**“Supplementary”**

**Supplement 1: Participants’ quotes**

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| **Theme/ Sub theme** | **Quotes** | **Participant** |
| **Trauma care importance** | | |
| 1. The involved Individuals’ being young and productive | “Trauma-induced disabilities cause people not to be so beneficial in the future and need to rehabilitation. On the other hand, rehabilitation services, such as physiotherapy and artificial organs, may be very costly” | Emergency Medicine 1- General surgeon 1 |
| 1. Effectiveness of trauma care | “Fracture, is the simplest trauma that may occur in car accidents. However, it can be treated quickly by using a simple care service. However, if the care is not accurate, this fracture may turn in to an open fracture. In this case, edge of the bone can cut through and injure the skin and result in strange events ranging from infection to embolus”  “One who suffers from trauma may experience increasing trauma degree. In an appendix, the degree of damage may not go high. But, in a person with trauma, if the care is not taken accurately, the patient continually goes from one stage to the higher one and ultimately may die. For example, a simple brain damage can turn in to a serious problem and lead to surgery and, even death”  “Some damages are latent. For example, one who appears a healthy person may suffer pelvis bleeding and in the absence of adequate cares his/her status will worsen” | Emergency Medicine 2-General physician 2  General surgeon 1  Nurse 2 |
| **Trauma care indicators** | | |
| 1. Pre-hospital indicators | “Suppose, for example, two patients, one with shoulder fracture and the other with femur fracture, have been transported to hospital. Relying on his/her previous knowledge, the nurse in charge thinks that the priority is with the patient with femur fracture. But, if the technician let the nurse know that the one with shoulder fracture suffers arrhythmia too, the nurse will surely give priority to this patient” | Orthopedic specialist 2 |
| 1. In-hospital indicators | “Cooperation and consultation of specialists in the form of trauma team is of high importance. Suppose that a patient needs brain surgery and at the same time suffers internal problems too. In this case, if specialists intervene in accordance with the standards of their own field of study, the procedure will damage the patient. In this case, the specialists should assess priorities and determine which problem should be prioritized”  “At times, physicians do not attend patients timely and this needs to be further investigated whether it is related to workload or other issues”.  “Patients with high triage level are in a critical condition. For example, patients with severe fractures and low consciousness have critical condition. Patients with abdominal pressure require laparoscopy. The time it takes to transport such patients to surgery rooms is a vital indicator”  “A query of an online system may reveal that, for example, a physician has assayed 14 patients while another one has evaluated 25 patients at the same time. Further assessments may reveal that the former lacks required concentration for clinical checkups and needs psychological supports”  “After GCS is determined, particular measures should be taken. Generally, when this indicator falls below 8, intubation is recommended”    “GAP classifies patients in to three classes: mild, moderate and severe. Percentage of death rate in each group is definite. Given some factors such as age, blood pressure and GCS, GAP score can be calculated for the hospital under study. Then, the obtained score for each group of the patients can be compared with global value”  “If a patient arrives at hospital with a long bone fracture and immobilization process is not performed accurately, the fractured bone may cut the patient’s artery. In this case, if the physician or nurse realizes this problem and the patient may be transported to the surgery room, and the artery may be repaired. However, if injury is not detected; we may even face ischemia or thrombosis”.  “The physical space of emergency centers should be designed ergonomically, that is the equipment with similar applications should be laid out in the same direction” | General surgeon 2  Emergency Medicine 3  Neurosurgeon 1  Emergency Medicine 2  Neurosurgeon 1  Emergency Medicine 1  General physician 1    General physician 1 |
| 1. Post-hospital indicators | “GOS categorizes a patient within a range varying from recovery to death. The subcategories of this criterion are: health, mild disability, moderate disability, vegetative state and death”. | Emergency physician 1- Neurosurgeon 1 |
| **Stages of trauma care evaluation** | | |
| 1. Evaluation prerequisites | “The process of trauma care evaluation should consider different levels trauma centers and their capabilities in order to enable the accurate benchmarking of the centers” | Orthopedic specialist 3 |
| 1. Finalizing indicators prior to evaluation | “After revising indicators, we may realize that some have no relationship with pleasing/non-pleasing outcomes and should be discarded” | General physician 1  Nurse 2 |
| 1. Evaluation time scope | “Doctor’s attendance to patients’ bed may be checked daily. In addition, mortality rate and the quality of services may be evaluated on a monthly and weekly basis, respectively. For a patient with respiratory distress, who needs to be emergently intubated, the time between doctor’s visit and making decision on intubation should be checked daily or, even, per case. Some indicators such as hospital-acquired infections with lower incidence can be evaluated once every six months, or even, annually” | General physician 1 |
| 1. Dimensions of evaluation | “ Evaluation is effective when it is comprehensive” | Health Service Manager 1 |
| 1. Monitoring and evaluation | “Whenever evaluation and execution are merged, a potential corruption is generated because personal interests may be taken into account in the evaluation process” | Emergency physician 2 |
| 1. Use of evaluation results | “It is better to investigate 5 cases of the incidences along with patients’ records and relevant documents in different committees in order to discover the root causes of such accidents”  “During evaluations, first the phenomenon is described and, then, results are investigated. Although investigating the root cause may be a time-consuming process, the main cause is discovered, instead. For example, it is discovered whether or not the cause of spinal cord injury in a car accident is related to car and road specifications”. | Emergency Medicine 2  General physician 3 |
| **Improvement of trauma care** | | |
| 1. Balancing workload of trauma centers | “If trauma poles are defined in all provinces, workload will be distributed evenly among the centers” | Orthopedic specialist 2  General surgeon 1 |
| 1. Enhancement of information systems | “To show the importance of data, data collectors should be appreciated. In addition, the outcomes of data utilization and their role in the improvement of process can be publicized” | Nurse 3 |
| 1. Extra-organizational dimensions in trauma cares | “In car accident-induced traumas, the promotion of traffic culture, and road and car safety are likely the necessary actions to be taken” | Nurse 2 |
| 1. Empowerment of trauma care providers | “There has been always this wrong view that unsuccessful and sloth nurses are transferred to emergency centers to continue their job there whereas trauma cares demand specialized and routine services requiring trained nurses, not temporary personnel” | General physician 1 |

**Supplement 2: Indicators of difference phase of service delivery**

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| **Post hospital indicators** | **In-hospital indicators** | **Pre-hospital indicators** |
| * Physiotherapist’s visit before discharge * Re-visits in clinics * Evaluation of performance using GOS * Interventions of social worker on trauma patients including referring to patients’ home | * Availability of clinical guidelines * Appropriate triage * Waiting time for doctor’s visit * Active trauma team * Waiting time for receiving Para clinical services * Injury severity * Disposition time including discharge time, hospitalization in wards, transportation time, time for transporting patients to surgery rooms * Adequacy of equipment, human resource and physical space * Occurrence of unwilling cases * CPR * Hospital-acquired infections * Mortality * Registering time and information of patients * Respiratory cares * Bed sore cares * Post-surgery cares * Creating appropriate feeding ways | * Quality of transporting patients to hospital * Time interval of transportation * Appropriate immobilization interventions * Controlling patients’ airways * Creating safe airways * Knowledge of ambulance technician * Adequacy of ambulance equipment * Completeness of pre-hospital reports * Performance of patient transportation committee |