

Short Communication

EpidemiXs: Harnessing digital technology in the fight against COVID-19 and the associated infodemic

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Abstract.

BACKGROUND: EpidemiXs is an innovative ecosystem of digital tools centralizing official and validated information on COVID-19 for healthcare workers and the general public in a single hub.

OBJECTIVE: The vision of EpidemiXs is to foster collaboration between researchers, institutions and individuals to promote “open data” in order to enrich the scientific community and further accelerate science in the fight against COVID-19.

METHODS: Through its set of solutions, EpidemiXs Info, EpidemiXs TV and EpidemiXs Studies, this innovative ecosystem contributes to advancing collaborations, data collection and analysis, and helps find funders.

RESULTS: EpidemiXs was launched in March 2020 in Spain with 30 healthcare institutions and rapidly reached close to 1 million users and 2 million views. EpidemiXs gained international recognition when it was awarded the Barcelona Health Hub Awards (BHHAwards) 2020 of the category “Best Startup Initiative to help tackle COVID-19”.

CONCLUSION: EpidemiXs has proven the efficiency of the rapid deployment of digital tools in times of COVID-19.

Keywords: COVID-19, infodemic, pandemic, digital health, technology, research, open data, healthcare

1. Introduction

As the coronavirus disease (COVID-19) pandemic unfolded, a growing infodemic was also taking place, a phenomenon coined by the World Health Organization (WHO) as an overabundance of information, including the spread of both misinformation and disinformation, which made it difficult for people to find trustworthy sources and reliable guidance. Social media and communication platforms became amplifiers of the infodemic, putting key measures to control the spread of COVID-19, such as mask-wearing recommendations and immunization campaigns, at risk. At the same time, there was a lack of data to inform evidence-based policies and strategies to control the pandemic. These phenomena combined led to dangerous cycles of poor observance of public health measures and jeopardized the global response to the pandemic.

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32 *1.1. EpidemiXs, an ecosystem of digital tools*

33 The impact was not only felt by the general public, but also the medical and healthcare professional
34 community. In Spain and other localizations around the globe, the team at UniversalDoctor, a social
35 enterprise founded by a medical doctor to co-create digital global health solutions with key stakeholders,
36 began brainstorming with health care workers and citizens in March of 2020, to co-design a set of digital
37 solutions to support communities and local actors in the fight against COVID-19. This led to the birth of
38 the EpidemiXs ecosystem of digital tools to harness technology in the fight against COVID-19 and the
39 associated infodemic.

40 The EpidemiXs solutions harnessed and leveraged over a decade of the development of different
41 technologies and cross-sector expertise of UniversalDoctor working with the leading public health actors
42 on the global level, such as the WHO, and local level, including regional and local healthcare institutions.

43 EpidemiXs was first launched in Spain in partnership with 30 healthcare institutions, reaching close to
44 1 million users and over 2 million views in the first week, and has been deployed in France in collaboration
45 with the Millennia2025 Women and Innovation Foundation for vulnerable populations and healthcare
46 professionals serving them.

47 *1.2. EpidemiXs Info web app*

48 The first solution developed was EpidemiXs Info, an accessible and real-time updated web app co-
49 created by UniversalDoctor with 30 local and international healthcare institutions, to centralize the latest
50 official and validated information, protocols and guidance on COVID-19 from different sources and
51 deliver it through customized portals for HCWs and the general public. Each portal offered information
52 that was suitable for the target audience, allowing them to access dedicated verified information in a quick
53 and easy way.

54 EpidemiXs Info was supported by a 24/7 dedicated Task Force of over 100 medical experts that
55 investigated, curated, vetted and organized the information on a daily basis in Spanish and French. The
56 Web App rapidly gained international recognition at the Barcelona Health Hub Awards 2020 as the “Best
57 Startup Initiative to help tackle COVID-19”.

