Strategic directions to integrate emergency care services into primary health care in the South-East Asia Region

Originally developed during Expert Group meeting on
"Regional Strategy to integrate Emergency and Trauma Care into Primary Health Care (PHC) in SEAR",
23–25 August 2018, Bangkok, Thailand

Revised by the Expert Group at its virtual meetings held on 7 May 2020 and 27 May 2020

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(The first Expert Group meeting was held from 23–25 August 2018 at Thai Health Premises, Bangkok, Thailand. Subsequently, on 7 May 2020 and 27 May 2020, virtual meetings were held with the experts to revise strategic directions, during which a small group worked to collate the recommendations and produce the revised draft.)

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Foreword

Emergency care systems (ECS) are an essential part of health service delivery. Well-designed emergency care facilitates the timely recognition, treatment and, when needed, continued treatment of acutely ill people at the appropriate level of the health system. Though most primary care initiatives are characterized by a focus on longitudinal and preventive care, many people seek care only when acutely ill or injured, especially where there are logistical or financial barriers to accessing health care. Frontline providers manage children and adults with a wide range of emergency conditions, including acute injuries, infections, complications of pregnancy and exacerbations of noncommunicable diseases.

In 2019 the Seventy-second World Health Assembly recognized that many proven health interventions are time dependent and that an integrated ECS provides an effective platform for the delivery of accessible, quality and time-sensitive healthcare services for acute illnesses and injury throughout the life-course. The provision of integrated ECS will help achieve Sustainable Development Goal 3 and reduce health inequalities by ensuring access for all people to well organized, safe and high-quality ECS.

All people in the WHO South East Asia Region must have access to evidence-based, timely, life-saving, free-of-cost emergency care. This document, which is primarily the result of a WHO-convened meeting of global and regional experts, senior government officials and WHO collaborating centres, provides Member States strategic guidance on how to integrate ECS into existing primary health care structures. The strategic directions contained herein aim to convert fragmented emergency care into care that is integrated into primary level services and, where appropriate, at secondary and tertiary levels.

The COVID-19 pandemic has exposed the challenges that Member States face with regard to ECS and deficiencies in emergency preparedness. To help overcome such challenges, this document identifies and addresses key weaknesses that the outbreak has revealed and incorporates additional recommendations made by the virtual meeting of experts, held in May 2020. The document outlines how the implementation of quality ECS can strengthen the COVID-19 response and enhance preparedness for other global or local disasters in future.

I urge all stakeholders to make full use of this resource to achieve a Region in which quality ECS are accessible to all and in which health systems more efficiently coordinate emergency care at all levels. By strengthening ECS, countries will have greater capacity to respond effectively to day-to-day emergencies and will be better prepared to prevent and mitigate the impact of acute public health events from all hazards.

Together we must act.

Dr Poonam Khetrapal Singh
Regional Director
WHO South-East Asia Region

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The role and contribution of the WHO Collaborating Centre for Emergency and Trauma Care in South-East Asia, at the Department of Emergency Medicine, JPN Apex Trauma Centre of the All India Institute of Medical Sciences (AIIMS) in New Delhi, in conducting, coordinating and providing the expertise for the meeting is gratefully acknowledged. The role of Thai Health Promotion Foundation, Bangkok, Thailand, in providing the logistical support to the Expert Group Meeting on the Regional Strategy to Integrate Emergency and Trauma Care into Primary Health Care in the SEA Region, in Bangkok in 2018, is also acknowledged.

Dr Sanjeev Bhoi, Head of the WHO Collaborating Centre for Emergency & Trauma Care, AIIMS, New Delhi, Dr Tej Prakash Sinha, Associate Professor at the Department of Emergency Medicine of AIIMS, and Dr Vivek Chauhan, Assistant Professor for Medicine, Indira Gandhi Medical College, Shimla, formed the core writing and coordination team.

The production of the publication was coordinated for WHO by Dr Patanjali Dev Nayar, Regional Adviser, Disability & Injury Prevention and Rehabilitation, under the overall guidance of Dr Thamarangsi Thaksaphon, Director of the Department of Healthier Populations and Noncommunicable Diseases, at the WHO Regional Office for South-East Asia.

Several experts participated in the meeting and contributed actively to its results. They include: Dr Teri Reynolds, Dr Sagar Galwankar, Dr Witaya Chandbunchachai, Dr S. Rajesh, Dr Tanu Jain, Dr Somprasong Tongmeesee, Dr Chanchai Janworachaikul, Dr Veerasak Ponpudtha, Dr AKM Fazlur Rahman, Dr Buland Thapa, Dr Rakesh Kumar Srivastava, Dr Bobby John, Dr Samiddhi Samarakoon, Dr Aruna Munasinghe, Ms Oratai Pochaisan, Mrs Thanyarasami Piyawatchwela, Dr Seathapong Thanoorat, Ms Kwannak Kulleab, Ms Eaung Kaewwilai, Ms Watchara Poomiprabu and Ms Watchara Sriharat. The agenda for the first expert group meeting is provided as Annex -1, and list of participants for all the three meetings are provided as Annexes 2,3, & 4.

Experts also reviewed the original document and provided their inputs in the light of the World Health Assembly resolution WHA72.16, as well as contextualized their contributions following the COVID-19 outbreak at the virtual meetings of 7 May 2020 and 27 May 2020.

The report was reviewed and designed by the editorial team at the WHO Regional Office. For any queries contact Dr Patanjali Dev Nayar at nayarp@who.int.

Background

Emergency care is an essential part of health service delivery in health systems. Well-designed emergency care [Box 1] facilitates the timely recognition, treatment and, when needed, the continued treatment of acutely ill people, at the appropriate level of the health system.

All around the world, acutely ill and injured people seek care every day. Frontline providers manage children and adults with a wide range of emergency conditions, including acute injuries (from road traffic crashes, falls, burns), infections (pneumonia, sepsis, malaria), complications of pregnancy and exacerbations of non-communicable diseases (heart attacks, strokes).

Despite the fact that most primary care initiatives are characterized by a focus on longitudinal and preventive care, many people seek care *only* when acutely ill or injured, especially where there are logistical or financial barriers to accessing health care.

On 28 May 2019, the Seventy-second World Health Assembly deliberated upon the report WHA72.16 on emergency care systems (ECS) [Box 2] for universal health coverage ensuring timely care for the acutely ill and injured.[1] It recognized that many proven health interventions are time-dependent, and that ECS is an integrated platform for delivering accessible quality and time-sensitive healthcare services, for acute illnesses and injury across the life-course.

It also emphasized that timeliness is an essential component of quality, and that millions of deaths and long-term disabilities from injuries, infections, mental disorders and other emergency conditions could be prevented each year, if ECS existed and patients reach them in time.

It acknowledged Sustainable Development Goal 3 ("ensure healthy lives and promote well being for all at all ages"), and recognized that well-organized safe and high quality emergency care is a key mechanism for achieving a range of associated targets.

These include universal health coverage, road safety, maternal and child health, non-communicable diseases, mental health, and infectious disease.[2] Providing non-discriminatory access to all people in need of timely care in well organized, safe and high-quality ECS, can contribute to the reduction of health inequalities.

In many countries, the ECS serves as the major health system safety net and the primary point of access to health services, particularly for marginalized populations. Concern was expressed over the fact that a lack of investment in frontline ECS is compromising effectiveness, limiting impact and increasing costs in other parts of the health system. Further, the resolution WHA72.16 noted that the lack of organized emergency care in many countries, leads to wide global discrepancies in outcomes across the range of emergency conditions.

It advocated an integrated ECS, by stating that 'many emergency care interventions are both effective and cost-effective, and that integrated emergency care delivery can save lives and maximize impact, across the health system'.[3] Improving outcomes requires an understanding of the potential and actual utilization of emergency care, and also that existing data do not provide adequate support for effective planning and resource allocation for emergency care.

WHA72.16 urged Member States to create policies for sustainable funding, effective governance and universal access to safe, high-quality, needs-based emergency care for all, without regard to socio-cultural factors, or, requiring payment prior to care, and within a broader health system that provides quality ECS and financial risk protection as part of universal health coverage.[1]

It also advised Member States to work towards, or promote, at appropriate levels of governance, the inclusion of routine prehospital and hospital emergency unit care into health strategies and to develop a governance mechanism, as appropriate to their national context, for the coordination of routine prehospital and hospital-based ECS, including linkages with other relevant actors for disaster and outbreak preparedness and response.

According to the level of health care services and from first level and above, WHA72.16 also advocated the promotion of a dedicated area or unit for emergency health services and care, with appropriate equipment and the capacity for management and diagnosis, as appropriate.[1]

It urged the Director-General, World Health Organization (WHO), to, amongst other things, enhance WHO's capacity at all levels, to provide the necessary technical guidance and support for the efforts of Member States and other relevant actors to strengthen ECS, including to insure preparedness in all relevant contexts.

Further, it urged WHO to renew efforts outlined in resolution WHA60.22, to provide support to Member States upon request, for needs assessments, facility inspection, quality and safety improvement programmes, review of legislation, and other aspects to strengthen emergency care.

It also urged the Organization to support Member States to expand policy-making, administrative and clinical capacities in emergency care, by providing policy options and technical guidance supported by educational strategies, and materials for providers and planners.

Strengthening emergency, essential surgical care and anaesthesia as components of universal health coverage was highlighted previously by WHA68.15 (2015). Similarly, WHA69 (2016), emphasized the strengthening of essential public health functions to achieve universal health coverage, in which the Health Assembly prioritized integrated service-delivery models and identified the lack of access to timely emergency care, as a cause of extensive and serious public health problems.[4,5]

The ongoing COVID-19 pandemic has further exposed the challenges that emergency care systems of the Member States of the Region face, in the delivery of integrated emergency care and the deficiencies in their response preparedness. Therefore, this document has been suitably revised to fulfill the above WHA directions and address some of the deficiencies noted during COVID-19 pandemic.

Box 1: What is emergency care?

As mentioned in the report presented by the Director-General of WHO at the Seventy-second World Health Assembly, emergency care is an integrated platform to deliver time-sensitive health care services for acute illness and injury across the life-course.[1]

Emergency presentations constitute the 15 leading causes of death and disability-adjusted life years (DALYs) globally. [6] There is a huge gap in the emergency usage rates between countries with varying levels of income. Usage is the least in low-income countries, with a median of 8 visits per 1000 population, compared to 78 visits in middle-, and 264 visits in high-income countries. [6]

Lack of access to timely emergency care [Box 1] has been recognized by the WHO as a cause of extensive and serious public health problems. In a past resolution (WHA72.16), the World Health Assembly has advocated an integrated service delivery model to strengthen the delivery of emergency care. [7] [Annex 5]

Box 2: What is an emergency care system?

An emergency care system (ECS) delivers time-sensitive health care services for acute illness and injury across the life-course. It extends from care at the scene, through transport and emergency unit care, and it ensures access to early operative and critical care, when needed. Many proven health interventions are highly time-dependent; they save lives, but only when delivered in time. By ensuring the early recognition of acute conditions and timely access to needed care, organized emergency care systems save lives, and amplify the impact of many other parts of the health system. [7]

Time is important for life: Acute care while maintaining an unbroken chain of care from the PHC to specialized hospitals, helps save lives. Many of the early links in this chain remain neglected, in the current efforts to strengthen health systems. Quality benchmarks are needed for education, training and certification of all health care workers (HCW) at all levels of health care focusing on ECS. [Box 2]. ECS is the key to achieve SDG targets on universal health coverage, road safety, maternal and child health, non-communicable diseases, infectious diseases, disasters and violence. [6]

The World Bank Disease Control Priorities (DCP) project also estimates that sound organization of an emergency care system (ECS) has the potential to address more than half the number of deaths, and a third of disability occurrence, in low- and middle-income countries.[8] Developing ECS does not necessarily involve a lot of finance outlay; it requires restructuring and reorganization. Training, retraining protocols, checklists and the integration of various levels of healthcare systems are also needed in order to talk a common language of systems, that addresses and delivers quality emergency care in a timely manner, with an aim to save limbs and lives. [1]

South-East Asia (SEA) Region countries constitute 26% of the global population and share many socio-economic traits and aspects of their health care systems, disease burdens, and transport systems. This suggests that the development of Regional strategies may be an effective mechanism to accelerate ECS integration with existing health care infrastructure.

Given the potential to reduce death and disability in the SEA Region, global and Regional experts, senior officials of governments and WHO convened to develop a Regional strategy to integrate ECS into existing primary health care (PHC) structures (Thailand, August 2018). [9]

The ongoing COVID-19 pandemic has exposed the weaknesses in the delivery of emergency care and ECS throughout the world. This document has therefore been suitably modified (May 2020), to

incorporate recommendations of the Health Assembly, and address some of the deficiencies that have been noticed during the COVID-19 pandemic, in Member States of the SEA Region. It also outlines the desired response by Member countries to deal with not only with COVID-19 pandemic through the integrated ECS approach, but also other similar global or local disasters.

