

WHO PLANNING TOOL FOR EMERGENCY AND ESSENTIAL SURGICAL SERVICES AT THE FIRST REFERRAL LEVEL

Table of Contents

1. Introduction

- 1.1 What is this tool?
- 1.2 What is a comprehensive 'Emergency and Essential Surgical Care' at the first referral level health facility plan?
- 1.3 Why should 'Emergency and Essential Surgical Care at the first Referral health facility level' be incorporated in a national health plan?
- 1.4 What can be done to reduce death and disability from surgical conditions at the first referral level?
- 1.5 What does this planning guide contain?

2. Developing an EESC plan for first level health facilities

- 2.1 How to start?
- 2.2 How to proceed?
- 2.3 Steps in the planning process

3. Conclusion

4. References

5. Annexes

- Annex 1: WHO Best Practice Protocols Clinical Procedures Safety and Disaster Management
- Annex 2: Proposed primary surgical care package example
- Annex 3: Anaesthesia infrastructure and supplies
- Annex 4: Tool for Situational Analysis to assess EESC
- Annex 5: EESC Services at the first referral level multi-year plan costing example (please see attached file)

Figures

- Figure 1.1 Causes of injury worldwide
- Figure 1.2 Causes of maternal mortality worldwide

Acronyms

- CPG Core Planning Group
- EESC Emergency and Essential Surgical Care
- HIV Human immunodeficiency virus
- HRH Human resources for health
- IMEESC Integrated Management of Emergency and Essential Surgical Care
- LMICs Low and middle income countries
- MDGs Millennium Development Goals
- MOH Ministry of Health
- SPG Stakeholder Planning Group
- WHO World Health Organization

1. Introduction

1.1 What is this tool?

This tool aims to support the planning process to close the gap in emergency and essential surgical services at first referral level health facilities. These services include all components of surgical care including assessment, surgery (including emergency, trauma, and obstetric), anaesthesia, and post-operative care. As deficiencies in surgical capacity result from limitations in infrastructure, physical, and human resources, strengthening surgical care requires improvements at the health systems level.¹ It is important for health planners to be aware of the ways in which key issues for emergency and essential surgical care (EESC) at the first referral health facility level can be addressed and integrated into health systems-strengthening reforms.

While Ministries of Health (MOH) still make national policies and coordinate provision of EESC, decentralization requires districts to make planning decisions and to implement EESC activities, as well. This tool presents a series of steps to guide the development of a national or district level plan for EESC at first referral level health facilities. As managers review and assess the results of each step in the process, they should ensure that the plan meets national policy and priorities, and considers the availability of resources. Frequent consultation is highly recommended so that alternative strategies can be reviewed before a national plan is finalized.

Plans must be realistic and feasible and should also serve as a tool to review strategies, indicators and progress towards reaching those indicators. They can help prioritize current and future programme objectives, and help determine actions that will realistically meet EESC needs at the first referral health facility level.

A key element in the creation of a plan is the prioritization of objectives and strategies. During this process country teams will need to review surgery-specific data (where available), the economic and political context, and the donor environment to prioritize objectives and tailor the plan to fit country needs. An important step will be the costing component. This step helps to assess future financial needs for the programme, the resources currently available to implement the plan, and the additional resources needed to ensure that objectives are met.

The planning document for EESC at the first referral level can be influenced by other major global and national planning frameworks and should therefore be linked to broader health sector planning processes. For instance, it will be

¹ Ozgediz D, Hsia R, Weiser T, Gosselin R, Spiegel D, Bickler S, Dunbar p, McQueen K. Population Health Metrics For surgery: Effective Coverage of Surgical Services in Low- and Middle-Income Countries. *World J Surg* 2009 33: 1-5

important to make sure that the plan is synchronized with the following initiatives, to the extent possible.

Important linkages for this programme include:

- Millennium Development Goal (MDG) 1 - Eradicate extreme poverty
- MDG 4 - Reduce child mortality
- MDG 5 - Improve maternal health
- MDG 6 - Combat HIV/AIDs
- The national health sector plan
- Any health sector emergency preparedness and disaster response plan

1.2 What is a comprehensive EESC at the first referral level plan?

A comprehensive EESC at the first referral level plan:

- Provides national goals, objectives and strategies based upon a situational analysis
- Addresses all components of EESC at the first referral level relevant to the country
- Includes costing assessments
- Encourages links with other programmes
- Links the national EESC at the first referral level to health sector planning and financing

1.3 Why should EESC at first referral level be incorporated in a national health plan?

As a first estimate, conditions treatable by surgery account for 11% of the global burden of disease.² Although substantial progress has been made in addressing the burden of communicable and vaccine-preventable disease in low and middle income countries, there has been a gap in the management of diseases that are surgically treatable.³

