NO - FEAR

Network Of practitioners For
Emergency medicAl systems
and cRitical care

Preliminary lessons learned
around COVID-19 response

Project title:	Network Of practitioners For Emergency medicAl systems and cRitical care		
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1. Project Overview

NO-FEAR is a five-year project that responds to the Horizon 2020 Secure Societies 2017 call topic: Pan-European networks of practitioners and other participants in the field of security – Medical Emergency Teams.

The project brings together a pan-European network of practitioners, academia members, decision and policy makers in the field of emergency medicine, with the aim to share knowledge, experience and necessities, thus overcoming the current state of overwhelming fragmentation. The network collaborates to achieve a common understanding of needs and increase the EU innovation potential that could better fill the operational gaps and recommend areas for future innovations.

The consortium is led by CRIMEDIM (Research Center in Emergency and Disaster Medicine – Università del Piemonte Orientale) and composed of 18 partners from 10 Member States and 2 Associated Countries. It groups partners representing the different sectors involved in emergency response: practitioners, universities, research centres, governmental bodies, ONGs and SMEs.

2. NO-FEAR Role in the COVID-19 Response

The COVID-19 pandemics undoubtedly represents a global health threat, putting our citizens in danger and pushing many of our national health systems to a breaking point. All Europe is now directly involved in the response and practitioners find themselves operating in completely unknown and unpredictable situations. In this scenario, encouraging the transnational cooperation and the exchange of information, lessons learned, best practices and quickly available solutions is of paramount importance. The NO-FEAR project, through its network of practitioners, suppliers, policy makers and academicians, is doing its best to amplify the benefits of sharing experiences and solutions among its practitioners, academia members, suppliers and policy makers.

Through a series of webinars and interviews and an online repository of documents, a number of lessons learned have been collected in the following topics: crisis management, pre-hospital operations, in-hospital operations, psycho-social support, ethical implications. Practitioners and researchers from Europe (Italy, France, Spain, Germany, Austria, UK and Belgium) and beyond (USA, Israel, Kenya) were involved in the mentioned activities and shared information based on their first-hand professional or academic activity.

A non-exhaustive list of preliminary lessons learned is provided below and will be updated with lessons learned and best practices collected in future webinars, interviews and online discussions.

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3. **Preliminary Lessons Learned around COVID-19 Response**

EMS & PRE-HOSPITAL CARE

Lessons learned:

- Increase in emergency calls: in a country where the COVID hot line was operated as part of the EMS emergency line, operators reported an increase from an average of 2,500 calls per day to 25,000 calls per day to the EMS operations center.
- Most information are available on the official websites, but people still call the emergency hot line to be sure they well understood how to act. There is a tendency to accept information provided orally than in a written form.
- In some countries EMSs are instructed to wear protective mask on every response (not only COVID 19 suspected), all patients have to wear masks, minimized medical crews, disinfection of working stations.
- Large amount of volunteers contributes to the system (including MDs and nurses), but need to be managed well, including PSS and PPE.
- Specific SOPs were developed to address the unique situation.
- Rescue service is still working, even though in some organizations there are around 25% staff in quarantine or sick.
- Closing training centers and other activities to gain additional resources.
- Due to the restrictions of movement, there are less calls for fire and rescue.
- In some countries patients are being transported from overloaded hospitals to others by trains or air (helicopters, planes).
- Personnel in risk groups are out of street roster.
- It is useful to triage the patients out of the ER and decide who will enter the building and to which area they should go.
- Primary healthcare, general practitioners, EMS have a key role to alleviate the burden at the hospital before the admission.
- Telephone triage done by General Practitioners help reduce the burden in hospitals.

Main challenges:

- The supply of PPE is not sufficient, there is a global lack of PPE for all the healthcare workers (EMS, hospital staff, general practitioners…).
- Insufficient amount of assessment and testing abilities.
- Fear of ambulance crew to respond to positive cases.
- Many non-COVID 19 patients are staying away from ED until it is too late.
- Due to rapid use of consumable equipment there is a need to have a warehouse to store it.
- Real-time monitoring of critical resources (ECMO, ICU beds, PPE).

- o There is an obligation to assess the hospital capacity before intubation.
- o The personnel is exposed to heat in the protective suit, and the protecting glasses are getting covered with fogging.
- o Communication problems when using PPE: the EMS personnel can't use phones to report.

Best practices:

- o Increase of ALS availability.
- o Trying to avoid entrance of mild cases to the units or hospitals.
- o Using a new machine to decontaminate units in 15 min and not in 4 hours.
- o When transporting a patient, open the vehicle windows.
- o Daily cleaning/disinfection of ambulances after intervention.
- o Screens of personnel in the counties based on the risk level of the local level to define who can work and where.
- o Converting convention centers into hospitalization halls with ICU abilities.