The burden of emergencies in the SEA Region

Despite tremendous improvement in health care delivery in the Region over the past decades, emergency-related deaths due to non-communicable diseases and injuries have increased tremendously, while infections, maternal- and infant-related emergencies still remain an important cause of mortality in the Region. Among all WHO Regions, the SEA Region has the second-highest burden of disease-adjusted life years (DALYs) per 100 000 population attributable to emergency conditions (Figure 1).

Figure 1: Disease adjusted life years lost per 100 000 population by Regions and income groups.
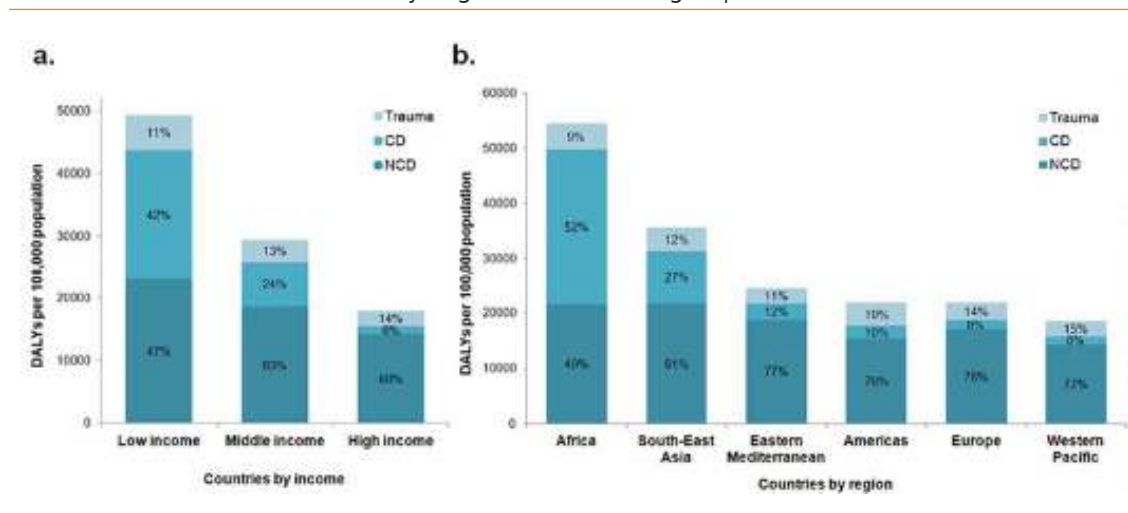
WHO has projected a rise in the burden of various diseases causing death in the SEA Region in 2015 and 2030 (Table 1). This projection shows a significant decrease in mortality from communicable, maternal, perinatal and nutritional causes from 25.2% to 16.1%. However, there is a projected rise in deaths due to non-communicable diseases (NCD) from 63.5% in 2015, to 72.5% in 2030, which is a cause for concern. [7] Injuries as a cause of death are sixth in the list of common causes of death and are responsible for 11.4% of all deaths in the SEA Region (Table 1). Whether related to communicable diseases (e.g. COVID-19, SARS), maternal, perinatal or non-communicable diseases (eg cardiovascular, respiratory, others), or injuries (e.g. road accidents, falls, self-harm, burns etc), many patients with these conditions are likely to look for, and avail emergency services as the first point of contact or, in turn, would require to be referred to centres that have such emergency services available.

Table 1: Projections of mortality in the SEA Region by cause for 2015 and 2030[8]

Year	2015		2030	
Population (thousands)	**1 920 761**		**2 205 146**	
GHE 2012 cause category	**Deaths**	**% Total**	**Deaths**	**% Total**
All Causes	14 851 365	100	18 594 698	100
I. Communicable, maternal, perinatal and nutritional conditions	3 747 909	25	2 997 897	16
II. Non-communicable diseases	9 427 778	63	13 472 109	72
A. Cardiovascular diseases	4 159 313	28	5 872 482	32
B. Respiratory diseases	1 711 507	12	2 560 625	14
C. Malignant neoplasms	1 412 145	10	2 309 860	12
D. Diabetes mellitus	433 915	3	690 283	4
III. Injuries	1 675 678	10	2 124 691	10

Maternal, newborn, child and adolescent health-related events (MNCAH), also form a significant percentage of causes amongst the attendees at emergencies. Common causes of maternal mortality and "near misses" that require visits to emergency services are haemorrhage, hypertensive disease and infection, most of which are preventable by known interventions. It is estimated that 10–15% of pregnancies develop life-threatening complications; such women need to be rushed to the emergency departments of hospitals. The most frequent cause of under-five deaths is complications of prematurity, followed by pneumonia. Most, if not all of those affected, need emergency services. It is estimated that 15-20 % of sick children develop serious disease. They need to be referred to hospitals for secondary and tertiary level care, and many of them present themselves in the emergency departments. Emergency departments in hospitals also receive and treat sick newborns suffering from common illnesses like neonatal sepsis, meningitis and respiratory distress. There are also children with severe pneumonia, febrile illnesses like meningitis, malaria, surgical emergencies and injuries.

Injuries, road injuries, self-harm, falls and other unintentional injuries are among the main causes of morbidity and mortality (2015) and projected to remain so till 2030 (Table 2). Most of these are catered to by trauma and emergency services at various levels of health systems.

Table 2: Deaths (thousands) by injuries estimated in 2015 and projected in 2030 in the SEA Region[8]

	Estimated injury deaths 2015	Projected injury deaths 2030
1	Road injury (29%)	Road injury (29%)
2	Self-harm (18%)	Falls (22%)
3	Falls (17.8%)	Self-harm (17%)
4	Other unintentional injuries (15%)	Other unintentional injuries (14%)
5	Drowning (7%)	Drowning (6%)
6	Interpersonal violence (6%)	Interpersonal violence (5%)
7	Fire, heat and hot substances (4%)	Fire, heat and hot substances (3%)
8	Poisoning (2%)	Poisoning (2%)
9	Collective violence and legal intervention (0.16%)	Exposure to forces of nature (1%)
10	Exposure to forces of nature (0.03%)	Collective violence and legal intervention (0.07%)

Among injuries, road crashes are the commonest cause in the SEA Region and likely to remain so, increasing from 24.7% in 2015, to approximately 29% in 2030. Figure 2 illustrates estimated, country-specific road traffic fatality rates per 100 000 population in 2013[10] and 2016.[11] There is variation between the efforts made by Member States to decrease their road traffic deaths. While many were able to decrease fatality rates, some showed an increase in their rates. This, coupled with the projections for 2030 given above, underlines the need for Member States to develop robust, integrated trauma and emergency services and provide their populations increased access to such services.

Figure 2: Estimated road traffic fatality rate by country, 2013 and 2016, SEA Region countries
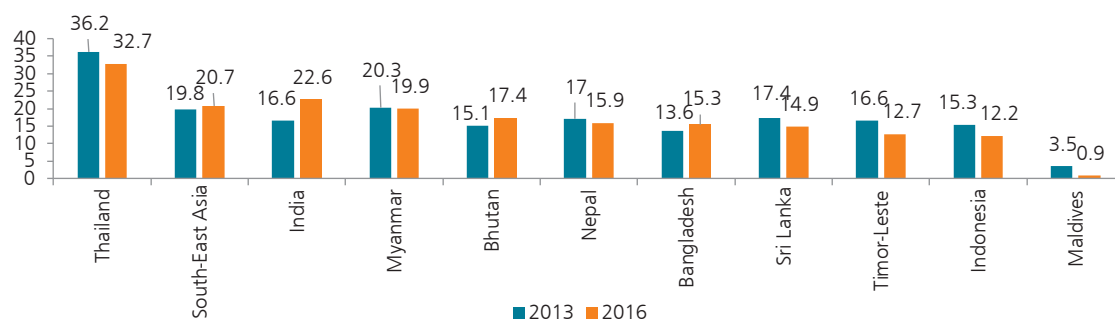
In 2013, more than two thirds of deaths due to road traffic injuries in the SEA Region occurred in India, and this increased to over three fourths of deaths in 2016 (Table 3). About a third of deaths occur at the site of injury, 10–15 % during transit and transfer, and the rest are managed in hospitals, which places a heavy burden on ECS.

Table 3: Number of estimated road traffic deaths by country, 2013[10] and 2016[11]

Country	2013		2016	
	Estimated number	%	Estimated number	%
Bangladesh	21 316	6.86	24 954	6.29
Bhutan	114	0.04	139	0.04
India	207 551	66.76	299 091	75.37
Indonesia	38 279	12.31	31 726	7.99
Maldives	12	0.00	4	0.00
Myanmar	10 809	3.48	10 540	2.66
Nepal	4713	1.52	4622	1.16
Sri Lanka	3691	1.19	3096	0.78
Thailand	24 237	7.80	22 491	5.67
Timor-Leste	188	0.06	161	0.04
Total	310 910	100.00	396 824	100.00

Infectious diseases also continue to make their presence felt. In addition to the existence of malaria, diarrhoeal diseases and viral infections like dengue that require emergency services, the COVID-19 pandemic of early 2020 in the Region, underlined the need for robust emergency services at all levels, to meet the demands of such exigencies that erupt and happen at a large scale. As of 25 May 2020, there were more than 190 000 cases of COVID-19, and more than 5700 deaths from

it in the Region.[12] A significant number of the patients would have accessed emergency services, at one time or the other. Furthermore, due to the lockdowns associated with COVID-19 and a variety of other reasons, many patients who required health services including emergency services, may not have been able to access them. Table 4 reflects the situation of COVID-19 in the Member States of the SEA Region.

Table 4 : COVID-19 in the SEA Region (last update: 25 May 2020)[12]

Country	Total confirmed cases	Total deaths	Transmission classification
Bangladesh	32 078	452	Clusters of cases
Bhutan	24	0	Sporadic cases
India	131 868	3 867	Clusters of cases
Indonesia	21 745	1351	Community transmission
Maldives	1313	4	Clusters of cases
Myanmar	201	6	Clusters of cases
Nepal	584	3	Sporadic cases
Sri Lanka	1089	9	Clusters of cases
Thailand	3040	56	Clusters of cases
Timor-Leste	24	0	Clusters of cases
South-East Asia Region	191 966	5748	

SDG 3 relates to ensuring healthy lives and the promotion of well-being for all, at all ages. An early and effective integration of ECS in the SEA Region, is vital for mitigating the impact of mass casualty events associated with Goal 11 ("Make cities and human settlements inclusive, safe, resilient and sustainable"), and Goal 16 ("Promote peaceful and inclusive societies for sustainable development, promote access to justice for all and build effective, accountable and inclusive institutions at all levels").[13]

During pandemics like COVID-19 and similar outbreaks, even the best of the ECS has been seen to be overwhelmed globally (China, Italy, Spain, the United Kingdom and the United States of America), and is expected to similarly impact health services in Member States of the SEA Region which are yet to fully progress to integrated ECS.[12]When ECS collapses, both direct mortality from acute events, and preventable mortality from everyday conditions ("secondary mortality") increase dramatically. An integrated and resilient ECS designed to maintain essential acute care delivery throughout a mass event like COVID-19, limiting both direct and indirect mortality, is the need of the hour for the SEA Region. The burden of various diseases causing death from 2015 to 2030 in the Region is shown in Table 1.[8]

This projection shows a significant decrease in mortality from communicable, maternal, perinatal and nutritional causes from 25.2% to 16.1%. However, deaths due to non-communicable diseases (NCD) rise from 63.5% to 72.5%, which is a cause for concern.[8](Table 1) Injuries, mainly from road accidents, are an important cause of mortality in the SEA Region, and Figure 2 shows country-specific road traffic fatality rates in 2016.[11] The given mortality projection was, however, based on pre-COVID-19 data, and has not taken into account the possibility of pandemics and outbreaks.

The current situation shows a revision in the estimates of deaths due to communicable diseases mainly due to COVID-19, and along with it, the collateral damage from infections that will re-emerge

as major killers during enforced "lockdowns", including neonatal sepsis, tuberculosis, dengue, malaria, chikungunya, leptospirosis, and scrub typhus, which are endemic to this Region.

The numbers of road accidents have dropped significantly during the COVID-19 pandemic, mainly due to enforced "lockdowns" and limited alcohol supply in many parts of the SEA Region.[14]

Current status of ECS in the SEA Region in PHC level

Many SEA Region countries are beginning to recognize the importance of integrated ECS at all levels of care. These include pre-hospital emergency medical service (EMS) systems, conditional triage, early treatment, and use of technology. Although the EMS has existed for almost 15 years across Asia, the percentage of paramedics (with various levels of training) among EMS personnel, ranges from 0.06% in Philippines, to 72% in Thailand.[15] Over 50% of trauma patients in the SEA Region countries are reported to have died before reaching a hospital, reflecting the need to enhance the availability of communications, first responders and transport, to improve patient survival.[16]

Pre-hospital care is largely comprised of uncoordinated transportation of patients to hospitals and that, too, by untrained, or semi trained staff. Less than 20% of these patients were transported by ambulance.[16] A large number of emergency patients are transported in privately owned vehicles. Several different agencies (police, health, transport and road ministries, government organizations) and the lay public, play a role in transporting patients to healthcare facilities, but there is limited, or no coordination among them.