58 *1.3. EpidemiXs TV*

59 In parallel, EpidemiXs TV was launched, offering live interviews with key experts from different
60 sectors, civil society and local actors around the world facilitating cross-sector knowledge-sharing
61 across borders and providing the live audiences with access to these experts for their queries. With
62 29 episodes and a total of 40 hours in Spanish, English and French, EpidemiXs TV offers a wide
63 range of views and expertise on COVID-19 from around the world, including France, United Kingdom,
64 Ethiopia, Mozambique, Russia, USA, Brazil, Argentina, Uruguay, Chile, Central Americas and punctual
65 interventions from many more countries. More than 100 experts participated respecting gender equity in
66 most episodes and reaching about 8.000 views. EpidemiXs TV covered the themes of innovation in times
67 of COVID-19, chronic diseases, mental health, reaching the most vulnerable populations, mobile apps in
68 health and the right to connectivity. All TV episodes are available on Youtube and are planned to serve as
69 educational materials in the future.

70 *1.4. EpidemiXs Studies*

71 In response to the lack of Real-World (RWD) Data on COVID-19, EpidemiXs Studies was created

72 to empower researchers and healthcare institutions with a data collection and management platform to
73 quickly and easily deploy studies to help build the evidence-based on COVID-19.

74 The objective was to use the traction of EpidemiXs Info and connect its users to the open studies by
75 researchers in EpidemiXs Studies to rapidly grow the open evidence-base that can be used by institutions
76 and researchers to inform their work on COVID-19.

77 The first set of studies was launched under the umbrella of Studies4COVID19, in partnership with the
78 primary care center EAP Sardenya in Barcelona, for the first serological testing study in Spain on HCWs
79 and the general public. The data collection system started out with form templates collecting serological
80 prevalence data, symptoms and PCR results, and expanded to collect data points from varying topics
81 from long-COVID to healthcare workers (HCWs) mental health. Through the EpidemiXs Studies data
82 collection platform, thousands of data points have been collected across the eight studies being conducted
83 at four different healthcare institutions across Spain and Andorra. These studies ranged from serological
84 studies to immunological follow-up studies on healthcare workers and the general population, to social
85 studies to better understand and support the grieving process of people who had lost loved ones due to
86 COVID-19.

87 At its core, EpidemiXs Studies is a platform that connects researchers, potential study participants,
88 institutions, funders, and scientists. In addition to the data collection and management tools, it also offers
89 a dissemination platform to expand the scope of the studies, thereby promoting collaboration between
90 research centers and institutions with the general population. Since its launch, the EpidemiXs Studies
91 dissemination platform has published and shared the work of over 150 COVID-19 related studies in
92 easy-to-understand and user-friendly formats, making the studies and their work more accessible by the
93 general public and driving engagement. The studies included clinical trials, epidemiological studies and
94 lab research studies, which were published with the goal of reaching the general population. Moreover,
95 some studies were actively seeking funding, and EpidemiXs Studies facilitated access to these fundraising
96 campaigns, allowing the general public to further engage with and support the studies. Other studies were
97 actively searching for participants to be a part of their study, therefore EpidemiXs Studies facilitated
98 participant recruitment as well. Almost half of the studies published were co-led by a mix of male and
99 female investigators, and almost 40% were international studies. A second wave of these tools is being
100 developed now and prepared to be launched under the umbrella of UhDA: Universal Health Digital
101 Access, a new spin-off of UniversalDoctor.

102 2. Conclusion

103 EpidemiXs has proven the efficiency of the rapid deployment of digital tools in times of COVID-19,
104 starting with the publication of verified information for citizens and healthcare professionals, TV episodes
105 with experts from around the world and the extension to research studies. Mutual collaboration with
106 trusted partners has fostered innovation at a unique pace. Still a lot needs to be learned from the COVID-19
107 crisis, but yet, the fantastic dedication of the entire teams across different sectors, geographical locations
108 and disciplines will remain a unique experience for all.

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116 **Conflict of interest**

117 None to report.

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