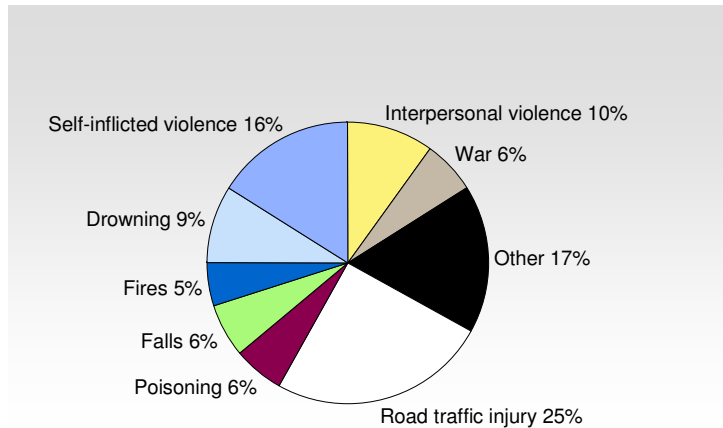
² Debas H, Gosselin R, McCord C, et al. Surgery. In: Jamison DT, Breman J, Measham AR, et al EDS. *Disease Control Priorities in Developing Countries*. New Your: Oxford University Press; 2006.

³ Spiegel DA, Gosselin RA. Surgical services in low-income and middle-income countries. *Lancet*. 2007 Sep 22;370(9592):1013-5.

Surgically addressable burden of disease at the first referral level:

- Injuries (e.g., from road traffic accidents - from which 1.2 million people lose their lives each year, violence, falls, and burns) [Figure 1.1]

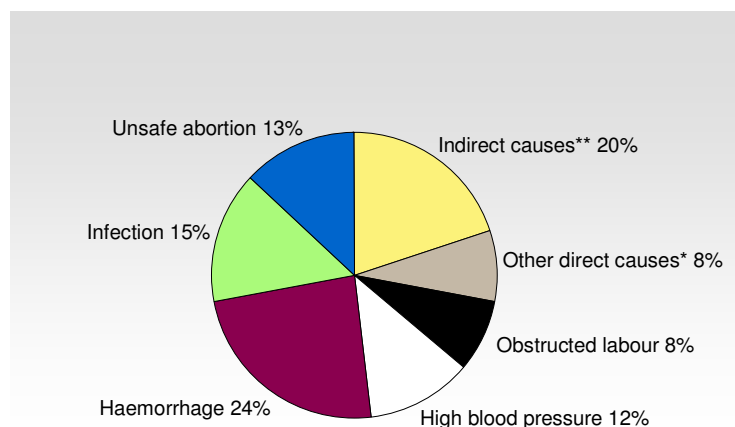
Figure 1.1 Causes of injury worldwide



Source: World Report on road traffic injury prevention, 2004: www.who.int/violence_injury_prevention

- Pregnancy related complications - every year over 500,000 women die before, during or after childbirth (complications requiring EESC include haemorrhage, obstructed labour, unsafe abortion, ectopic pregnancy). [Figure 1.2]

Figure 1.2 Causes of maternal death worldwide



* Other direct causes include ectopic pregnancy, embolism, and anaesthesia-related causes

** Indirect causes include anaemia, malaria and heart disease

Source: The World Health Report 2005: Make every mother and child count :

www.who.int/world-health-day/previous/2005/en/

- Anaesthesia is an integral component of EESC and anaesthesia-related complications have also been cited as a significant cause of maternal deaths
- Infection (e.g. wound infections, abscesses, and bone infections)
- Acute abdominal conditions (e.g. gastro-intestinal obstruction, perforation and strangulation)
- Congenital deformities (e.g. club foot)
- Other surgical conditions

Incorporation of EESC at district level health facilities, as a core function in the national health plan, can contribute towards the health-related MDGs (MDGs 4 and 5).⁴

Simple surgical interventions can be both life-saving and disability-preventing. These interventions should be carried out in an environment that optimizes quality and safety (i.e. incorporates WHO Best practice guidelines) [see Annex 1 WHO Best Practice Protocols Clinical Procedures Safety]

The package of EESC services offered at a health facility will differ depending on whether it is at the district or sub-district level, on the resources available (health personal skills, human and infrastructure), and on the needs of the local population.

[see Annex 2 Example of Primary Surgical Care Package and Annex 3 Anaesthesia Infrastructure]

The rationale for targeting first referral level facilities is as follows:

- The majority of care takes place at the district and sub-district level
- There is often insufficient time or resources to refer the patient to the next level
- Patients may be unable, or unwilling, to travel long distances to seek care
- First referral level facilities are at the centre of the community

Strengthening surgical services at this level requires investing in an enabling environment for health workers involved in the provision of emergency, surgical and anaesthetic care, which in turn strengthens health systems and primary care.⁵ Components of this enabling environment include availability of: basic infrastructure (running water, electricity and oxygen supply), materials for universal precautions, management systems and support (e.g. clinical records system, clinical guidelines), and opportunities for continuous professional development.