Often ambulance staff, too, are untrained in emergency care and perform only the functions of drivers and attendants. Due to a lack of emphasis on communications systems, there is no prior notification to hospitals of incoming emergencies. The availability of well-trained first responders and bystander care, too, is severely limited.

There is yet no attempt to disseminate information on the evolution of an injured person in emergency care. From the time of impact at the site of injury, until he compensates fully or, succumbs to the injury, an injured patient's hemodynamics and physiology change constantly. The outcome of trauma is not merely dependent on what is done in the prehospital phase, but also on how the patient is managed and rehabilitated in the specialized hospital. [17]

Similar gaps exist in facility-based emergency care too. Most district hospitals and many tertiary facilities lack formal triage processes, and referral is usually based on an individual provider's judgment, rather than established protocols.

To improve the survival status of the injured, there is a need for major improvements, such as the presence of trauma teams, excellent intensive care and operative facilities and a backup of rehabilitation services, to help the patient back to being a productive member of the community.

Furthermore, serious research is required in this field, which, till now, has been driven largely by empiricisms rather than hard evidence, in the SEA Region.[17]

ECS and universal health coverage

Access to emergency care and people-centred care delivery at all levels of health care, is essential for universal health coverage. Member States in the SEA Region need to design and integrate an effective ECS in PHC level, but with strong linkages and referral systems to other levels. This will enable a rapid response to people's acute care needs, even before a diagnosis is fully established, and ensure the continuity of care and safe transition, when required, from primary to secondary and tertiary levels of health care systems.

Interventions at the primary health care level, significantly affect key survival statistics that improve the infant mortality rate, maternal mortality rate and many preventable infectious diseases, as well as morbidity and mortality from injuries. This has been the reason for the focus on primary health care by well-established programmes like those on maternal and child health, immunization and some infectious diseases.

However, once primary health care improves, the need and demand for secondary and tertiary health care, rises exponentially. Thus, it may be useful in public health dimensions to not only improve survival statistics in early childhood by strengthening the first level of health systems, but to simultaneously strengthen and prepare secondary and tertiary healthcare levels, so that acute and pandemic needs of populations can be met, when required. This aspect of health care is not often understood well by experts and organizations which push primarily for improvements at the level of primary health care alone, without taking emerging and future needs into account.

Single national emergency care number coverage in the SEA Region

Data from 2016 shows that the national emergency care access with full coverage through a single number, existed only in Thailand and Timor-Leste of the SEA Region. Other Member States either have multiple numbers, or partial coverage at national level.[11] Similarly, formal certification of pre-hospital providers is carried out in Thailand, India, Bhutan, Indonesia, and Timor-Leste.[11] Out of the 10 Member States of the SEA Region for which information was available, national level assessment of ECS, however, is carried out only by Thailand.

Notable best practices of ECS in the SEA Region

Thailand was the first country in the Region to identify the need for better ECS; it enacted the National Emergency Medical Act in 2008. The Act lays the foundation for assured quality emergency care to all citizens, irrespective of their ability to pay from their own resources. Another milestone achieved by Thailand is the establishment of its National Institute for Emergency Medicine, under the Emergency Medical Act (2008). This organization is responsible for the administrative management and coordination between relevant agencies of both the public and private sector, including support to local governments to play a role in the management of emergency medical services.

The Emergency department of JPN Apex Trauma center, AIIMS, New Delhi, India has empowered the nurses with task shifting model by creating various domains of care to provide quality emergency

care. The most notable ones are Trauma/Emergency Nurse coordinator system, point of care emergency ultrasound by nurses and research and academics interest group for emergency nurses. The Indo- US collaboration for emergency medicine (INDUSEM), is an example of medical experts coming together to help develop the specialty of emergency medicine in India. INDUSEM played a key role in the development of emergency medicine in India.

Sri Lanka too, put in place a national accident and emergency policy through a parliamentary act, in 2015. [18]

Emergency medicine (EM) residency training in the SEA Region:

Thailand has the first and most well-established system of training in EM at its medical schools. The country was also the first to start EM residency, and has been practicing the policy for over 20 years now.[19]

Indian regulators regularized EM residency to enable it to be taught at India's medical schools in 2009, and now has more than 79 doctor of medicine (MDs) and 248 Diplomate of National Board (DNB) residency seats in EM. More importantly, the board of governors for the National Medical Council in India has passed a resolution to establish a department of EM, at each of the more than 500 medical schools in India, by 2022.[20]

Sri Lanka has a legitimate residency programme since 2013.[18]

Indonesia has an emergency medicine specialist medical programme, and a Master of Nursing programme, for majoring in emergency nursing.[21]

Other nations in the SEA Region are yet to start EM residency programmes in their medical schools.

Legislation framework for ECS in the SEA Region

Not all countries have passed some crucial legislations pertaining to ECS. All Member States must pass laws on bystander protection (Good Samaritan) law, for the protection of health care workers from violence and on the establishment of a statutory lead agency for emergency care.

Status of research and data on emergencies in the SEA Region

There is a critical need for research documenting the role of ECS in reducing the global burden of disease in the SEA Region. Further, little research has been conducted in LMICs on the burden of disease reduction attributable to emergency care, whether through prevention of emergencies, or, emergency treatment of acute conditions, or, emergency treatment of complications from chronic diseases.[22]

Challenges faced in the delivery of emergency and hospital care during the COVID-19 Pandemic in the SEA Region

The current COVID-19 pandemic has tested the effectiveness of every health care system in the world. Routine outpatient care of people suffering from chronic illnesses has taken a big hit, because

of the focus on COVID-19 as well as the widespread "lockdown" over several months. Emergency requirements of non-COVID-19 patients are not being met in most establishments. At many places, private healthcare establishments restricted their operations, while many public sector hospitals have been converted into COVID-19 hospitals. Telemedicine services have been revamped worldwide to fill the gap in chronic care, and many doctors are now working from home, providing telemedicine support to patients already registered in their clinics, and on regular follow-ups.

Most public sector hospitals continue to provide emergency care, but despite precautions taken by doctors in emergency, there are many examples of infection transmission to surgeons, anaesthetists, nurses and other health care staff, during the management of emergency, including surgeries, of patients who were asymptomatic at the time of presentation in emergency, but found COVID-19 positive later on.

Doctors worldwide are becoming increasingly aware of the possibility of asymptomatic transmission of COVID-19, from patients presenting in emergency for acute conditions other than flu-like illnesses.

In most Member States of the SEA Region, ECS is yet to be adequately integrated with PHCs and beyond. Additionally, COVID-19 is bound to affect the care of emergency patients, in more ways than one. Lack of quality infrastructure, training, manpower and testing facilities for COVID-19, can create a serious situation in case of community transmission.

As of May 2020, the SEA Region is not yet the one most severely affected by the COVID-19 pandemic. As shown in Figure 3 and Table 4, the median number of COVID-19 deaths per million population in the SEA Region at the present time is 0.6, as compared to 263 in the United States of America, 584 in Spain, 495 in the United Kingdom, and 519 in Italy.[23]

The Region can learn from the experiences and discoveries made on COVID-19 by nations that were hit early, during the first phase of the pandemic. [Annex 6]

Figure 3: COVID-19 mortality in SEA Region Member States per million population.
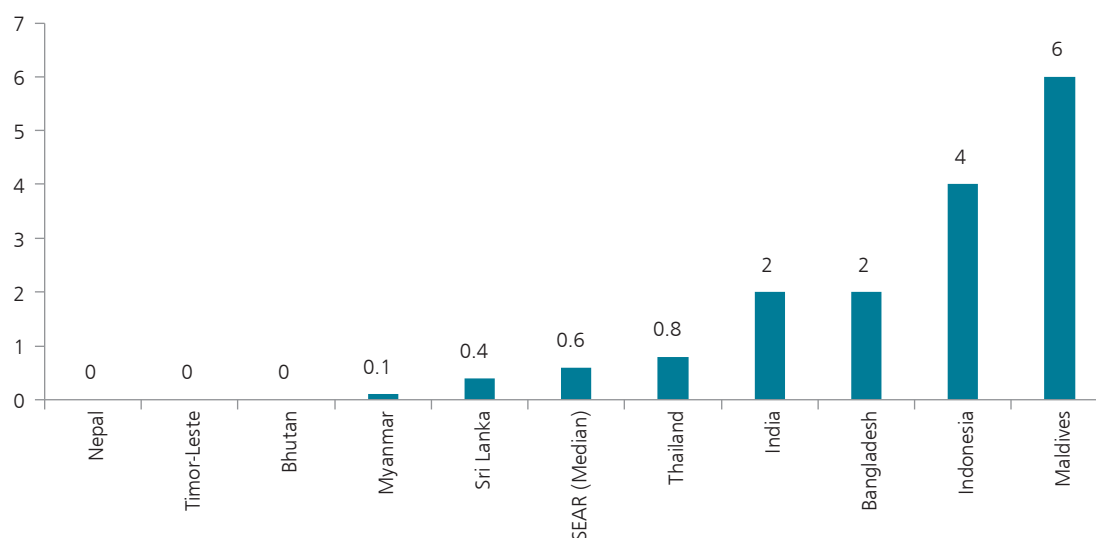
Member States of the SEA Region must act urgently to safeguard their populations, by taking strategic steps suggested by this document, for the integration of ECS in PHCs and its seamless integration with secondary and tertiary care levels. Integrated ECS must be built into the fabric of healthcare systems across the SEA Region and should be so resilient, that it can respond effectively to day-to-day emergencies, and withstand threats from not only the COVID-19 pandemic, but all infectious, chemical, radiological and natural disasters that may strike in future.

Now is the time to prepare.

The value of integrating ECS starting at the PHC level, in the SEA Region

WHA72.16 underlines the advantages of an integrated and robust emergency care system. Integration of ECS, starting with the PHC and then carried through all levels of care, will serve to promote equity, by providing non-discriminatory access to all people in need of timely care, without regard to their ability to pay, or other socio-cultural factors.[7] Such an ECS will serve as a major health system safety net across the Region and be the primary point of access to the health system, for the majority of the population that is marginalized and has limited access to emergency services in PHC level (Figure-4).

In addition, integrated ECS in PHC level will fulfill the obligations of several United Nations commitments and other rights-based treaties, including those dealing with the rights of women, children, elderly, victims of cluster munitions, people with disabilities, migrants and refugees.[7] Ensuring access to timely emergency care is critical to meeting WHO's commitment in its 13th General Programme of Work, 2019–2023, to serve, in particular, the most disadvantaged, marginalized and hard-to-reach populations, including those affected by emergencies, and to ensure that no one is left behind.[7]

In the absence of integrated ECS, fragmented care decreases the number of DALYs. This could be averted, if ECS were carefully implemented. The standard model of health care practiced in the SEA Region, is a three-tiered one, that is not integrated at PHC level and provides minimal emergency care.

This is an area that has great potential to reduce DALYs and mortality, and yet remains unrecognized and undervalued, in many countries in the SEA Region. The integration of ECS from the PHC to the tertiary care level, through strategic direction and planning in each Member State with available inputs from a WHO expert panel, will help the SEA Region achieve the SDG goal of universal health coverage.

The ongoing COVID-19 Pandemic has once again brought home the importance of integrated ECS at many intervention points: when there is confusion over the allocation of ambulances for COVID-19 and non-COVID-19 patients, or when a lack of triage is suspected to have led to the cross infection of health care workers. It has also thrown light on the limited access to essential health services for non–COVID-19 patients, like those requiring haemodialysis, the lack of protocols to deal with the pandemic, and that of required equipment and material (like oxygen, consumables, medicines).

Strengthening the building blocks of the health system for integrating ECS

The six building blocks of the health system also hold good for the primary care system. All variables needing consideration when applying a macro-block to a micro-block of the health system, or, when finalizing integration at PHC level, need to be addressed with the utmost sincerity and in detail.

