

COVID-19, HOW TO ANTICIPATE AND PLAN FOR EMERGENCY SERVICES? LESSONS LEARNT FROM A FRENCH FIRE DEPARTMENT

Monet Jean-Paul, Chadli Hanane, Giraud Camille, Grégory Allione,
Bouches-du-Rhône Fire Department (BDRFD)¹,
jpmonet@sdis13.fr, hchadlim@sdis13.fr, cagiraud@sdis13.fr

Lamarca Claudie, Richard Frédéric, Pudlo Pierre,
Aix Marseille University (AMU)²
frederic.richard@univ-amu.fr, pierre.pudlo@univ-amu.fr

Abstract (practitioners talk)

Even if Covid-19 epidemic isn't yet finished, it is now possible to draw up some lessons learnt from the first epidemic wave.

In France, the corona virus disease stroke in spring 2020, with an acme at beginning of April.

Lockdown was set at mid march, and emergency services, even protected by this decision, had to deal with very heavy constraints.

More precisely, they had to plan and anticipate a quite unpredictable future. It was a question of life: will hospital be able to accept all cases?

Will private ambulances and fire department be able to ensure transportation of the most affected persons?

In the total absence of reliable predictive models, responders and medical personal had to imagine the further development of COVID-19 epidemic, starting from very raw data. The crisis organisation managed a planning function, in charge to answer to three critical questions: when will the peak arrive, what will be its height and how long will it last?

In a fuzzy intellectual environment (bad reliability of the basic indicators, changing situations...) planning was done in an unusual manner, really "inventing" indicators to monitor and anticipate the crisis.

Thus, some indicators have been successively developed and monitored:

Number of hospital beds occupation

Number of hospital admissions

Early comparison with socially similar countries, with crisis development advance, allowed giving a very good prognostic of the date of the epidemic maximum.

Additionally, the use of calculation methods introduced by New York Times publications give an approach of the uncounted fatalities during the worst phase of the crisis. It allows to estimate in France at the end of the year uncounted 10 000 fatalities in excess, increasing to 50 000 the death toll related to Covid-19 for 2020.

¹1, avenue de Boisbaudran, 13326 Marseille cedex 15, France.

² Institut de mathématique, technopôle Château-Gombert 39, rue Frédéric Joliot-Curie, 13453 Marseille cedex 13, France.

The paper will underline how it is important to build the more efficient dashboard, and how all along the crisis adaptation in planning is key issue, supporting the strategy of changing indicators during the run of the crisis, including the second autumnal wave.

Through the experience of one of the biggest French fire department, examples and updated information will be given.

Keywords: Covid-19, disease, pandemic, indicators, planning, coronavirus.