⁴ Spiegel DA, Gosselin RA. Surgical services in low-income and middle-income countries. *Lancet*. 2007 Sep 22;370(9592):1013-5.

⁵ The PLoS Medicine Editors A Crucial Role for Surgery in Reaching the UN Millennium Development Goals *PLoS* 2008 *PLoS Med*5 (8): e182.doi:10.1371/journal.pmed.0050182.

EESC capacity at the first referral level is also an important component of the health sector's emergency preparedness and disaster response. Strengthening infrastructure, human resources, and equipment for EESC all contribute to this capacity.

Knowledge and tools exist to improve EESC at the first referral level. However, to be effective, these resources must be available for healthcare workers at the frontline.

1.4 What can be done to reduce death and disability from surgical conditions at the first referral level?

The following strategic objectives underpin EESC provision at the first referral level:

- Giving EESC high priority in government policies and providing an enabling environment through leadership and good governance
- Using cost-effective primary surgical interventions at the appropriate level of care, and catering to the full range of first referral level needs
- Provision of skilled care, ensuring timely access and universal coverage, through a functioning health system⁶
- Building a continuum of care with the provision of back-up referral to the next level where necessary
- Working with patients, their families, and communities to instil trust in local health facilities

1.5 What does this planning guide contain?

This tool provides guidance for health authorities on :

- Collaborating with stakeholders committed to strengthen emergency, surgical and anaesthetic services at the first referral health facility level
- Assessing the gaps in EESC (infrastructure, human resources, equipment, management systems and continuing professional development) at first referral level facilities
- Enabling frontline healthcare workers to perform the necessary emergency, surgical and anaesthetic interventions to save lives and minimize deformity
- Ensuring the availability of EESC at the first referral level
- Monitoring health system indicators for access to EESC at first referral health facility level

⁶ Options for universal access include the scale up of a limited set of interventions to the entire population or a progressive roll-out of more comprehensive primary surgical care systems on a district-by-district basis. WHO World Health Report 2008 *Primary Health Care: Now More Than Ever*.

2. Developing an EESC plan for first level health facilities

2.1 How to start?

The planning process is most effective when a wide range of stakeholders is involved and encouraged to work together as a team. Stakeholders will need to have a common understanding of the key issues for EESC at the first referral level and to share institutional goals and expectations.

Potential stakeholders should include:

- **Policy makers** to ensure political commitment and consistency with government vision and national health policy and strategic plan
- **Health managers** to ensure strong leadership for provision of EESC at the first referral level
- **Health professionals** to ensure representation of both medical and paramedical providers of EESC services
- **Community representatives** (including women) to suggest barriers that must be addressed for optimal access and coverage to be achieved
- **Civil society/NGOs** to represent other providers who may play an important role in EESC provision
- **Academic institutions** to represent the role that health sciences and health economics teaching institutions play in pre and in-service capacity building and research
- **Professional societies** to represent the wide range of professional groups involved in the provision of EESC
- **Representatives from other national programmes** (e.g. Maternal and Child Health, Violence and Injury Prevention, HIV programme, Buruli Ulcer, Emergency and Disaster preparedness) to support the integration of EESC at the first referral level into all relevant programmes
- **Representatives from other sectors** (e.g. finance, education, gender, communication, transport etc) to ensure universal coverage is achieved
- **Development partners** who may be involved in resource mobilization and technical support at global, national and district levels

2.2 How to proceed?

Good leadership is crucial for an effective and transparent planning process. The leading role for the process should be played by the MOH (for EESC planning at the national level) or the Head of the District Management Team (for EESC planning at the district level).

A Core Planning Group (CPG), comprising 6 to 12 people, could be set up to carry out the following activities:

- Select a chairperson who will provide technical leadership for the whole planning process
- Identify 1 or 2 members of the CPG who have the capacity to write a draft plan
- Design the methodology to be used to develop the plan
- Identify key stakeholders (see section 2.1) who will be consulted for inputs along the planning process - the Stakeholder Planning Group (SPG)
- Define the timeline as well as roles and responsibilities for those involved in the planning process
- Collect the required data (e.g., using the *WHO Tool for Situational Analysis to Assess Emergency and Essential Surgical Care*)
- Develop the draft EESC at first referral level plan
- Present the draft plan to stakeholders for inputs and comments
- Write the final EESC plan for first referral level plan

Key activities for the SPG:

- Give any relevant information about EESC community needs and priorities to be addressed, particularly for vulnerable groups
- Provide input on how EESC at the first referral level service quality could be improved
- Provide input on potential community participation for a more effective service
- Provide input on potential contribution from other stakeholders and development partners
- Provide comments about the draft EESC plan for the first referral level

Both the CPG and SPG will have the responsibility of reaching consensus on goals, priorities, activities/services, expected outcomes, and budget to be included in the final EESC plan for the first referral level, which should then be adopted by stakeholders.