Figure 4: Integrated model: The roots feeding the emergency care system
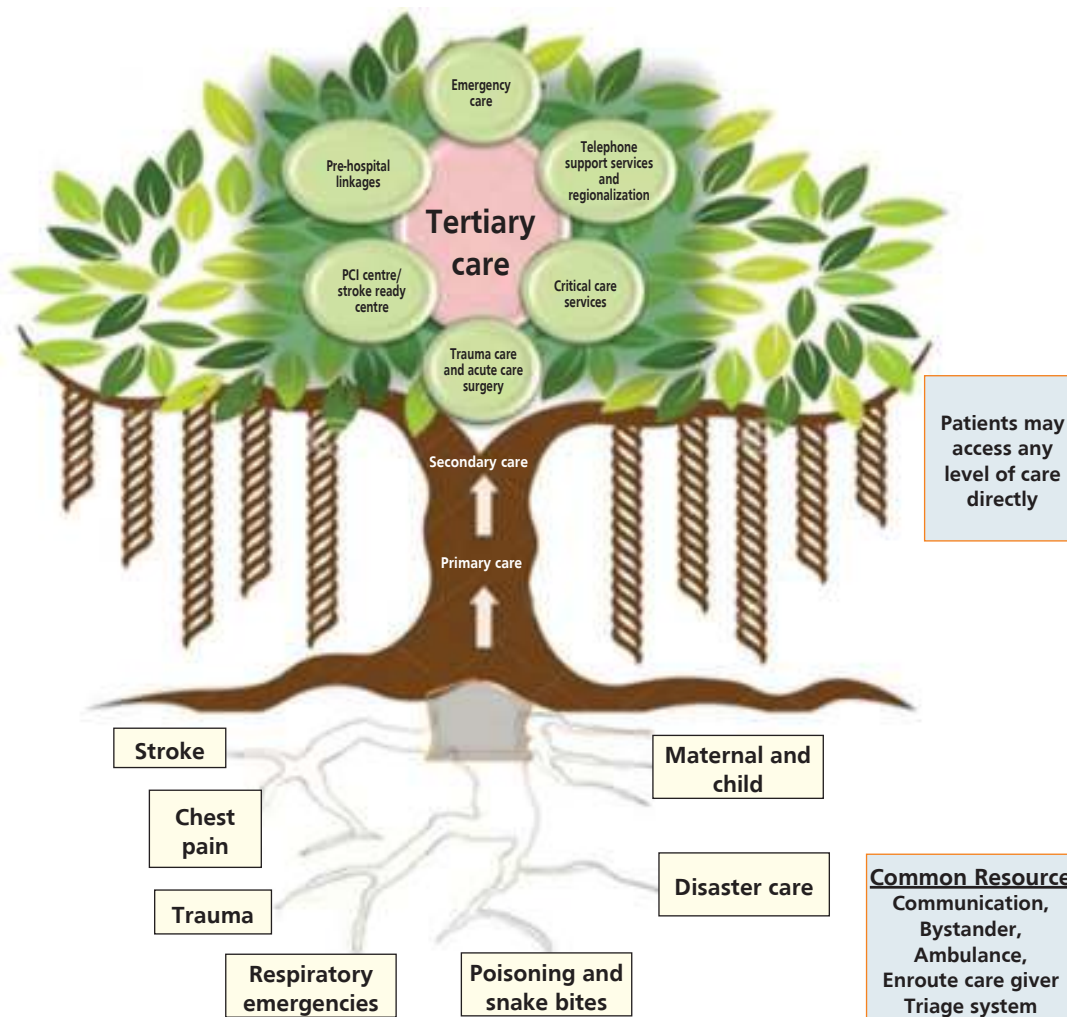
An effective and robust ECS necessitates strengthening of the health system in its entirety. Table 5 outlines some of the strategic components that will reflect integration through all the "six building blocks" of the health system (WHO).

Table 5: Strategic inputs for six health system building blocks to integrate ECS in PHC

The six building blocks of the health system	Strategic components reflecting integration of ECS in primary health care (PHC)
1. Leadership and governance	• Omnibus law and policies for integrated ECS, governance structure of ECS • Regulatory mechanism and accountability processes • Country-specific planning(processes and outcomes) of framework for short-/long -term implementation • Ethical governance based on foundations of justice and fairness
2. Smart financing for cashless ECS	• Pooling of financial resources (revenue and taxation) • Development of single payer system for ECS • Country-specific financial models for cashless ECS • Budget impact assessment weighting improved DALYs, versus cost-effectiveness of integrated ECS
3. ECS human resource development	• Compulsory capacity development of existing human resources (doctors, nurses, technicians, support staff, and field health workers) in integrated ECS, through standard/modular/IT-enabled training programmes • Generation of new batches of expert emergency physicians, nurses and technicians through emergency medicine, emergency nursing and emergency technician residency programmes at all medical schools • Development of a database of manpower with different skill domains, so that they can be rapidly deployed during emergencies for capacity enhancement and training of trainers.
4. ECS integration within PHC	• Hands-on training of all PHC staff in ECS • Developing telemedicine-based support to PHC Staff, to improve quality of ECS • Establishing ECS protocols and SOPs in PHC • Documentation of processes and their impact on public health • Supply chain management of equipment and material in PHC • Timely access to safe patient transfer between PHC and secondary and tertiary care • Inbuilt quality assurance and quality improvement programmes • Regular national assessment of ECS in PHC • Community engagement to improve quality and utilization of ECS in PHC
5. Use of technology in medicine	• Supply chain management for medicines, equipment, accessories in PHC • Using artificial intelligence to generate warnings on outbreaks and disease patterns • Promoting innovation, research in the SEA Region, m-health and e-health to improve the quality of ECS in PHC

The six building blocks of the health system	Strategic components reflecting integration of ECS in primary health care (PHC)
6. Health information system	• Generation of good quality data from primary, secondary and tertiary care • Data mining at Regional and national level to generate trends • Data-sharing protocols for improvement of delivery of emergency care

An Integrated ECS in PHC is also important to achieve multiple SDGs, including those on maternal mortality, under-five and neonatal mortality, and to reduce premature mortality from non-communicable diseases. Table 6 provides further details of the advantages of an integrated ECS in PHC.

Table 6: How integrated ECS in PHC can help achieve SDG goals for 2030.

SDG goal	Description of SDG	Role of ECS in PHC
3.1	Reduction of global maternal mortality rate	Training of PHC staff for early management of hypertension, diabetes, sepsis and hemorrhage in pregnancy in PHC
3.2	Reduce under 5 and neonatal mortality	Treatment of diaorrhea, pneumonia and sepsis in PHC
3.4	Reduce premature mortality due to non communicable diseases	Timely and evidence based management and referral of myocardial infarction, stroke, asthma, obstructive airways disease, poisonings, snake bites and other injuries in PHC
3.6	Halve the number of deaths and injuries due to Road traffic accidents	Immediate post crash care, proper stabilization and then smooth referral by trauma life support trained staff in PHC and ambulances
3.8	Universal health coverage and financial risk protection	Accessible ECS beginning in PHC and integrated with secondary and tertiary care, free of cost for all people
3d	Strengthen the capacity of LMICs for early warning, risk reduction and risk management for global health risks	Integrated ECS with inbuilt data collection, analysis and sharing platforms to generate early warning signals through ongoing syndromic surveillance and use of artificial intelligence systems.
16.1	Significantly reduce violence and related deaths	Trauma, life-support trained staff at all levels to provide evidence-based care and reduce violence-related mortality

WHO ECS Framework

WHO has developed infographics describing the ECS framework required, to provide integrated comprehensive emergency care to all people [24]. The framework is the result of global consultations with policy-makers and emergency care-providers across all Regions, and provides a ready reference to administrators to develop, monitor and evaluate the effectiveness of integrated ECS models.

The infographics in Figure 5a &5b are visual representations of the WHO ECS framework, that is designed to support policy-makers who wish to strengthen national ECS. [24]

Figure 5a illustrates the essential functions of an effective ECS, and the key human resources, equipment, and information technology needed to execute them. It is organized on the basis of WHO's six building blocks for health systems. Though this infographic shows an injured person, the procedure works the same way for any emergency, and the basic principles of ECS remain unchanged.

Figure 5b complements Figure 5a, by locating critical governance and oversight elements, including system protocols, certification and accreditation mechanisms, and key process metrics within the framework. Also identified in the figure are essential, overarching laws and regulations that govern access to ECS, ensure coordination of system components and regulate relationships between patients and providers.

Figure 5 a. WHO ECS Framework. [24]

Figure 5b. WHO ECS Framework [24]

INPATIENT

TIME TO OPERATING THEATRE

PROTOCOLS FOR ADMISSION DISCHARGE TRANSFER

LENGTH OF STAY

EMERGENCY UNIT

TIME TO PROVIDER

AMBULANCE

TRANSPORT TIME

DESTINATION TRIAGE PROTOCOL

KEY TIME INTERVALS CAN BE USED AS PROCESS METRICS TO BETTER UNDERSTAND SYSTEM PERFORMANCE.

CERTIFICATION OF PROVIDERS ENSURES COMPLIANCE WITH TRAINING STANDARDS.

SYSTEM PROTOCOLS PROVIDE GUIDANCE FOR CRITICAL PROCESSES.

ACCREDITATION OF EQUIPMENT AND SERVICES ENSURES QUALITY AND SAFETY.

This side of the infographic locates critical governance and oversight elements including system protocols, certication and accreditation mechanisms, and key process metrics within the Framework. Listed below are also essential laws and regulations that govern access to emergency care, ensure coordination of system components, and regulate relationships between patients and providers.

PROTOCOLS FOR DISPATCH COORDINATION

TIME TO DISPATCH

TIME TO SCENE / PROVIDER

AMBULANCE

LEGAL MANDATES

Free call to a universal access number
Bystander protection laws (Good Samaritan laws)
Emergency vehicles regulation
Access to emergency care regardless of ability to pay

SURGE FOR MASS EMERGENCIES

Mass emergency events, including natural disasters, outbreaks, and violent conict, increase the need for care of injuries and other acute conditions. The everyday emergency care system must be prepared to rapidly increase human, material, and organizational resources (to surge) in response to these sudden events. In addition, emer - gency unit protocols for surveillance and communication with public health authorities are essential for early recognition of outbreaks. Healthcare systems may be disrupted by the direct effects of these events, such as when hospitals themselves are damaged or healthcare providers infected, or may be overwhelmed by increased demand. If emergency care systems collapse, both primary mortality from the event itself and preventable morta- lity from everyday conditions (secondary mortality) increase dramatically. Besides meeting everyday population health needs, a well-organized, prepared and resilient emergency care system maintains essential emergency care delivery throughout a mass event, limiting direct mortality and avoiding secondary mortality altogether.

