

The Covid-19 pandemic: looking ahead

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Over the last 100 years, the epidemiological transition in Europe brought progressive decrease in the burden of infectious diseases and concomitant increase in non-communicable degenerative conditions (1). A century has passed since the last serious epidemic in our Continent, the “Spanish” flu; after the second World War, even more, the feeling of safety and success for having defeated one of the most dramatic threat for humanity – an epidemic – became integral part of societal thinking, and object of numerous scientific outputs (2). Health and well-being improved after Europe recovered from the Spanish Flu, thanks to multiple factors, including improved hygiene, living and working conditions, antibiotic use and mass immunization programmes.

Since the 1950s, the way of living in Europe has been evolving around this new epidemiological scenario. Housing, transportation, food, the built environment (hospitals, schools, hotels, restaurants, prisons, nursing homes etc.) have been built and organized to cope with an ageing population and high chronic diseases prevalence in a world where physical proximity and social contact were not considered risk factor, rather an opportunity to socialize and make an efficient use of spaces. The current outbreak brings us back to the past with a disease whose risk of airborne transmission increases with proximity and obliges us to rethink the whole system where we live and work and to re-design the space around us. In this context, society faces new needs (3-5) that can be roughly divided in two different phases, in the short, medium and long-run.

In the short run, control efforts focus on the enforcement of behavioral preventive measures (individual protection, distancing, sanitation, quarantine),

whose implementation at the population-level has large socio-economic impacts (6, 7). In addition to preventive measures, the initial phase of the COVID-19 epidemic came with massive pressure on health systems, with particular reference to hospital services having to handle massive and unexpected healthcare needs of COVID-19 patients. This first phase – especially if adopted preventive measures are effective – is relatively short in time and is followed by endemic-epidemic trends with possible isolated clustered infection outbreaks, this until a vaccine will become available. However, other epidemics will eventually come in the future, this raising challenges in a second phase, and in the long-run.

The epidemiological, psychological (8), social and economic (9) impact of the COVID-19 epidemic is likely to generate solid and long-lasting awareness of the epidemic risk at the societal level, this supporting the implementation of structural interventions to modify the urban, architectural and functional characteristics of the world in which we live, so as design safe houses, schools, public transports and other public places, nursing homes and, of course, safe hospitals and healthcare facilities. As done in past centuries when we designed and built aqueducts and sewers, monitored food production and distribution so as to ensure safety, likewise now we need to design and build a world that protect us from epidemics. All this, both first and second phase actions requires money and resources. It will be therefore important that all stakeholders, starting from healthcare workers, develop a strong design thinking, proposing solid ideas to gather economic resources that need to be efficiently used, also taking into consideration their management at the European level.

The healthcare sector, where we, and our associations authoritatively belong, has to raise its voice (10) and contribute to the debate. We have a unique opportunity to help to create a resilient world, protected against future epidemics, and we can do that starting with:

1. Strengthening scientific research
2. Building safe spaces and facilities with limited biological hazards
3. Identifying and setting technologies supporting environmental safety in high-risk settings, including hospitals
4. Promote the digitalization of processes and procedures
5. Develop and implement of telemedicine services
6. Improvement monitoring and evaluations systems
7. Improve diagnostic capacities, with particular reference to rapid testing
8. Develop new treatments' protocols
9. Promote staff training and education

This, and much more, will contribute to the general aim of having a safer world, prepared to tackle new challenges related to infectious diseases spread. To lead the change we all need, without further due, to enter a new dimension, and be ready with strong ideas when, in the months to come, the European Commission will start to invest in this important new programme.

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