



**AUDIT AND FEEDBACK: EFFICACY FOR
ENHANCING THE CLINICAL PRACTICE AND
TO REDUCE AVOIDABLE DIFFERENCES IN
THE FIELD OF EMERGENCY MEDICINE.**

Work Package 2
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EMERGENCY



FOCUS ON INDICATORS AND A&F METHODOLOGY

Our team **focused A&F process** in **emergency care** in our Region with particular regard to 3 time-dependent conditions: myocardial infarction, stroke and major trauma.

The team is composed of 3 groups:

- The first group uses **data** collected from **real emergency situations** to **analyze how the emergency system works in real life**
 - The second group **uses data analytics to integrate** real information to the territory characteristics
 - The third group **uses virtual reality** to create **virtual major emergency situations**
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FIRST GROUP: REAL LIFE DATA

We chose more than **60 key performance indicators**, whose results are written in annual reports based on data of the previous year. We wrote **2 reports**: report **2019** (data of 2018) and report **2020** (data of 2019).

KPIs includes number of strokes, heart attacks or major traumas, time between the call to the E Service and the departure of the ambulance from the hospital, time from the arrival of the patient to ER and the first visit, etc...

- difficulty in involving professionals in the process of choice of the best KPI
- low interest in the reports (reading or even giving opinions/suggestions)



We asked/obtained and have now **the cooperation** of ARCS, an agency that coordinates local health authorities and manages planning and programs of our Region.
The aim is to find a common computation method when our KPI are of Regional interest.

SECOND GROUP: DATA ANALYSIS

We are developing a **system that can integrate** information from the local **Emergency call system** to the information about **territory** (location of the emergency points, traffic conditions in different moments of the day) in order to **choose the best ambulance, from the best emergency point, driving on the fastest route**. This system has been presented to the local authorities for a first exam

Constant cooperation of computer scientists working actively to the system



Difficulties in obtaining the right info to integrate in the analytics: COVID emergency slowed contacts with structures involved as first line



We organized meetings **to the major authorities of the Region** (ARCS, and SORES the Regional Operational Structure of Health Emergency) to create interest on the system, with regard to the actual situation but also to possible future scenarios.

THIRD GROUP: VIRTUAL REALITY

We developed a **VR software** that can be used from the **single professional** to train skills and abilities **in managing major emergency situations**. The software provides instant feedback to the trainees and the A&F process can be repeated many times. At the moment the software is under validation.

Great and tight cooperation with computer scientists who make constant changes to the system according to our requests.



Difficulties in letting professional understand virtual reality is not intended as a substitution of a session with real trainers.



We involved **official trainers of our Region** in the optimization of the software: ***enthusiasm and positive feedback/suggestions***.

Interest of the Central Direction of Health of our Region to use the software in ***regional training program***.

IN THE NEXT FUTURE

For the first group (KPI and real life data):

- the 3rd report in progress (data of 2020);
- interrupted time series analysis in progress.

For the second group (data analysis):

the model is going to be refined with more specific information on each ambulance territorial jurisdiction and crew.

For the third group (VR):

a protocol to evaluate the efficacy of different feedbacks in VR-BLS training is in the drafting phase.