www.who.int/emergencycare emergencycare@who.int
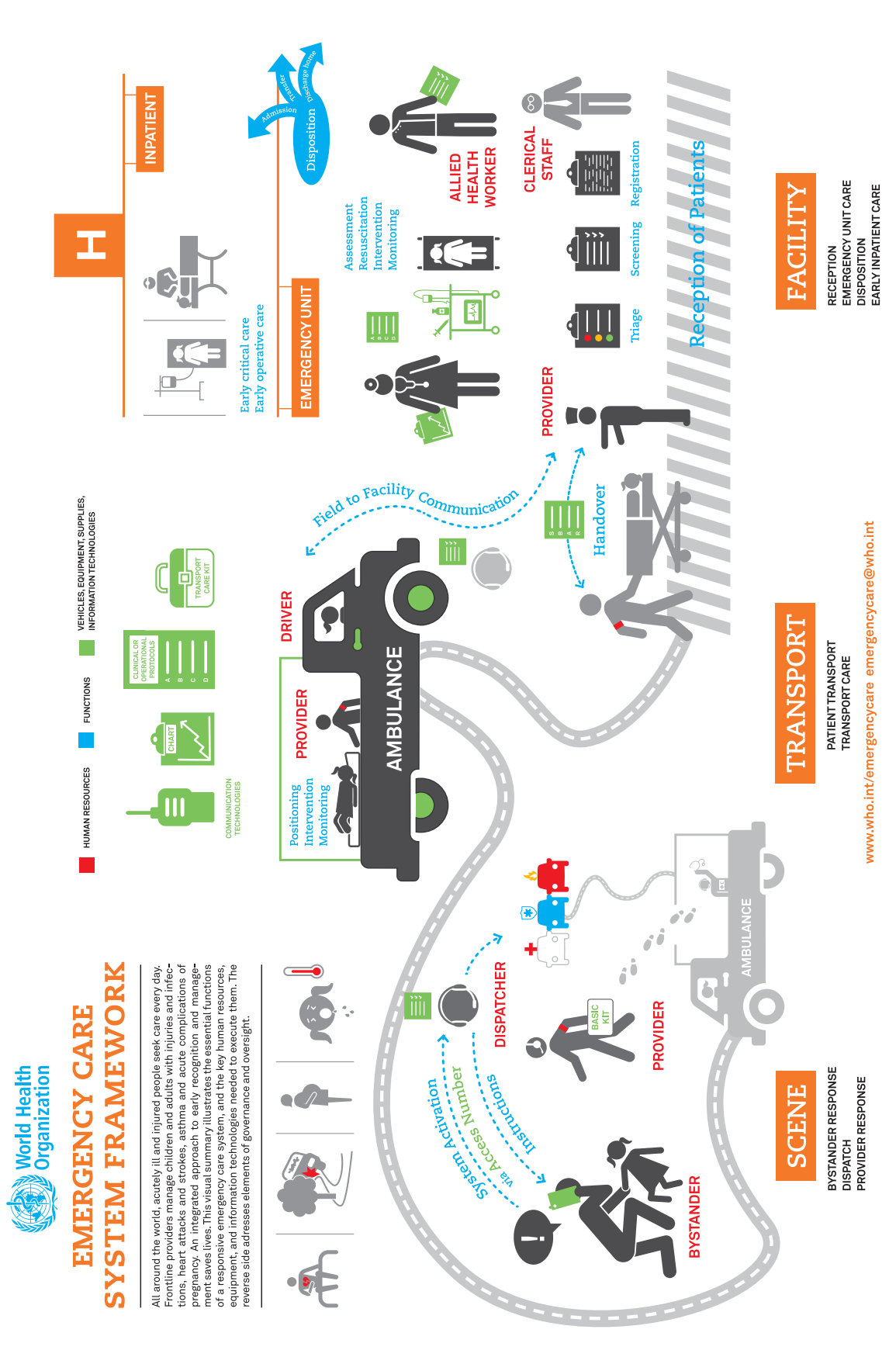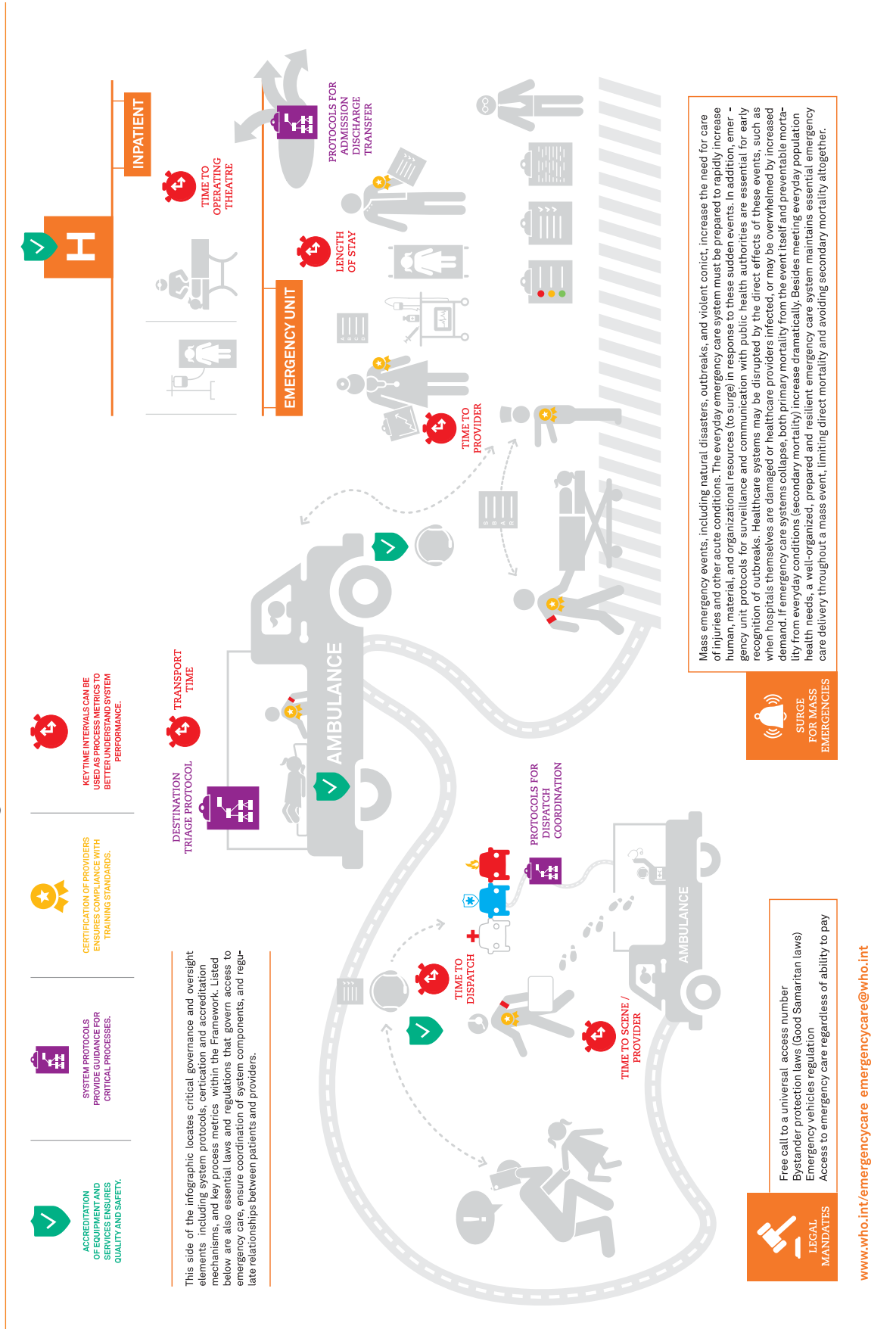
Strategic directions and actions for the integration of ECS in PHC in the SEA Region

As per the discussions of the expert group in August 2018, further revision through the virtual meeting on May 7th, 2020 and followed by subsequent communications WHO recommends the following strategic directions and actions, to integrate, as well as strengthen emergency services in PHC and beyond, and to deal with COVID-19 as well as non- COVID-19 emergencies, in the Member States of the SEA Region.

Some of the recommendations can be carried out immediately (such as triage, the enhanced use of telemedicine, encouraging the use of existing technology), whereas some others may require a slightly longer timespan. The recommendations are synergistic and thus, the Member States are urged to adopt /adapt as many of them as country contexts would allow at present, and to strive to modify contexts at the earliest.

Definitions

First-level hospital (FLH): A hospital that receives referred patients from the PHC level and is accessible on a 24x7 basis, with availability of doctors and nurses round-the-clock, and on all days of the week.

Emergency unit (EU): EU means a minimum set of services (as per WHO), trained manpower, equipment and resources assembled in a place to recognize, resuscitate, and safely transfer emergency patients to the first level, or, higher hospitals. The Primary Health Centre (PHC) with limited staff will act as an EU, to provide initial emergency care.

Guiding Principles

- All people in the SEA Region should receive evidence-based, timely, life-saving, free-of-cost emergency care.
- Emergency care should have free and smooth transition from primary to secondary, or, tertiary levels.

Vision:

This initiative of WHO will support Member States in the SEA Region by:

- Providing a reference framework of an integrated ECS in PHC, that makes a smooth transition to the secondary and tertiary care systems;
- Sharing a prototype of omnibus laws and policies to be enacted at the government level, for integrated ECS;
- Sharing training modules for existing human resources in the PHC, and making them ready to handle disasters, pandemics, and mass casualties;
- Sharing knowledge, curricula and the processes needed to develop residency programmes in EM, for doctors, nurses, and technicians in all medical schools;

- Sharing open source platforms, checklists, standard operating protocols and formats for gathering data, and for using this data to develop emergency surveillance systems;

- Helping develop partnerships between institutions and between countries, for mutual handholding and dissemination of best practices of ECS;

- Generating a shared pool of global ECS experts who are willing to guide Member States in achievement of the vision of integrated ECS;

- Sharing a guideline for fostering multi-sectoral collaboration for fulfilling the vision of integrated ECS.

Strategic directions for Member States in the SEA Region

1. Government stewardship and political advocacy for emergency care.

Strengthening ECS in PHC by effective and vigilant leadership that can launch an effective response is needed in SEA Region Member States countries, to coordinate and create unified advocacy for facilitating the integration of ECS in PHC. This can be done as follows:

(1)   Advocating for a responsive and vigilant ECS that can mount an effective response to all emergencies by sensitizing the leadership and increasing the visibility of the benefits of ECS to the public and the government;

(2)   Enhancing the quality of ECS by training of existing manpower, and generating a pool of freshly-trained professionals in emergency medicine;

(3)   Creating a lead agency, i.e., a national body in a hub-and-spoke model with subnational branches, that will oversee all components involved in the provision of EC;

(4)   Implementing omnibus acts and legislations in the country;

(5)   Ensuring free access to emergency care at all levels;

(6)   Creating a national health audit agency to monitor key performance indicators, so that funding of integrated ECS can be channeled through it;

(7)   Allowing private-public partnerships to overcome the lack of trained manpower and processes, at all levels of ECS;

(8)   Greater use of telemedicine to deliver ECS, and also for human resource development;

(9)   To develop a national stockpile of resources (manpower, equipment, supplies, personal protective equipment, diagnostics, antidotes, vaccines, drugs etc) for dealing with disasters involving chemical, biological, radiological, nuclear and explosives (CBRNE) disasters.

2. National health policies and planning focused on integrated ECS:

ECS is a fundamental health service that is relevant for saving lives and DALYs throughout all stages of the life-course and must therefore be reflected in the policies and planning of the health ministry. It is necessary that public health policies of the Region's Member States clearly aim for integrated ECS;

(1)   The provision of adequate sustainable funding to meet short- and long-term action plans and policies and for developing innovative methods of financing, such as a recalibration of internal resource and insurance schemes, should be explored;

(2)   Managing resources by mobilizing federal funding, public-private partnerships, philanthropy, internally recalibrating resources and linking various insurance schemes to the ECS.

3. Strengthening resources and the adoption of best practices and low-cost, high-yield policies in integrated ECS. Encouragement for research in the SEA Region and innovation-based local solutions, to improve health care delivery at all levels:

(1)   Pre-hospital coordination mechanisms

   (a) Reducing the elapsed time between the emergency event and arrival at a fixed health-care facility

   (b) Developing an effective communication system

   (c) National single toll free number for ECS

   (d) Ambulance aggregator model

   (e) Mapping of capacity and capabilities of facilities

   (f) Leveraging technology to cover distance and provide easy access to information and services

(2)   Facility-based

   (a) Strengthening the capacity and resources

   (b) Management of emergencies at all levels

   (c) Developing an effective communication system

   (d) Integration with national electronic medical record system

   (e) Using apps and technology to coordinate between various levels of care

(3)   Human resource development

   (a) Strengthening of existing human resource

   (b) Gap analysis, recruitment, redeployment, capacity building , task shifting

(4)   Training and Service Delivery

   (a) Developing protocols of all aspects of emergency care (pre-hospital care, primary care, secondary care, tertiary care and smooth transfer protocols)

   (b) Strengthening community emergency initiatives, including preventive health and community based rehabilitation

   (c) Developing enhanced training for all levels of ECS providers

(5)   Utilizing existing WHO tools to improve ECS.

4. Generating evidence for planning and policies:

Systematic and transparent access to information and evidence for policy and planning is necessary, to accelerate the Region's progress towards achieving of the SDGs. This can be done in the following ways:

(1)   Creating accountability in the performance of the ECS;

   (a) Developing key performance indicators (KPI) for all levels of care;

(b) Linking funding to performance;

(c) Potential measurable targets (examples: 10% increase in timely service delivery, 10% reduction in mortality and morbidity due to injuries by the end of 2020);

(d) KPI information should be in the public domain;

(e) Inculcating professionalism at work;

(f) Bringing together multiple professional groups and cultures, creating cross-cultural and interdisciplinary interaction and collaboration,

5. Fostering partnerships at all levels:

To have integrated ECS in place, partnerships need to be forged between public health care institutions, private establishments, the corporate sector, training institutes, quality improvement and assurance experts, financial experts, legal experts, the international community, bureaucrats, politicians and most importantly, the end-users in the community, for whom the services are being created. The following measures can be taken:

(1) Improving the synergy between existing services and systems like communication systems, transportation systems, primary, secondary, and tertiary health care, the insurance sector, medical schools, training institutes, the police department, the administration, public representatives and the media, to achieve the smooth integration of ECS at all levels;

(2) Strengthening forward and backward linkages through an established information flow, and coordinated referral and counter-referral mechanisms, from PHC to tertiary care systems.

6. Data-driven ECS:

Data capture and data mining should become integral parts of ECS at all levels, starting from PHC. This data will be converted to crucial information for planning and financing ECS;

(1) Establishing ED surveillance and registry systems;

(2) Utilizing quality improvement methodology to improve emergency care;

(3) Streamlined emergency data collection and analysis.

7. Promoting ethical values and human rights principles:

Fragmentation creates inequities, while integration facilitates the preservation of equity for human rights in the most practical manner.

Strategic actions for Member States in the SEA Region

1. Designate a lead government agency at national level to coordinate integrated ECS at all levels.

2. Characterize the current state of ECS in the Member States:

(1) Conduct regular national assessment of the ECS (WHO ECS assessment tool) ;

(2) Convene meetings to develop an information-based, priority action plan;

(3) Conduct a facility-based assessment of ECS capacity (WHO EU assessment tool);

(4)   Develop a national status report on ECS, including a gap analysis and action plan based on it.

3. Ensure universal access to free ECS:

(1)   Mandate universal access to cashless (free of on-the-spot cash payment), integrated ECS for all;

(2)   Establish a single, toll-free national ECS access number;

(3)   Develop a public education and dissemination campaign on the appropriate use of the universal ECS access number.

4. Protect funding for ECS:

(1)   Explicitly integrate ECS into the national health policy and any national, pre-payment-based, health funding scheme;

(2)   Establish a dedicated budget stream for integrated ECS.