2.3 Steps in the planning process

2.3.1 The planning process begins with a situational analysis to assist health managers and partners to set and prioritize national objectives and milestones and develop strategies and key activities to achieve those national objectives and milestones. A timeline for activities should be developed and reviewed to ensure that the activities can be accomplished during the pre-determined timeframe (e.g. three to five years).

2.3.2 The next step involves the analysis of costs (resource requirements), financing, and financing gaps. It is likely that projections will show a gap between resource requirements and financing sources. The analysis of the financing gap will involve the identification of what is driving programme costs and the prospects for mobilizing more resources. Once the results of the cost and financing analysis are known, the question of whether the national objectives can be achieved at lower cost will arise. The answer to this question can be determined through a repetitive process of evaluating alternative scenarios for achieving these objectives. Once the plan is developed, it must be approved by the programme and its partners, disseminated and most importantly implemented on an annual basis. It is useful to have indicators which monitor the progress of the EESC plan for the first referral level

Outline of the steps in the planning process:

- Step 1. Conduct a situational analysis on EESC
- Step 2. Develop and prioritize national objectives and milestones
- Step 3. Create a timeline
- Step 4. Analyse the costs, financing and financing gap
- Step 5. Select activities to strengthen EESC at the first referral level

Step 1. Conduct a situational analysis on EESC

The planning cycle starts with a situational analysis focusing on policy issues, facilities, human resources and equipment. With this information managers and planners can decide how to ensure accessible, quality EESC services at first referral level health facilities; to make EESC programme improvements, and to achieve national and district level objectives.

The objective of this assessment is to identify gaps between current EESC at first referral level status and national and district level targets. The focus of the analysis is on existing health facilities at both district and sub-district levels, and may be carried out on a regional basis initially.

The *WHO Tool for Situational Analysis to Assess Emergency and Essential Surgical Care* has been developed to identify these gaps in first referral level health facilities at district and sub-district level. It includes sections on assessing

a facility's surgical and anaesthetic infrastructure, equipment, human resources, management systems, the types of surgical procedures carried out, and the availability of emergency equipment and supplies for resuscitation.

[See annex 4 Tool for Situational Analysis to Assess Emergency and Essential Surgical Care]

These analyses may highlight areas where EESC needs to be improved. It is important also to refer to recommendations from previous evaluations and assessments of EESC at first referral level health facilities. These should also be incorporated in the plan.

Step 2. Develop and prioritize national objectives and milestones

The aim of this step is to 1) develop national objectives and milestones, 2) to align them with global and regional goals, and 3) to prioritize these objectives and milestones based on the evidence of gaps from the situational analysis and from the costing and financing analyses.

Depending on the situation analysis and the size of the gap a country may decide to focus initially on a certain region or district, and also on a certain package of EESC that is to be offered. This package of EESC may vary depending on the size, location, existing infrastructure and human resources in the health facility, and on the needs of the local population.

[see annex 2 proposed primary surgical care package]

Step 3. Create a timeline

Step 4. Analyse the costs, financing and financing gap

[see annex 5 Emergency and Essential Surgical Services at the first referral level multi-year plan costing example]

Step 5. Select activities to strengthen EESC at first referral level

Annex 1



Best Practice Protocols **Clinical Procedures Safety**

List of Contents

1. Ethics- Patient Consent
2. Record keeping
3. Operating Room (O.R.)
4. Hand Washing Techniques
5. Scrubbing and gowning
6. Prevention of Transmission of HIV
7. Infection Prevention and Universal Precautions
8. Waste disposal in clinical procedures at resource limited health care facility
9. Diagnosis of Labour
10. Diagnosis of vaginal bleeding in early pregnancy
11. Severe Pre-Eclampsia and Eclampsia
12. Eclampsia Management
13. Urinary Retention: Emergency Drainage
14. Caesarean Section
15. Check List Prior to inducing anaesthesia
16. Managing unexpected effects of a spinal anaesthetic
17. Postoperative management
18. Postoperative pain relief
19. Cardiac life support
20. Airway Management
21. Surgical Cricothyroidotomy
22. Cast Application
23. Splint application
24. Caring for a cast or splint
25. Removing a cast
26. Hand lacerations
27. Disaster Planning
28. Trauma Team Leader Responsibilities
29. Abdominal Trauma
30. Burns Management: adults and children
31. War-related Trauma
32. Transportation of critically ill patients

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Internet: www.who.int/surgery

Topics available at

<http://www.who.int/surgery/publications/BestPracticeProtocolsCPSafety07.pdf>

Best Practice Guidelines on Emergency Surgical Care in Disaster Situations

These guidelines have been extracted from the WHO manual *Surgical Care at the District Hospital (SCDH)*, which is a part of the WHO *Integrated Management on Emergency and Essential Surgical Care (IMEESC)* tool kit.