CARING FOR TEAM MEMBERS

Best practices:

- o Protecting human resources, with debriefings after every shift including updates, web updates and guidance movies.
- o CBRN teams help other teams to dress and decontaminate, thus improving safe feeling of staff.
- o Have a psychologist available 24/7.
- o Plan and prepare to adjust better to the new situation (staff working from home and staying with the children).
- o Reach out to the staff and volunteers, offer support (not only by e-mail). Use the peer support system, including hot line for staff members. Provide ideas for parents to spend time with the children (e.g. the IFRC is working on an illustrated children story book about the virus to help coping and support children).
- o Open an e-mail box for questions or suggestions from personnel (if operating a hot line is not possible).
- o Plan online training for staff.
- o Request staff and volunteers to shave beards, risk groups are out of the street roster.
- o Food supply to crews on duty as eating places are closed.
- o Instruct personnel not to carry personal bags to the ambulances to avoid the need of disinfection.
- o Use designated teams to assist others to wear or remove PPE.
- o Medical personnel should be located as far as possible from the patient (when the medical conditions allow it), airway procedures (intubation, CPAP) must be avoided when possible.

- o Share recommendations and instructions by video (through WhatsApp or social media). People prefer seeing other people, rather than reading texts.
- o Need to support staff resilience ("Images and decisions we never imagined will happen in the Western World").
- o Many EMS personnel under quarantines. In some countries hey have a WhatsApp group to share concerns, questions and funny things. It is important to have someone accepted by the group to give the "formal" answers.

IN-HOSPITAL CARE & ACUTE CARE OF THE PATIENT

Lessons learned:

- o Hospital staff see more and more young patients who require ICU.
- o Prepare for large numbers in Oxygen therapy, with flows of 10 LPM (masks and CPAP).
- o There are many discussions ongoing all over the world about ethical distribution of resources and policy of admission at the hospital and choice of unit to be hospitalized in, based on life expectancy, comorbidity and utilitarianism.
- o Staff at the ICU wear gowns/coveralls, and 3 pairs of gloves per patient: outer layer for patient contact, second layer is kept between patients as "skin" washed/ sanitized between patients, and bottom layer used for clean removal of PPE at end of shift.
- o Less surgeries (no electives), OT recovery room ready to be converted to General ICU.
- o Plan for COVID beds with different level of assistance: ICU, CCU, regular – plan managers.
- o Suspected COVID-19 positive individuals are asked to stay at home and supposed to be tested again in 4-5 or more days. They are usually frightened and sometimes go to the hospital by themselves. A possible solution could be a daily communication, remote or physical.

Main challenges:

- o Patients are being treated in hospital corridors.
- o Many doctors and nurses are working outside of their field of expertise.
- o Little is known about for how long the patients need assistance and for how long will remain Covid positive. However, it seems that the average ventilation time for COVID 19 patients is of 2 weeks.
- o Non-Invasive ventilation uses 4 time O_2 as intubation – can impact O_2 storage.
- o Wearing PPEs is exhausting and shifts of doctors and nurses working in COVID+ areas should be reduced accordingly.

CRISIS MANAGEMENT

Lessons learned:

- o Importance of Military support. The deployment of military medical assets is essential.

- o In many countries, crisis units were opened in each hospital, pre-triage tents placed outside the hospitals and disaster medicine rules are applied.
- o Hospitals should plan separate paths ("clean" and "dirty") since the very beginning.
- o PPE supply to health care providers is crucial, it supports them, keeps them healthy, and ensures feeling of care and support. PPE training is also essential.
- o Waste management (bio-hazards) is important and must be planned well, as amounts of waste keep growing.
- o The allocation of resources when these are scarce should follow objective criteria (e.g. medical/clinical need and efficacy of treatment).
- o Sharing of information and lessons learned is fundamental to give the possibilities to other countries to better prepare. Many hospitals all over Europe reported that the information received by colleagues in Italy in early March helped them the better plan their response, e.g. increase ICU surge capacity, re-organise the space in hospitals etc.
- o A stronger coordination between the different health sectors (pre-hospital, hospital, family doctors) is needed since the beginning to contain the admission of patients in hospital and to continue the care at home after the discharge.
- o Healthcare staff should be better prepared for the crisis management. Training is fundamental, not only on how to protect themselves, but also on how to react and to respond to difficult situations, how to expand the hospital surge capacity, how to triage patients at the admission and how to triage patients to decide who needs ICU, who needs intubation and who doesn't.
- o Medical Dispatch Centres play a major role in lowering the burden of hospitals and flattening the curve of hospitalizations.
- o Plans for fast track recruitment of doctors and nurses are essential.
- o Together with the decrease in COVID outbreak, comes an increase of welfare needs, and new "vulnerable" groups.