5. Ensure an organized, disseminated and coordinated system that meets population needs:

(1)   Establish minimum standard guidance (based on WHO/DCP recommendations) at national level, for integrated ECS at each level;

(2)   Establish at every first level hospital (FLH) a 24-hour, dedicated EU with trained staff and formal triage;

(3)   Expand 24-hour availability of critical emergency diagnostic services (laboratory, radiology, etc.) at all FLHs;

(4)   Conduct a geospatial analysis of ambulance call utilization, and establish well-disseminated ambulance staging posts, to improve timely care;

(5)   Establish two-way, inter-facility referral protocols (including appropriate referrals to higher levels of care, and referral back, depending upon patient needs);

6. Collect standardized emergency care data and integrate into existing health information systems to facilitate system planning, resource allocation and quality improvement activities:

(1)   Implement a standardized clinical form with embedded data points for pre-hospital, and emergency unit care (WHO template available).

7. Ensure high-quality emergency care delivery in public and private settings:

(1)   Establish a legal mandate, designating a regulatory authority for the certification and accreditation of emergency care providers, including a dedicated pathway for the certification of pre-hospital providers;

(2)   Develop an accreditation-based mechanism, for monitoring and reviewing emergency care service delivery based on standardized key performance indicators, with context-relevant incentive structures;

(3)   Establish a system-wide emergency care registry and an associated quality improvement programme based on data from standardized clinical forms;

(4)   Appoint a clinical data, or, quality improvement coordinator at each facility. (WHO platform available);

(5) Develop system-wide standards that are appropriate to the level of care, with associated strategy for monitoring of the following:

    (a) Clinical management of routine emergencies as well as disasters, CBRNE situations and infection outbreaks;

    (b) Key EU processes (triage, stabilization, resuscitation, handover, transfer, discharge, duration of stay, etc.);

    (c) Key EU infrastructure, availability of diagnostic services, staffing ratios, equipment and supplies (WHO resource list available).

(6) Encourage context-relevant use of technology (including electronic documentation, clinical decision support tools, telemedicine, and others), to extend the capacity of ECS in PHC, and its integration with secondary and tertiary care;

(7) Standardize triage Protocols at EU for efficient response to pandemics as well as other emergency conditions, including injuries;

(8) Point-of-care ultrasound (POCUS) at all levels to strengthen ECS, including the PHC level.

8. Develop key components of pre-hospital ECS:

(1) Establish a mechanism for a centrally-coordinated dispatch of ambulances and providers;

(2) Establish formal training for emergency care providers and community-based, first-aid providers, coordinate training programmes and establish standards for centralized certification;

(3) Enact Good Samaritan laws and enforce the implementation of legislation to support bystander caregivers;

(4) Establish ECS standards and protocols at national level, including pre-hospital care as per international standards.This includes standardization of ambulance types, equipment, condition-specific management, handover, destination triage, and transport processes.

9. Strengthen emergency care training across the health system:

(1) Map current partners and activities in emergency care training, and develop a country-wide coordinated strategy (including the formulation of standard training content for emergency care);

(2) Incorporate dedicated emergency care training into initial and ongoing certification for all public and private providers who care for emergency patients;

(3) Incorporate a curricular requirement for emergency care and rehabilitation training, into undergraduate medical and nursing curricula;

(4) Establish emergency medicine specialist programmes, and post-graduate nursing and paramedic training programmes;

(5) Develop security and safety protocols to protect health care providers.

10. Ensure disaster preparedness and biohazard planning

(1) Develop a central process to verify hospital disaster plans, and ensure regular drills to address the surge capacity during disasters, CBRNE and emerging infectious outbreaks;

(2)   Develop security and safety protocols to protect pre-hospital and facility-based personnel and patients, from the hazards involved in patient care during disasters.

11. Learn from research and autopsies in the SEA Region:

(1)   Begin initiatives for data-sharing, collaborative research and publications on emergency care services in the SEA Region;

(2)   Develop online training modules for doctors, nurses and field workers in the SEA Region based upon the latest research in the Region, and upon evidence generated by experiences gained from patient care, autopsies on patients killed by illnesses like COVID-19, and biological threats.

Action plans and suggested conceptual models:

It is suggested that Member States develop their own action plans, in order to establish integrated ECS at all levels, based upon the strategic directions given by this document.

The goals of ECS integration are as follows:

- ◉ Short term goal: to convert fragmented emergency care into integrated ECS in PHC level;
- ◉ Long term goal: seamless integration of ECS in PHC with secondary and tertiary care levels.

A conceptual model for integration of ECS in PHC:

- ◉ The standard four-step model is relevant for integration of the fragmented ECS in different countries of the Region;
- ◉ A top-down approach is seen with fragmented emergency care in the SEA Region. A bottoms-up approach had not been conceptualized, attempted and rolled out, in spite of the fact that it is most desirable and cost-effective;
- ◉ Hence, a conceptual model of this bottoms-up approach is proposed, which every Member State has to revisit from the perspective of their respective PHC systems, and convert into a strategic integration of the ECS plan;
- ◉ It needs to pass through situational analysis, strategic planning, a monitoring and evaluation framework and implementation;
- ◉ These four steps are the compartments within which, an individual Member State has to build its model of integration with a clear-cut output, outcome, impacts and timelines (Table 5);
- ◉ The implementation can be carried out in two or three years, as relevant to the Member State;
- ◉ The output should be annually defined, and the outcome shall be defined at the end of the cycle. The integration should be completed within five years, and followed by internal and external evaluation of the outcome and impact assessment of integrated ECS.

Table 5: Four Step Process of ECS integration and corresponding tools

Strategy of integration of ECS in PHC (Four-step process)	
Four-step Process	**Tools**
1. Current situational analysis	Use standard assessment tools(WHO tools)
2. Develop a strategic plan	Country-specific plan of integration of ECS in PHC
3. Establish monitoring and evaluation processes	Develop a framework for monitoring, evaluation and review
4. Implementation	Roll out the strategic plan after capacity-building

A brief overview of common components of a model national plan is given in Table 6.

Table.6: National integration plan: conceptual model

INPUT	OUTPUT	OUTCOME	IMPACT
Governance, finance	Integrated ECS in PHC	Universal access to ECS	SGD Goals
Human resources	Quality-assured ECS	Seamless referral from PHC to tertiary care	Healthy population
Hospital information system	Free of cost ECS	Improved mortality, morbidity and DALYs	Improved DALYs
Service package and supplies			
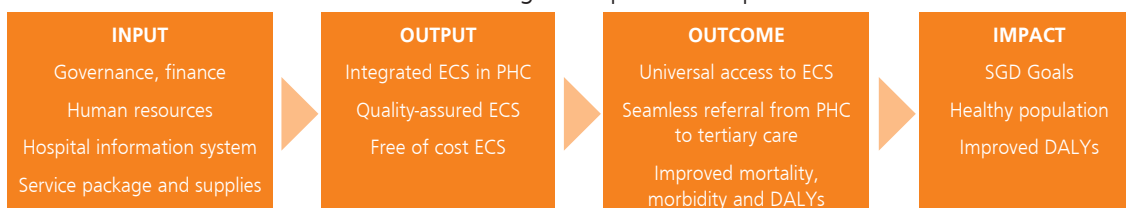
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Annexes

Annex 1: Agenda for the Expert Group meeting on "Regional Strategy to integrate Emergency and Trauma Care into Primary Health Care (PHC) in SEAR", 23–25 August 2018, Bangkok, Thailand (Held at Thai Health Foundation premises, bangkok)

Date and time	Topic / Methodology	Content	Responsibility	Roles
DAY 1: 23 Aug 2018				
8.30 AM	Registration	Participants register, receive kit, are seated	ThaiHealth ; Khon Kaen team	
9:00 AM	Opening session	MC - ThaiHealth/ KK Welcome and objectives – SEARO; Dr Thaksaphon / Dr Patanjali Opening Remarks - Dr Witaya, Scope of the meeting - Dr Sanjeev Bhoi Photo	ThaiHealth; Khon Kaen Hospital; JP Apex;	
9:45 AM	Mr. Barry Sherman, Chair of WHO Network for road safety legislators	Role of the Policy makers and clinicians in Road Safety	Hon'ble Mr. Barry Sherman	Chair – Dr Witaya, Co chair - Dr S. Rajesh
10:15 AM	Technical presentation -1	The Thailand Experience	Prof . Dr Witaya	Chair – Dr S. Rajesh Discussant – Dr Bhoi
11 AM	Technical presentation -2	Establishing a National Apex body for Emergency and Trauma care and its roles	Dr Anuchar	Chair – Dr S. Rajesh Discussant – Dr Fazlur
11.30	Technical presentation -3	Integrating Emergency and Trauma care into PHC- the Khon Kaen experience	Prof . Dr Witaya Sethasathien	Chair – Dr S. Rajesh Discussant – Dr Bhoi
12.00	Regional Status presentation and discussion	Current scenario Availability of Emergency and trauma services, Fragmentation of care, Access to emergency & Trauma care Quality - Existing services with Govt / private sectors Challenges	Dr Sanjeev Bhoi JP Apex Trauma Centre	Chair – Dr S. Rajesh Discussant –Dr RK Srivastava

12.40	Ms Oratai KK Hospital	Task Shifting –Role of nurses in Emergency and Trauma care	Ms Oratai, Khon Kaen	Chair – Dr Patanjali Nayar Discussant –Dr Buland Thapa
2 PM	Technical presentation - 4	Salient points from the draft strategy paper being developed by HQ	Ms. Teri Reynolds; WHO-HQ	Chair – Dr Samidhe Discussant –Dr Buland Thapa
2.40 PM	Plenary – Developing Shared understanding (Brain Storming)	Advantages and Limitations of integration Shared understanding of Emergency care – its scope etc Trauma care – its scope etc – with especial reference to Road injuries Shared understanding of "Integration" What do we mean, What all to be integrated, How "deep", how "broad", Scope of integration	Dr Patanjali Dev Nayar, RA-DPR SEARO	Chair – Dr Samidhe Discussants – Dr Bhoi, Dr Teri;
4.00 PM	Technical presentation -5	Review of global results from the WHO Emergency Care systems Assessments	Dr Teri	Chair – Dr Samidhe Discussants – Dr Aruna
4.30 PM	Technical presentation -6	Coordinated management of emergencies – a step forwards for integration	Dr Settapong Tanurat, Head Emergency Deprt. Khon Kaen Regional Hospital	Chair – Dr Samidhe Discussants – Dr Aruna

Date and time	Topic / Methodology	Content	Responsibility
DAY 2: 24 Aug 2018			
9 AM	Recap of Day 1	Short Recap of previous day – linking with the present	Dr Patanjali Nayar
9.15 AM	Global Examples	Integration in other regions Best Practices , Lessons learnt	Dr Teri and Dr Sagar
	Regional / Thai Examples	Health promotion and Integration of Emergency and Trauma Care - ThaiHealth Achievements	ThaiHealth
	Challenges	Integration Major challenges for integration in Member States	Dr Teri, Dr Patanjali
11.00 AM -1.00PM	Group work	Strategies to facilitate integration in the Member States of the region Group work (4-5 groups) – to review the Strategic directions in light of the discussions and presentations	Dr Teri to convene and lead; Group Leads - Dr Witaya Dr Sagar; Dr Bhoi, Dr Fazlur (Dr RK Shrivastava and designated members to collate reports of the group works)
2.00PM -2.30PM	Technical presentation -7	Introduction to available WHO tools and Utilizing / adapting WHO tools (for Emergency care, Trauma Care, Integration, others)	Dr Teri Reynolds
2.30PM -3.30PM	Technical presentation -8	List of requirements / logistics / facilities at various PHC levels for optimizing integration of Emergency and Trauma services in PHC eg – what does a basic OT need?, What personnel of what level are required at each level – primary, Secondary and tertiary?; What equipment/ logistics are required?; etc	Dr Sanjeev Bhoi and Dr Tej Prakash - JP Apex Trauma Centre; Dr Sagar
4.00PM -4.30PM	Technical presentation -8	Other facilitative documents / materials	Dr Teri Reynolds
4.30PM -5.00PM	Plenary discussion	Expected Challenges in Integrating Emergency and Trauma Care into PHC in SEAR	Dr Patanjali Dev Nayar, RA-DPR, WHO-SEARO

