BIOS POLICY BRIEF

Bioinformatics and Genomics Universal Training of Health Professionals amid 2020 COVID19 pandemic

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Highlights

The present coronavirus pandemic is challenging health care professionals and any level of medical care systems.

There are limitations related to insufficiently comprehensive information and analysis when delivering official guidelines for health policy and medical practice. There is the need of supporting the implementation of plans and interventions with evidence-based analysis of reliable data, for allowing meaningful, explicit and effective communication. The offer of reliable and sustainable training programs and e-learning courses focused on the involved professionals must be enhanced and endorsed.

Artificial Intelligence (AI) methodology is already providing societal beneficial effects for all European citizens. Novel interesting approaches encompasses computational big data management, deep learning, AI and ideas. The BioS consortium has developed a well-articulated e-learning course, free for any applicant, planned and suitable for providing to all health professionals an affordable training as a part of continuing education processes. The offered program includes 14 weeks of online training, which is appropriate for the part-time training education of most medical professionals. This will contribute to enhance quality of health-care, professional attractiveness to service providers, industry, applied research and innovation.

Situation

The present coronavirus pandemic is challenging health care professionals and any level of medical care systems. This is due also to inadequate or insufficiently integrated response strategies for big data management.

Accordingly, along the lines of the European Medical Association commitment, also the BioS Consortium recommends a great awareness of limitations related to insufficiently comprehensive information and analysis when delivering official guidelines for health policy and medical practice. Therefore, the implementation of plans and interventions must be supported by evidence-based analysis of reliable data, for allowing meaningful, explicit and effective communication.

A key strategy is the use of the expertise in bioinformatics, e-learning and computational epidemiology and public health management, already available in most if not all European Countries and School of Medicine. In addition, facilitated training by scientific e-learning courses, such as BioS, should be appropriately included. This is mostly relevant for rejecting and debunking unsupported and misleading claims,

which is a mission regretfully still pursued only by few Institutions and Associations. Scientific communities and peer reviewed medical and scientific Journals are in the forefront of this battle against anti-science and sometimes against the awkward attempts to deceive policy and public opinion.

The expertise in the use of social media and of validated e-learning platforms as strategic tools must be empowered. This is particularly relevant in the current scenario of possible European shortages of resources and findings. The requests of easy to understand proof of evidence for the benefits of modern technology often hidden a true hostility against evidence-based medicine and science. The best answer is to spread actively well-supported and verified information and studies.

It is becoming rapidly evident that the contribution of health work-force modern technology related knowledge, skills and expertise must be further empowered. Accordingly, the offer of reliable and sustainable training programs of the involved professionals must be enhanced and endorsed. During the past decade, dramatic progress has arisen in the field of biomedical technologies, making available novel diagnostic and therapeutic solutions using bioinformatics approaches.

Proposal

Many European Universities and post-graduate teaching Institutions already include basic bioinformatics- and genomics-related training itineraries within their programs. Such curricula should ensure the appropriate knowledge for the young doctors and other health care professionals as a general academic background. Nonetheless, the expert medical practice is still very limited in these crucial areas. Moreover, teaching and training opportunities, even numerous, seem insufficiently focused or chosen.

The BioS consortium has developed a well-articulated e-learning course, free for any applicant, planned and suitable for providing to all health professionals an affordable training as a part of continuing education processes.

The offered program includes 14 weeks of online training, which is appropriate for the part-time training education of most medical professionals.

The training is available at https://bios-project.eu/ free of charge.

Impact

Currently the use of computational research and applicative approaches is already appropriately extended to epidemiology and prevention. Not only genetics and oncology, in which fields the benefits for patients and the society are well recognized, but also other strategic fields of medical practice are already using computational and deep learning approaches.

The feedback provided by learners and teachers of the BioS Course, which is the core of the current BioS Project, when available and analyzed, even referring only to educational achievements, which are good with the resources provided, will provide a further support to the excellently organized EUP ThinkTank teams. Such BioS contribution will help to develop and deliver the documents that help shape new EU legislation, using also this basic information.

The EU funding and proposal of future e-learning courses in science and, namely, in Computational Life and Medical Sciences application is warranted. It will be fruitful if all forthcoming Partners can demonstrate in the future validated preliminary expertise in e-learning, and computational life and/or medical sciences. The effective BioS course opportunities would ultimately contribute to enhance quality of health-care, professional attractiveness to service providers, industry, and applied research and innovation.

Actually, Artificial Intelligence (AI) methodology is already providing societal beneficial effects for all European citizens. Several novel interesting approaches encompasses computational big data management, deep learning, AI and novel ideas.

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BioS at a glance

BioS: Digital Skills on Computational Biology

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Website: https://www.bios-project.eu/