



# EUROPEAN POLICYBRIEF

NO-FEAR



TITLE

**Monitoring technologies, low cost, wearable and disposable**

31/05/2023

## INTRODUCTION

During its five year activity, NO-FEAR has studied many different and new technologies that help first responders on the field assess patients' vital functions in order to take rapid decisions not only for triage but also to start immediate life-saving procedures and to decide transportation to definitive care. During the Project, COVID appeared and new procedures to monitor vital signs were introduced and some of the old ones re-evaluated. The field of monitoring devices has grown greatly due not only to scientific-technical progress but also to the new clinical situations that emerged.

## EVIDENCE AND ANALYSIS

New monitoring technologies, low cost, wearable and possibly disposable:

During webinars, discussions with partners, but especially Exercises and Demos, it is evident that one of the new acquisitions of these recent years, especially after COVID has been the importance of measuring vitals and their monitoring. This should be fast and continuous. In COVID we saw patients that apparently were in good conditions crashing in a few moments because their oxygen saturation was low and we did not measure it. On the other hand, the Project has recognized that the technology for these devices is in constant evolution and it can be possible to state that in a short time interval technology might reach the minimal objectives of low cost and be disposable which are useful for this function. These technologies, be it photoplethysmography or others, are useful in all kinds of major emergencies from respiratory impairment to major incidents to monitor patients on the field and during transport. Lung Ultrasound (LUS) has been demonstrated useful for diagnosis of COVID pulmonary involvement but also as a follow-up diagnostic procedure for patients with interstitial pneumonia in the Emergency Department (ED), intensive care unit (ICU) and wards.

## POLICY IMPLICATIONS AND RECOMMENDATIONS

The policy implication and recommendation is also sustained by NO-FEAR partner participation to the NIGHTINGALE Project. NIGHTINGALE Project correctly brings forward what the NO-FEAR Consortium has prepared during the previous two years. Policy implication for new medical monitoring devices is that to build an integrated system possibly based on European technology. In a fragmented market and competing industries offering European First Responders different technologies, to build an integrated and possibly cross-border system will be very difficult. On the other hand only very cheap technologies will be adopted due to the fact that major casualty events are infrequent. Once these technologies are at hand, a campaign to introduce the low cost, wearable (and also disposable) monitoring systems is necessary because operator acceptability of new technologies is not always so straightforward (lesson learned from the NIGHTINGALE Project). A policy implication and a recommendation could be that the new technologies providers be given more occasions to present innovative tools and a selected group (NO-FEAR ex partners, New NO-FEAR consortium) of operators should try them out and further enhance their diffusion if they are deemed useful. Emergency Doctors (medicine and surgery) must be updated and confident on the newest monitoring medical devices. Diagnostics must be pushed forward as much as possible also on ambulances (portable ultrasound -US-). The recommendation is to use lung US when there is a high prevalence of the disease such as in pandemic situation: pathological finding of lung parenchyma can be found in poorly-symptomatic COVID patients. Another policy implication is to push first responders to interact with the tool and device developers so as to better tailor the new tools to the real necessities of major emergencies.

## SUSTAINABILITY AND LEGACY

Introduction of new monitoring technologies is “per se” sustainable. It will be first adopted in everyday use and successively it will be applied to major emergencies as they will come. A strong EU push towards the development of new medical devices is necessary and an effort towards standardization of devices and procedures is necessary. Legacy of the NO-FEAR project will surely merge into new DRS02 calls.

## RESEARCH PARAMETERS

Research parameters in this field consist in knowledge of the cutting edge technology, present and that is being developed. Knowledge of cutting edge technologies is often at the beginning restricted to academic settings since academia has more researchers to study scientific progress. However, first responders are those that must use the tools and so interaction between these two realities is necessary for usability research.

## PROJECT IDENTITY

**PROJECT NAME** Network Of practitioners For Emergency medical systems and cRitical care (NO-FEAR)

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Magen David Adom in Israel – Or Yehuda, Israel

Ministère de l'Intérieur – Paris, France

Ministerul Afacerilor Interne – Bucharest, Romania

Nederlands Normalisatie Instituut – Delft, Netherlands

Norges Rode Kors – Oslo, Norway

Rinicom Limited – Lancaster, UK

TFC Research and Innovation Limited – Dublin, Ireland

Trilateral Research Ltd – London, UK

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Université Côte d'Azur – Nice, France

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**FUNDING SCHEME** European Commission Horizon 2020 Secure Societies Research Programme, 4<sup>th</sup> call,  
topic: SEC-21-GM-2016-2017(CSA) Pan European Networks of practitioners and other  
actors in the field of security

**DURATION** June 2018 – May 2023 (60 months).

**BUDGET** EU contribution: 3 495 957.50 €.

**WEBSITE**

<https://no-fearproject.eu>

**FOR MORE  
INFORMATION**

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 786670.

*This policy brief reflects only the author's view and the European Commission/REA is not responsible for any use that may be made of the information it contains.*