DAY 3: 25 Aug 2018			
9:00 AM	Recap of Day 2 "Buzz" methodology	Recap by participants – utilizing Buzz	Dr Patanjali Dev Nayar
9.15 AM- 10.30 AM	Group work Finalizing Strategic directions for integration -contd from Day2-	Strategies to facilitate integration in the MS of the region – Country Focus Group work with country focus – to review the Strategic directions in light of the country realities	Dr Teri, Dr Witaya, Dr Bhoi, Dr Patanjali, Dr Sagar. (Dr RKS and team to collate reports of the groups)
10.45AM -11.15AM	Plenary Overcoming Challenges -Implementing Integration	At various levels of PHC - PPP models / others –Strategies and activities	Thai Health and JP Apex Trauma teams
11.15 AM 11.45AM -	Brain Storming - Discussion	Role of WHO, Collaborating Centres, and RTAG	Moderator-Dr Thaksaphon,
11.45 AM – 12.30 PM	Presentation and discussion	DRAFT -Regional Strategy directions	Dr Patanjali, Dr Sanjeev Bhoi Moderator-Dr Thaksaphon
1.15 PM – 2.00PM	Plenary Discussion	Discussion - focussing on major changes in the Regional Strategy Document	Dr RKS and Rapporteur team, JP Apex, Thai Health
2.00 PM – 3.30 PM	Group work – to develop "Action plan" for countries Group Presentations	Outline of Action Plan to support implementation in countries	Facilitated by - WHO, JP Apex, KK, ThaiHealth Discussion Moderators- Dr Thaksaphon and Dr Witaya
4.00PM -4.30PM	Discussion	Way forwards Conclusion and Recommendations Finalizing Strategy - Future steps and role clarification– for WHO and associates Supporting Countries – advocacy, Resource generation, others Collaboration	Dr Patanjali Nayar
4.30Pm -5.00PM	Closing	Remarks by JP Apex Khon Kaen ThaiHealth WHO – Dr Thaksaphon Closing Remarks –WR WCO – Thailand Vote of Thanks – ThaiHealth	WCO _THL, ThiaHealth, Khon Kaen, JP Apex Trauma WHO – SEARO Dr Patanjali; ThaiHealth
5 PM onwards	Mini RTAG Meeting (RTAG members to meet separately)	Members from RTAG to meet and work out strategies to support action plan for integration in the countries	Dr Witaya, Dr Buland Thapa; Dr Aruna Dr Patanjali,

Annex 2: List of participants for the Expert Group meeting on "Regional Strategy to integrate Emergency and Trauma Care into Primary Health Care (PHC) in SEAR", 23–25 August 2018, Bangkok, Thailand (Held at Thai Health Foundation Premises, Bangkok)

Sl no.	Name and Address	Country	Email id
1.	Dr THAMARANGSI Thaksaphon Director NDE, WHO South East Asia, New Delhi India	WHO SEARO	thamarangsit@who.int
2.	Dr Teri Reynold scientist for the Department for Management of Noncommunicable Diseases, Disability, Violence and Injury Prevention, WHO Headquarters, Geneva	WHO Headquarters Geneva	reynoldst@who.int
3.	Dr Patanjali Dev Nayar Regional Adviser; Disability& Injury Prevention and Rehabilitation Department of Healthier populations and Noncommunicable Diseases WHO. Regional Office for South-East Asia, New Delhi India	WHO SEARO	nayarp@who.int
4.	Dr Sagar Galwanker Consultant Emergency Physician Department of Emergency Medicine University of Florida, USA	USA	gcsagar@yahoo.com
5.	Dr Sanjeev Bhoi Professor & Incharge Emergency Department, JPNATC, AIIMS, New Delhi	India	sanjeevbhoi@gmail.com
6.	Dr. S. Rajesh Director (Health) NITI Aayog Government of India NITI Aayog, New Delhi	India	rskumarifsdirector@gmail.com
7.	Dr. Rakesh Kumar Srivastava Senior Advisor, Innovation & Public Health WISH Foundation India CP, New Delhi, India	India	rakesh231149@gmail.com
8.	Dr. Tanu Jain Assistant Director General, Directorate General of Health Services, Room No. 530-C Wing, Nirman Bhawan, New Delhi	India	drtanujain28@gmail.com
9.	Dr.AKM Fazlur Rahman, PhD Executive Director Centre for Injury Prevention and Research Bangladesh (CIPRB) Dhaka, Bangladesh	Bangladesh	fazlur58@yahoo.com fazlur@ciprb.org
10.	Dr Prof. Buland Thapa Consultant Orthopedic Surgeon Manmohan Memorial Medical College & Teaching Hospital, Kathmandu, Nepal	Nepal	thapakaji@gmail.com

11.	Dr. Bobby John Managing Director Aequitas Consulting Pvt. Ltd. Journal of Policy & Practice, 401A, Hemkunt Chambers, Nehru Place, New Delhi-110019	India	bj@aequitas.co
12.	Dr. Samiddhi Samarakoon Director Accident & Orthopedic Services and Deputy Director of National Hospital Colombo, Sri Lanka.	Srilanka	samiddhisamarakoon@yahoo.com
13.	Dr Aruna Munasinghe Consultant Emergency Physician, Colombo	Srilanka	drakmunasinghe@gmail.com
14.	Dr. Vivek Chauhan Assistant Professor Department of Emergency Medicine IGMC, Shimla, Himachal Pradesh	India	drvivekshimla@yahoo.com
15.	Dr Tej Prakash Sinha Assistant Professor Emergency Department, JPNATC, AIIMS, New Delhi	India	drsinha123@gmail.com
Experts from Thailand			
16.	Dr.Witaya Chadbunchachai Director of WHO Callaborating Center Injury Prevention and Safety Promotion KhonKaen Hospital, KhonKaen , Thailand	Thailand	dr.bunchachai@gmail.com
17.	Dr Chanchai Janworachaikul Director of Khon-Kaen Hospital, KhonKaen , Thailand	Thailand	
18.	Dr.Somprasong Tongmeesee Head of Surgery Department Chonburi Hospital, Chonburi , Thailand	Thailand	tongmeesees@gmail.com
19.	Mrs. Eaung Kaewwilai Head of Emergency Room Chonburi Hospital, Chonburi , Thailand	Thailand	
20.	Miss Kwannak Kulleab KhonKaen Hospital, KhonKaen , Thailand	Thailand	kulleab@gmail.com
21.	Dr.Seathapong Thanoorat Head of Emergency Department Khon-Kaen Hospital, Khon-Kaen , Thailand	Thailand	emskkhwebmaster@gmail.com
22.	Miss Oratai Pochaisan Trauma Nurse Coordinator KhonKaen Hospital, KhonKaen , Thailand	Thailand	orataiauto@gmail.com
23.	Mrs.Thanyarasami Piyawatchwela Head of Emergency Room KhonKaen Hospital, KhonKaen , Thailand	Thailand	prehoskkh@gmail.com
24.	Miss Watchara Poomiprabu WHO CC, Khon-Kaen Hospital, KhonKaen , Thailand	Thailand	wacharameow@gmail.com
25.	MissWatchara Sriharat Head of Refferal Room ,Khon-Kaen Hospital, KhonKaen , Thailand	Thailand	wsriharat@gmail.com
26.	Dr Veerasak Ponpudtha, Emergency Physician, Emergency Department, Khon-Kaen Hospital, KhonKaen , Thailand	Thailand	

Annex 3: List of participants
Virtual meeting - COVID and Trauma and Emergency Services
Thursday 7 May 2020 at 1100hrs (India time)

Dr Sanjeev Bhoi
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Dr P S Bhatia
Consultant Department of Anaesthesia
VMMC& Safdarjung Hospital
New Delhi

Dr. Vivek Chauhan
Assistant Professor
Department of Emergency Medicine
IGMC, Shimla, Himachal Pradesh

Dr Witaya Chadbunchachai
Director of WHO Callaborating Center
Injury Prevention and Safety Promotion
KhonKaen Hospital, KhonKaen
Thailand

Dr G. Gururaj
Senior Professor,
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WHO Collaborating Centre for Injury Prevention and
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Centre for Public Health
National Institute of Mental Health & Neuro
Sciences
Bangalore, India

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Directorate General of Health Services
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Miss Oratai Pochaisan
Trauma Nurse Coordinator
KhonKaen Hospital, KhonKaen
Thailand

Dr Tara Nath Pokhrel
Director
Ministry of Health and Population
Department of Health Services
Curative Service Division
Teku, Kathmandu

Dr S. Rajesh
Director (Health) NITI Aayog
Government of India
NITI Aayog, New Delhi

Dr AKM Fazlur Rahman
Executive Director
Centre for Injury Prevention and Research
Bangladesh (CIPRB), Dhaka
Bangladesh

Dr Prof Maneesh Singhal
Professor & Head
Department of Burn and Plastic surgery
AIIMS, New Delhi

Dr Samiddhi Samarakoon
Director Accident & Orthopedic Services
and Deputy Director of National Hospital
Colombo, Sri Lanka.

Dr Tej Prakash Sinha
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Emergency Department, JPNATC
AIIMS, New Delhi

Dr Prof. Buland Thapa
Consultant Orthopedic Surgeon
Manmohan Memorial Medical College & Teaching
Hospital, Kathmandu
Nepal

Dr Poma Thapa,
Basic Health and Emergency Service Management
Section
Curative Service Division
DoHS, Kathmandu, Nepal

Prof Geetam Tiwari
Chair Professor
The Transportation Research and Injury Prevention
Programme (TRIPP)
Indian Institute of Technology (IIT)
Delhi

Dr Prof Mathew Varghese
Head of Dept. of Orthopaedics
St Stephen's Hospital,
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World Health Organization

Dr Thaksaphon Thamarangsi
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WHO Regional Office for South East Asia
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Dr Patanjali Dev Nayar
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Disability& Injury Prevention and Rehabilitation
WHO Regional Office for South East Asia
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Dr Syed Mahfuzul HUQ
National Professional Officer (Noncommunicable Diseases)
WHO Country Office Bangladesh

Dr Fikru Tesfaye Tullu
Team Leader (NCD)
WHO Country Office India

Dr Gaurav Gupta
NPO (Injury and Disability Prevention)
WHO country office India

Dr. Sharad Adhikari
WHO Country Office -Indonesia

Dr Sadhana Bhagwat
Medical Officer (NCD)
WHO Country Office
Nepal

Dr. Lonim Dixit
National Professional Officer (NCD)
WHO Country Office- Nepal

Dr Kedar Marahatta
NPO – Mental Health, Disability and Injury Prevention
WHO Country Office for Nepal

Dr Dona Mallawaarachchi
National Professional Officer
WHO Country Office SriLanka

Dr Liviu Vedrasco
Programme Officer
WHO Country Office Thailand

Ms Rattanaporn Ingham
National Professional Officer (Public Health)
WHO Country Office Thailand

Annex 4: List of participants
Virtual meeting - Strategies to Strengthen Emergency Services
Wednesday 27 May 2020 at 11:30 am (India Time)

Country Representative

Bhutan

Mr Sonam Dorji

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Indonesia

Drg. Dyah Mustikawati
Deputy Director
Occupational Health

Dr. Asral
Deputy Director
Integrated Emergency Care System

Dr. Yayan Gusman
Sub directorate
Integrated Emengency Care System

Myanmar
Dr. Htin Lin
Deputy Director General
Dept. of Public Health, MoHS,
Nay Pyi Taw

Dr. Yi Yi Myint
Senior Medical Superintendent
Yangon General Hospital
Yangon

Dr. Kyi Soe
Senior Medical Superintendent
North Okkalapa General Hospital
Yangon

Dr. Than Hla
Senior Medical Superintendent
Thingangyun General Hospital
Yangon

Dr. Su Su Dwe
Senior Medical Superintendent
Mandalay General Hospital
Mandalay

Dr. Myat Soe
Medical Superintendent
Magwe General Hospital
Magwe

Dr. Aung Lin Aye
Medical Superintendent
Naypyitaw General Hospital
Naypyitaw

Dr.Kyaw Kan Kaung
Director
Non-communicable Disease Control Unit
Department of Public Health

Dr. Maw Maw Oo
Professor
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Dr. Thandar Win Nwe
Professor
Emergency Medicine Department
Yangon General Hospital

Dr. Khine Shwe Wah
Professor
Emergency Medicine Department
University of Medicine (2)
Yangon

Dr. Win Kyaw   Professor
Emergency Medicine Department
Mandalay General Hospital

Dr.Aye Thiri Naing
Professor
Emergency Medicine Department
Mandalay General Hospital

Dr. Than Latt Aung
Senior Consultant
Emergency Medicine Department
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Department of Public Health

NEPAL

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Department of Health Services

Dr Poma Thapa
Chief, Basic and Emergency Service Management
Section
Curative Service Division
Department of Health Services

Thailand

Dr Sanchai Chasombat
Deputy Secretary-General
National Institute for Emergency Medicine (NIEM)

Dr Witoon Anankul
Division of Public Health Emergency Management,
Ministry of Public Health

Dr Witaya Chadbunchachai
WHO Collaborating Centre on Injury Prevention
Khon Kaen Hospital

Sri Lanka

Dr Vindya Kumarapeli
Director, NCD, MoH

Dr Samitha Siritunga
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National Programme Manager
Injury Prevention

Technical experts

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HOD, Orthopaedic Surgery
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Dean, Neuro Sciences
Senior Professor
Department of Epidemiology
WHO Collaborating Centre for Injury Prevention and
Safety promotion
Centre for Public Health,
National Institute of Mental Health & Neuro
Sciences
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Dr Vivek Chauhan
Assistant Professor Medicine
Indira Gandhi Medical College
Shimla, Himachal Pradesh
India

