Thoracotomy			
				ENT			
				Other			
First/Primary Intervention	#	Planned Re-Intervention	#	Unplanned Re-Intervention	#		
Surgical Patient Outcomes							
#Intra-operative Deaths		#Post-Operative Deaths (24 hrs)		# Referred for Physical Rehab		# Referred for MH/Psychosocial Care	