The following materials relevant to country's disaster situation should be taken from the IMEESC tool:

- Best practice protocols for Clinical Procedures Safety (disaster planning, trauma team responsibilities, hand hygiene, operating room, and anaesthesia check list, postoperative management, application of cast and splints, cardiac life support, airway management),
- Needs assessment
- Essential Emergency Equipment List
- Details of anaesthesia, gunshot and landmine injuries in chapters 13, 14, 17 and 18, in SCDH

List of Contents

1. Antibiotic Prophylaxis
2. Antibiotic Treatment
3. Tetanus Prophylaxis
4. Failure of Normal Methods of Sterilization
5. Cleaning, Disinfection and Sterilization
6. Waste Disposal
7. Resuscitation
8. Unconsciousness
9. Wound Management
10. Hand Lacerations
11. Specific Lacerations and Wounds
12. Amputations
13. Drains
14. Insertion of Chest Drain and Underwater Seal Drainage
15. Cellulites and Abscess
16. Open Fractures
17. Upper Extremity injuries
18. Lower Extremity injuries
19. Spine injuries
20. Fractures in children
21. Compartment syndrome
22. Fat embolism syndrome
23. Female genital injury
24. Postoperative care
25. Ketamine anaesthesia

Topics available at

<http://www.who.int/surgery/publications/Disastermanagguide.pdf>

Annex 2



Primary Surgical Package (PSP) Example Procedures from WHO manual *Surgical Care at the District Hospital* (SCDH)

Procedures requiring advanced skills can be integrated into the PSP to meet country needs.

Procedures	SCDH Page
Resuscitation (airway, bleeding, CPR)	13-1
Peripheral venous cut down	13-14
Cricothyroidotomy/tracheostomy	PTCM-5/16-10
Chest tube insertion & needle decompression	16-8
Suturing, laceration & wound management	Ch. 4, Ch. 5
Incision & Drainage of abscesses	5-19
Burns management	5-13
Removal of foreign body	5-16
Suprapubic puncture/cystostomy	9-4
Fracture immobilization	17-6/18-1
Dilatation & Curettage for retained products of conception	12-18
Local anaesthesia	14-21
Ketamine anaesthesia	14-25
Spinal anaesthesia	14-23
Procedures Requiring Advanced Training Skills	
Cesarean section	11-13
Uterine rupture/ectopic pregnancy	12-19/12-21
Skin grafting & contracture release	5-3
Biopsies & needle aspiration	5-30
Hernia repair	8-1
Hydrocoelelectomy	9-11
Laparotomy for acute abdomen	6 & 7
Fractures reduction	17-6
Curettage for chronic osteomyelitis	19-6
Amputation	18-31
Male circumcision	9-8
Club foot repair	19-3
General anaesthesia (inhalation)	14-1

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Annex 3



**Guide to Anaesthetic Infrastructure and Supplies
at Various Levels Of Health Care Facilities
Emergency and Essential Surgical Procedures**
(Compiled from WHO manual Surgical Care at the District Hospital 2003)

Level 1 Small hospital / health centre	Level 2 District/provincial hospital	Level 3 Referral hospital
<ul style="list-style-type: none"> Rural hospital or health centre with a small number of beds and a sparsely equipped operating room (O.R) for minor procedures Provides emergency measures in the treatment of 90–95% of trauma and obstetrics cases (excluding caesarean section) Referral of other patients (for example, obstructed labour, bowel obstruction) for further management at a higher level 	<ul style="list-style-type: none"> District or provincial hospital with 100–300 beds and adequately equipped major and minor operating theatres Short term treatment of 95–99% of the major life threatening conditions 	<ul style="list-style-type: none"> A referral hospital of 300–1000 or more beds with basic intensive care facilities. Treatment aims are the same as for Level 2, with the addition of: <ul style="list-style-type: none"> Ventilation in O.R and ICU Prolonged endotracheal intubation Thoracic trauma care Haemodynamic and inotropic treatment Basic ICU patient management and monitoring for up to 1 week : all types of cases, but with limited or no provision for: <ul style="list-style-type: none"> - Multi-organ system failure - Haemodialysis - Complex neurological and cardiac surgery - Prolonged respiratory failure - Metabolic care or monitoring
Procedures	Procedures	Procedures
<ul style="list-style-type: none"> Normal delivery Uterine evacuation Circumcision Hydrocele reduction, incision and drainage Wound suturing Control of haemorrhage with pressure dressings Debridement and dressing of wounds Temporary reduction of fractures Cleaning or stabilization of open and closed fractures Chest drainage (possibly) 	Same as Level 1 with the following additions: <ul style="list-style-type: none"> Caesarean section Laparotomy (usually not for bowel obstruction) Amputation Hernia repair Tubal ligation Closed fracture treatment and application of plaster of Paris Eye operations, including cataract extraction Removal of foreign bodies: e.g. in the airway Emergency ventilation and airway management for referred patients such as those with chest and head injuries 	Same as Level 2 with the following additions: <ul style="list-style-type: none"> Facial and intracranial surgery Bowel surgery Paediatric and neonatal surgery Thoracic surgery Major eye surgery Major gynaecological surgery, e.g. vesico-vaginal repair
Personnel	Personnel	Personnel
<ul style="list-style-type: none"> Paramedical staff without formal anaesthesia training Nurse-midwife 	<ul style="list-style-type: none"> One [two] trained anaesthetists District medical officers, senior clinical officers, nurses, midwives Visiting specialists or resident surgeon and/or obstetrician/ gynaecologist 	<ul style="list-style-type: none"> Clinical officers and specialists in an anaesthesia and surgery
Drugs	Drugs	Drugs
<ul style="list-style-type: none"> Ketamine 50 mg/ml injection, 10 ml Lidocaine 1% or 2% [Diazepam 5 mg/ml injection, 2 ml] injection Pethidine 50 mg/ml injection, 2 ml] [Epinephrine (adrenaline)] 1 mg [Atropine 0.6 mg/ml] 	Same as Level 1, but also: <ul style="list-style-type: none"> Thiopental 500 mg/1g powder Suxamethonium bromide 500 mg powder Atropine 0.5 mg injection Epinephrine (adrenaline) 1 mg injection Diazepam 10 mg injection Halothane 250 ml inhalation [Ether 500 ml inhalation] 	Same as Level 2 with the following additions: <ul style="list-style-type: none"> Vecuronium 10 mg powder Pancuronium 4 mg injection] Neostigmine 2.5 mg injection Trichloroethylene 500 ml inhalation] Calcium chloride 10% 10 m injection Potassium chloride 20% 10 ml injection