Dr Prof. Buland Thapa
Consultant Orthopedic Surgeon
Manmohan Memorial Medical College & Teaching
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Prof AKM Fazlur Rahman
Executive Director
Centre for Injury Prevention and Research
Bangladesh (CIPRB)
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World Health Organization

Bangladesh
Dr Syed Mahfuzul Huq
Dr. Momtaz Hossina

Bhutan
Mr Kencho Wangdi
Mr Sonam Wangdi

DPR Korea
Dr Sonal Gagan
Dr Md. Kamar Rezwan

India
Dr Gaurav Gupta
Dr Fikru Tesfaye Tullu

Indonesia
Ms Indah Deviyanti
Maldives
Ms Fathimath Hudha

Myanmar
Dr. Allison GOCOTANO
Dr Bo Win
Dr Aye Moe Moe Lwin

Nepal
Dr Lonim Dixit
Dr Kedar Marhatta
Dr. Sadhana Bhagwat
Md. Khurshid Alam Hyder

Sri Lanka
Thirupathy SUVEENDRAN,
Dr Dona Mallawaarachchi

Thailand
Ms Rattanaporn Ingham
Dr. Liviu

Timor-Leste
Mr Leoneto Pinto

Regional Office
Dr Thaksaphon Thamarangsi
Dr Patanjali Dev Nayar
Mr Puneet Dhingra
Ms Sangeeta Jasmine
Ms Priyanka Sharma
Ms Indu Arya Gulhar

Annex 5: WHA72.16 – Emergency care systems for universal health coverage: ensuring timely care for the acutely ill and injured

SEVENTY-SECOND WORLD HEALTH ASSEMBLY   WHA72.16

Agenda item 12.9   28 May 2019

Emergency care systems for universal health coverage: ensuring timely care for the acutely ill and injured

The Seventy-second World Health Assembly,

Having considered the report on emergency care systems for universal health coverage: ensuring timely care for the acutely ill and injured;[1]

Noting the importance of the organization of the health system as a whole, including by distinguishing between elective services and care, non-elective services and care, and emergency services and care in order to address the health needs of populations in a sustainable, effective and appropriate manner;

Recognizing that many proven health interventions are time-dependent and that emergency care is an integrated platform for delivering accessible, quality and time-sensitive health care services for acute illness and injury across the life course;

Emphasizing that timeliness is an essential component of quality, and that millions of deaths and long-term disabilities from injuries, infections, mental disorders and other mental health conditions, acute exacerbations of noncommunicable diseases, acute complications of pregnancy, and other emergency conditions could be prevented each year if emergency care services exist and patients reach them in time;

Noting that injury alone accounts for nearly 5 million deaths per year and that road traffic injury is the top killer of all those in the age group of 5–29 years;[2]

Noting also that emergency care is an essential part of health service delivery in health systems, and that well-designed emergency services facilitate timely recognition, treatment management and, when needed, continued treatment of the acutely ill at the appropriate level of the health system;

Acknowledging Sustainable Development Goal 3 (Ensure healthy lives and promote well-being for all at all ages), and recognizing that well-organized, safe and high-quality emergency care is a key mechanism for achieving a range of associated targets – including those on universal health coverage, road safety, maternal and child health, noncommunicable diseases, mental health, and infectious disease;

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[1] Document A72/31.

[2] Global Health Estimates 2016: deaths by cause, age, sex, by country and by region, 2000–2016. Geneva, World Health Organization; 2018

Acknowledging further Sustainable Development Goal 11 (Make cities and human settlements inclusive, safe, resilient and sustainable) and Goal 16 (Promote peaceful and inclusive societies for sustainable development, promote access to justice for all and build effective, accountable and inclusive institutions at all levels), and noting that a strong and well-prepared everyday emergency care system is vital for mitigating the impact of disasters and mass casualty events and for maintaining delivery of health services in fragile situations and conflict-affected areas;

Recalling resolutions WHA56.24 (2003) on implementing the recommendations of the *World report on violence and health,* WHA57.10 (2004) on road safety and health (echoed by United Nations General Assembly resolution 72/271 (2018) on improving global road safety), WHA60.22 (2007) on health systems: emergency-care systems, WHA64.10 (2011) on strengthening national health emergency and disaster management capacities and resilience of health systems, WHA66.8 (2013) on the comprehensive global mental health action plan 2013–2020, WHA68.15 (2015) on strengthening emergency and essential surgical care and anaesthesia as a component of universal health coverage, and WHA69.1 (2016) on strengthening essential public health functions in support of the achievement of universal health coverage, in which the Health Assembly prioritized integrated service-delivery models and identified the lack of access to timely emergency care as a cause of extensive and serious public health problems;

Recalling also the mandate of WHO's Thirteenth General Programme of Work, 2019–2023 to improve integrated service delivery and to serve in particular the most disadvantaged, marginalized and hard-to-reach populations, to ensure that no one is left behind;[1]

Noting that providing non-discriminatory access to all people in need of timely care in well organized, safe and high-quality emergency care services can contribute to the reduction of health inequalities;

Noting further that in many countries the emergency care system serves as the major health system safety net and the primary point of access to health services, in particular for marginalized populations, which is not an optimal use of health system resources;

Recognizing that the lack of organized emergency care in many countries leads to wide global discrepancies in outcomes across the range of emergency conditions;

Noting that many emergency care interventions are both effective and cost effective, and that integrated emergency care delivery can save lives and maximize impact across the health system;

Concerned that the lack of investment in frontline emergency care is compromising effectiveness, limiting impact and increasing cost in other parts of the health system;

Acknowledging that frontline health workers, nurses in particular, provide care for the acutely ill and injured, often without the benefit of dedicated training in the management of emergency conditions, and with limited possibilities for consultations;

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[1] Thirteenth General Programme of Work, 2019–2023. Geneva: World Health Organization; 2018; as contained in document A71/4 (http://apps.who.int/gb/ebwha/pdf_files/WHA71/A71_4-en.pdf?ua=1 or, accessed 19 March 2019) and adopted in resolution WHA71.1 (2018).

Noting that improving outcomes requires an understanding of the potential and actual utilization of emergency care, and that existing data do not provide adequate support for effective planning and resource allocation for emergency care;

Considering that WHO has a range of guidance that allows policy-makers, planners and administrators to develop action plans that are best suited to their national contexts, along with resources for training, as well as standards for essential emergency care services and resources at each level of the health system,

1.   CALLS FOR near-term additional efforts globally to strengthen the provision of emergency care as part of universal health coverage so as to ensure the timely and effective delivery of life-saving health care services to those in need;[1]

2.   URGES Member States:[2]

(1)   to create policies for sustainable funding, effective governance and universal access to safe, high-quality, needs-based emergency care for all, without regard to sociocultural factors, without requirement for payment prior to care, and within a broader health system that provides quality essential care and services and financial risk protection as part of universal health coverage;

(2)   as appropriate, to conduct voluntary assessments using the WHO emergency care system assessments tool to identify gaps and context-relevant action priorities;

(3)   to work towards, or promote, at appropriate levels of governance, the inclusion of routine prehospital and hospital emergency unit care into health strategies, and in other relevant planning documents, such as emergency response plans and obstetric and surgical plans;

(4)   to develop a governance mechanism, as appropriate to their national context, for the coordination of routine prehospital and hospital-based emergency care services, including linkages with other relevant actors for disaster and outbreak preparedness and response, including the capacity of personnel in other sectors;

(5)   to promote more coherent and inclusive approaches to safeguard effective emergency care systems as a pillar of universal health coverage in fragile situations and conflict-affected areas, ensuring the continuum and provision of essential health services, and public health functions, in line with humanitarian principles;

(6)   to promote as appropriate, according to the level of health care services, from first level and above, the establishment of a dedicated area or unit for emergency services and care with appropriate equipment and capacity for management and diagnosis;

(7)   to promote access to timely prehospital care for all, by using informal or formal systems, as resources allow, including by establishing, where they do not exist, toll-free universal access numbers that meet international standards;

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[1] See Emergency and trauma care [website]. Geneva: World Health Organization; 2019 (https://www.who.int/emergencycare/en/, accessed 20 May 2019).

[2] And, where applicable, regional economic integration organizations.

(8)   to implement key processes and protocols as identified in WHO guidance on emergency care systems, such as triage and checklists,[1] as appropriate;

(9)   to provide dedicated training in the management of emergency conditions for all relevant types of health providers, including developing post-graduate training programmes for doctors and nurses, training frontline providers in basic emergency care, and integrating dedicated emergency care training into undergraduate nursing and medical curricula, and establishing certification pathways for prehospital providers, as appropriate to their national context;

(10)   to increase awareness and capacity in communities to deal with emergency situations, including through campaigns, and through training of standard practices across educational and occupational settings, adapted to their corresponding target populations, so they can identify, mitigate and refer potential emergencies;

(11)   to implement mechanisms for standardized data collection to characterize the local acute disease burden and identify high-yield mechanisms for improving the coordination, safety and quality of emergency care;

(12)   to support efforts to ensure, based on local risks, that prehospital and hospital emergency units have plans in place to protect providers, patients and infrastructure from violence and to protect providers and patients from discrimination; and that they have in place clear protocols for the prevention and management of hazardous exposures;

3.   REQUESTS the Director-General:

(1)   to enhance WHO's capacity at all levels to provide necessary technical guidance and support for the efforts of Member States and other relevant actors to strengthen emergency care systems, including to ensure preparedness in all relevant contexts;

(2)   to foster multisectoral networks, partnerships and action plans, and to facilitate collaboration among Member States, to support the effective dissemination and implementation of best practices in emergency care;

(3)   to promote equitable and non-discriminatory access to safe, quality emergency care services for all people as part of universal health coverage;

(4)   to renew efforts outlined in resolution WHA60.22 to provide support to Member States, upon request, for needs assessments, facility inspection, quality- and safety-improvement programmes, review of legislation, and other aspects of strengthening the provision of emergency care;

(5)   to support Member States to expand policy-making, administrative and clinical capacity in the area of emergency care, by the provision of policy options and technical guidance, supported by educational strategies and materials for providers and planners;

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[1] See Emergency and trauma care [website]. Geneva: World Health Organization; 2019 (https://www.who.int/emergencycare/en/, accessed 20 May 2019).

(6)   to strengthen the evidence base for emergency care by encouraging research on the burden of acute disease and emergency care delivery, and by providing tools, protocols, indicators and other needed standards to support the collection and analysis of data, including on cost-effectiveness;

(7)   to facilitate awareness and international and domestic resource mobilization, in line with the Addis Ababa Action Agenda of the Third International Conference on Financing for Development[1] by providing advocacy resources;

(8)   to report to the Seventy-fourth World Health Assembly in 2021 on progress in the implementation of this resolution.

Seventh plenary meeting, 28 May 2019
A72/VR/7

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[1] United Nations General Assembly resolution 69/313 (2015).

Annex 6: Strategic Actions for COVID-19 in the SEA Region

Strategic actions for COVID-19 in the SEA REGION are:

- the training of health care workers to protect themselves from COVID-19 infection;
- ensuring the availability of personal protective equipment for primary care workers;
- access to COVID-19 testing for all symptomatic health care workers;
- decreasing stigmatization of COVID-19 among the public through education, so that even mild symptoms are reported;
- use of technology and telemedicine including apps like 'Arogya Setu' to fight COVID-19;
- ensuring triple layer masks for all patients and their attendants;
- ensuring adequate ventilation and movement of fresh air in patient areas;
- ensuring the availability of rapid diagnostic kits at primary care;
- standard operating protocols for the transfer of emergency patients in ambulances during the COVID-19 pandemic, and sterilization of patient areas after each patient use;
- standard operating protocols for use of imaging facilities, and sterilization of equipment after each patient use;
- standard operating protocols for cardiopulmonary resuscitation, intubation, suction and nasopharyngeal and oropharyngeal sample collection, considering all patients to be COVID-19 positive;
- avoiding overcrowding in ED;
- mobilizing bureaucracy, public funding and government expenditure for improvement in emergency areas and manpower, in hospitals and primary care;
- use of pulse oximeters to detect silent hypoxia preferably in symptomatic patients with the help of village health volunteers, so that they can be shifted to hospitals for early treatment;
- consider hydroxychroloquine prophylaxis after exposure to a COVID-19 patient.

Emergency care interventions are both effective and cost-effective and integrated emergency care delivery can save lives and maximize impact, across the health system. Well-designed emergency care facilitates the timely recognition, treatment and, when needed, the continued treatment of acutely ill people, at the appropriate level of the health system. Millions of deaths and long-term disabilities from injuries, infections, mental disorders and other emergency conditions could be prevented each year, if effective emergency care services are available and patients reach them in time.

The ongoing COVID-19 pandemic has further exposed the challenges that emergency care systems of the Member States of the Region face, in the delivery of integrated emergency care and the deficiencies in their response preparedness. This document provides the strategic directions to integrate emergency care services into primary health care so as to address the challenges being faced as well as some of the additional deficiencies noted during COVID-19 pandemic.

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