ETHICAL IMPLICATIONS

- o Healthcare workers have the duty to treat patients, but this should be balanced with the protection of themselves and their families. In any case they need to report if they are working in unsafe conditions (The Hastings Center, US[1]).
- o Healthcare workers should have a priority in the distribution of resources, so they need to be cured before the others to be able to return to cure the others.
- o Ethically there is no differences between a worker and a volunteer: both categories are exposed to a risk and they need to be protected.
- o Surveillance systems can be used according to GDPR because of the critical situation related to COVID, but three main conditions should be taken into account:
  - necessity: you need to demonstrate that the action is necessary;
  - proportionality: the measure needs to be proportional according to your scope;

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[1] https://www.thehastingscenter.org/

- minimization: you need to minimize use of data whenever possible.
  - WHO issued a document in 2017 (after Ebola crisis) saying that confidentiality remains a value that should be protected whenever possible (priority remains the protection of health of citizens).
  - Ethics generally says the "humanization of death/accompanying of dying people" is important and dying people should have family with them. Since this is not possible countries should setup a research on the human sciences (sociological/psychological) regarding consequences of dying alone on families (France is doing it already). Religious assistance should also be taken into consideration in some cases.

PSYCHOSOCIAL ASPECTS

The following aspects were identified according to the Maslow's Hierarchy of needs[2]

- PHYSIOLOGICAL NEEDS
  Personnel is working wearing uncomfortable suits. Thermal discomfort related to PPE (including masks) is a main problem. Staff is wearing PPE for a long time (usually the entire shift) due to PPE shortage and lack of relaxing room.
- SAFETY NEEDS
  - Personnel usually doesn't feel sufficiently protected (even if international guidelines are in place).
  - There is a PPE shortage. PPE shortage may affect also the relationship of staff with patients. This can lead to a sense of frustration and powerlessness because cannot communicate easily with the patients.
  - Lack of trust in external or newly hired workers.
- LOVE AND BELONGINGS
  - Staff is concerned to take COVID 19 home. Many workers are living in a different area of the house, e.g. the basement room.
  - Normally nurses/doctors avoid bringing home issues related to their job; on the contrary now they feel they can bring home COVID 19 but also their feelings.
  - Older nurses are taking over the duties of younger nurses who have kids.
  - Nurses/doctors may experience difficulties when one of the staff member would die.
  - Worries from people about patients dying alone. Relatives are not allowed to visit patients affected by COVID. Patients are awake and understand the moment when they are going to die, this clearly put the staff in a stressful situation. Nurses feel like they have the role of mediation and communication between the patient and the family (staff help patients in talking on the phone with relatives).
  - A communication system with patients' relatives is necessary, including videocalls.
    - ESTEEM
      Few members of the staff are experiencing stigma on the other hand they are seen as heroes (e.g. applause).

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[2] *Maslow, A (1954). Motivation and personality. New York, NY: Harper. ISBN 978-0-06-041987-5.*

> ➤ SELF-ACTUALIZATION
> Staff hopes that when the crisis will be over the system will learn from the COVID-19 pandemic and will not further cut healthcare services.

PSYCHOLOGICAL SUPPORT

- o Some Hospitals opened a free and anonymous service of psychology for staff working with COVID + patients. They are conducting focus groups with the EMDR technique for the hospital staff, but they are arranging a group also for the EMS.
- o Psychosocial support of personnel is highly needed but also teamleaders and management play an important role.
- o Psychoeducation and counselling can help dealing with stress but only if interventions are based on a needs-oriented approach. Needs may change rather quickly e.g. from places to rest at the beginning to recommendation s of how to talk to children when coming home again.

USEFUL RESOURCES:

https://pscentre.org/: The Reference Centre for Psychosocial Support (PS Centre) works under the framework of the International Federation of the Red Cross and Red Crescent (IFRC), and supports National Societies in promoting and enabling the psychosocial well-being of beneficiaries, staff and volunteers.

https://mhpss.net/: The Mental Health & Psychosocial Support Network is a platform provided by IFRC, with a dedicated group for COVID 19 and resources on PSS and mental support.

https://ifrc.csod.com/client/ifrc/default.aspx: Online training platform of the IFRC, offering short courses and peer-to-peer learning paths for free.

The Consortium