	<ul style="list-style-type: none"> • Lidocaine 5% heavy spinal solution 2 ml • Bupivacaine 0.5% heavy or plain, 4 ml] • Pethidine 50 mg injection • [Hydralazine 20 mg injection] • Frusemide 20 mg injection • Dextrose 50% 20 ml injection • Aminophylline 250 mg injection • Ephedrine 30/50 mg ampoules 	for infusion
Equipment: capital outlay	Equipment: capital outlay	Equipment: capital outlay
<ul style="list-style-type: none"> • Adult and paediatric resuscitators • Foot sucker • [Oxygen concentrator] 	<p>Complete anaesthesia, resuscitation and airway management system consisting of:</p> <ul style="list-style-type: none"> - Oxygen source - Vaporizer(s) - Hoses - Valves - Bellows or bag to inflate lungs - Face masks (sizes 00–5) - Work surface and storage Paediatric anaesthesia system - Adult and paediatric resuscitator sets • Pulse oximeter • Laryngoscope Macintosh blades 1-3(4) • Oxygen concentrator[s] [cylinder] • Foot sucker [electric] • IV pressure infusor bag • Adult and paediatric resuscitator sets • Magills forceps (adult and child), intubation stylet and/or bougie 	<p>Same as Level 2 with the following additions (one of each per O.R or per ICU bed, except where stated):</p> <ul style="list-style-type: none"> • Pulse oximeter, spare probes, adult and paediatric* • ECG (electrocardiogram) monitor* • Anaesthesia ventilator, electric power source with manual override • Infusion pumps (2 per bed) • Pressure bag for IVI • Electric sucker • Defibrillator (one per O.R / ICU) • [Automatic B.P. machine*] • Capnograph*] • [Oxygen analyzer*] • Thermometer [temperature probe*] • Electric warming blanket • Electric overhead heater • Infant incubator • Laryngeal mask airways sizes 2, 3, 4 (3 sets per O.R) • intubating bougies, adult and child (1 set per O.R) <p>* It is preferable to buy combined modalities all in one unit</p>
Equipment: disposable	Equipment: disposable	Equipment: disposable
<ul style="list-style-type: none"> • IVI equipment • Suction catheters size 16 FG • Examination gloves 	<ul style="list-style-type: none"> • VI equipment (minimum fluids normal saline, Ringer's lactate and dextrose 5%) • Suction catheters size 16 FG • Examination gloves • Sterile gloves sizes 6–8 • Nasogastric tubes sizes 10–16 FG • Oral airways sizes 000–4 • Tracheal tubes sizes 3–8.5 • Spinal needles sizes 22 G and 25G • Batteries size C 	<p>Same as Level 2 with the following additions:</p> <ul style="list-style-type: none"> • ECG dots • Ventilator circuits • Yankauer suckers • Giving sets for IVI pumps • Disposables for suction machines • Disposables for capnography, oxygen analyzer, in accordance with manufacturers' specifications: <ul style="list-style-type: none"> - Sampling lines - Water traps - Connectors - Filters– Fuel cells

Number of patients to this facility that you refer for surgical intervention to a higher level facility per year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How far (in Km) does the average patient travel to get to your health facility for surgical services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If you do not provide surgical services, how far does the average patient travel (in Km) to access surgical services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	All the time	Sometimes	Not available
Do you have Oxygen cylinder supply?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have Oxygen concentrator supply?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have running water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have electricity source?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have an operational power generator?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have functioning anaesthesia machine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you keep medical records ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have an area designated for Emergency care?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have an area designated for Postoperative care?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have management guidelines available for Emergency care?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have management guidelines available for Surgery?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have management guidelines available for Anesthesia?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have management guidelines available for Pain Relief?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have blood bank available at the facility?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have facility to test haemoglobin & urine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have functioning X-ray machine available ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have functioning Pulse Oximeter available ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION B: HUMAN RESOURCES

	Number of Full Time Workers <input type="checkbox"/>	Number of Part Time Workers <input type="checkbox"/>	Number Certified/Registered/Licensed <input type="checkbox"/>

Surgeons (qualified)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Anaesthesiologist Physician (qualified)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Obstetrician/gynecologist (qualified)	<input type="text"/>	<input type="text"/>	<input type="text"/>
General doctors providing surgery	<input type="text"/>	<input type="text"/>	<input type="text"/>
General doctors providing anesthesia	<input type="text"/>	<input type="text"/>	<input type="text"/>
Nurse/Clinical/Assistant medical officers providing anesthesia	<input type="text"/>	<input type="text"/>	<input type="text"/>
Clinical/Assistant medical officers providing surgery	<input type="text"/>	<input type="text"/>	<input type="text"/>
Paramedics/Midwives	<input type="text"/>	<input type="text"/>	<input type="text"/>

SECTION C: INTERVENTIONS - DO YOU PROVIDE THESE PROCEDURES?

	Yes / No	Do you refer?	Refer due to lack of skills	Refer due to non-functional equipment	Refer due to lack of Supplies/Drugs
Resuscitation (airway, hemorrhage, peripheral percutaneous intravenous access, peripheral venous cut down)	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Cricothyroidotomy /Tracheostomy	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Chest tube insertion	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Removal of foreign body (throat/eye/ear/nose)	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Acute burn management	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Incision & drainage of abscess	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Suturing (for wounds, episiotomy, cervical & vaginal lacerations)	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Wound debridement	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Cesarean Section	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Dilatation & Curettage gyn/obstetrics	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Obstetric fistula repair	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Appendectomy	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Hernia repair (strangulated, elective)	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Hydrocele	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>
Cystostomy	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>

Urethral stricture dilatation	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Laparotomy (uterine rupture, ectopic pregnancy, acute abdomen, intestinal obstruction, perforation, injuries)	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Male circumcision	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Congenital hernia repair	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Neonatal surgery: abdominal wall defect, colostomy imperforate anus, intussusceptions	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Cleft lip repair	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Clubfoot repair	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Contracture release/skin grafting	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Closed Treatment of Fracture	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Open Treatment of Fracture	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Joint Dislocation treatment	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Drainage of Osteomyelitis/Septic Arthritis	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Amputation	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Biopsy (lymph node, mass, other)	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Tubal ligation/Vasectomy	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Cataract surgery	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Regional anesthesia blocks	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Spinal anaesthesia	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
Ketamine intravenous anaesthesia	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>
General anaesthesia inhalational	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>	yes <input type="checkbox"/>	no <input type="checkbox"/>

SECTION D: EMERGENCY EQUIPMENT AND SUPPLIES FOR RESUSCITATION		
For details refer WHO IMEESC toolkit www.who.int/surgery/publications/imeesc ; WHO ETC guidelines www.who.int/violence_injury_prevention/services ; WHOEML www.who.int/medicines/publications		
	0 absent	1 available with frequent shortages or difficulties
		2 fully available for all the patients all of the time

Resuscitator bag valve & mask (adult)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resuscitator bag valve & mask (paediatric)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oxygen source: cylinder/concentrator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mask & Tubing to connect to oxygen supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stethoscope	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Batteries for flash light	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suction pump (manual or electric)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blood pressure measuring equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thermometer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scalpel handle with blade	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Retractor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scissors straight 12 cm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scissors blunt 14 cm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oropharyngeal airway (adult size)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oropharyngeal airway (paediatric size)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forceps Kocher no teeth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Forceps, artery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kidney dishes stainless steel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capped bottle, alcohol based solutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gloves (sterile) sizes 6 to 8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gloves (examination)small, medium, large	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Needle holder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sterilizer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nail brush, scrubbing surgeon's	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vaginal speculum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bucket, plastic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drum for sterile compresses, bandages, dressings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Examination table	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Renewable Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suction catheter sizes 16 FG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tongue depressor wooden disposable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nasogastric tubes 10 to 16 FG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Light source (lamp & flash light)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intravenous fluid infusion set	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IV cannula sizes 18,22, 24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scalp vein infusion set	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Syringes 2ml	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Syringes 10 ml	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Disposable needles # 25, 21,19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sharps disposal container	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tourniquet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sterile gauze dressing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bandages sterile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adhesive Tape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Needles, cutting & round bodied (for suturing)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suture synthetic absorbable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Splints for arm, leg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Towel cloth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Absorbent cotton wool	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urinary catheter Foleys disposable #12, 14,18 with bag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sheeting, plastic for examination table	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waste disposal container	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Face masks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eye protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Apron, plastic reusable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soap	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wash basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supplementary equipment for use by skilled health professionals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magills Forceps (paediatric)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magills Forceps (adult)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Endotracheal tubes uncuffed sizes 3.0 to 5.0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Endotracheal tubes cuffed sizes 5.5 to 9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IV Infusor bags	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chest tubes insertion equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Laryngoscope handle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Laryngoscope Macintosh blades (adult)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Laryngoscope Macintosh blades (paediatric)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spare bulbs, batteries for laryngoscope	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cricothyroidotomy set	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Form available online for electronic submittal at
<http://www.who.int/surgery/publications/QuickSitAnalysisEESCsurvey.pdf>

Detailed Table example

Cost category in US\$	Cost per unit in US\$	Quantity	2010	2011	2012	2013	2014	2015
MOH level								
Personnel for programme coordination		1 Full Time Equivalent						
Salary for programme manager (PM)		1 Full Time Equivalent						
Salary for administrative support								
Monitoring and evaluation								
PM attendance at biannual WHO GIEESC meeting								
Country level training programme								
Training centre of excellence								
Establish facility and set up surgical skills lab								
Skills lab equipment								
Training facilitators								
Update and local adaptation of training programme								
Dissemination of training tools (CD, manual etc)								
District and sub-district health facility level		(Infrastructure gap per facility) x (number of facilities)						

Infrastructure								
Running water								
Electricity supply								
Oxygen supply								
Clinical waste management system								
Clinical records system								
Designated area for emergency care (depending on level of facility)								
Designated area for post-operative care (depending on level of facility)								
WHO Generic Essential Equipment list at the first referral health facility (www.who.int/surgery/publications/imeesc)		(Equipment gap per facility) x (number of facilities)						
<i>Capital outlay</i>								
Resuscitator bag valve and mask (adult)								
Resuscitator bag valve and mask (paediatric)								
Oxygen source (cylinder or concentrator)								
Mask and Tubings to connect to oxygen supply								
Light source to ensure visbilty (lamp and flashlight)								
Stethoscope								
Suction pump (manual or electric)								
Blood pressure measuring equipment								
Thermometer								
Scalpel #3 handle with #10,11,15 blade								

Scalple #4 handle with #22 blade								
Scissors straight 12 cm								
Scissors blunt 14 cm								
Oropharyngeal airway (adult size)								
Oropharyngeal airway (paediatric size)								
Forcep Kocher no teeth 12-14 cm								
Forcep, artery								
Kidney dish stainelss steel appx. 26x14cm								
Tourniquet								
Needle holder								
Towel cloth								
Waste disposal container with plastic bag								
Sterilizer								
Nailbrush, scrubbing surgeon's								
Vaginal speculum								
Bucket, plastic								
Drum for compresses with lateral clips								
Examination table								
Wash basin								
<i>Renewable Items</i>								
Suction catheter sizes 16 FG								
Tongue depressor wooden disposable								
Nasogastric tubes 10 to 16 FG								
Batteries for flash light (size C)								

Intravenous fluid infusion set								
Intravenous cannula # 18,22,24								
Scalp vein infusion set # 21,25								
Syringes 2 ml								
Syringes 10 ml								
Disposable needles # 25,21,19								
Sharps disposal container								
Capped bottle, alcohol based solutions								
Sterile gauze dressing								
Bandages sterile								
Adhesive tape								
Needles, cutting and round bodied								
Suture synthetic absorbable								
Splints for arm, leg								
Urinary catheter Foleys disposable #12,14,18 with bag								
Absorbant cotton wool								
Sheeting, plastic PVS clear 90x180 cm								
Gloves (sterile) sizes 6 to 8								
Gloves (examination) sizes small, medium, large								
Face masks								
Eye protection								
Apron, utility plastic reusable								
Soap								

Inventory list of equipment and supplies								
Best practice guidelines for emergency care								
<i>Supplementary equipment for use by skilled health professionals</i>								
Laryngoscope handle								
Laryngoscope MacIntosh blades (adult)								
Laryngoscope MacIntosh blades (paediatric)								
IV infusor bag								
Magills forceps (adult)								
Magills forceps (paediatric)								
Stylet for intubation								
Spare bulbs and batteris for laryngoscope								
Endotracheal tubes cuffed (# 5.5 to 9)								
Endotracheal tubes cuffed (# 3.0 to 5.0)								
Chest tube insertion equipment								
Cryothyroidotomy								
Training material supplies per facility		(Number of copies per facility) x (total number of facilities)						
WHO IMMESC toolkit (CD or hardcopy depending on health facility's IT capability)								
Network of facilities level EESC training								
Administration of EESC training								

Classroom and practical skills lab space rental								
Instructor training support								
Participants training support								
Grand Total								

