About Digital Transformation in Healthcare: A Call for Action

Sobre a Transformação Digital em Saúde: Uma Chamada para a Ação

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There is no economy without health. It was perhaps the greatest lesson of this pandemic. And there will be no sustainable health without its necessary digital transformation.

However, the experience of health professionals with the information systems at their disposal is today, more than ever, a reason for debate and, often, dissatisfaction.[1]

Easily the ecosystem of a hospital will be able to contemplate more than a hundred applications, some without any kind of integration with the others, leading to multiple registrations and authentications. Electronic health records, in recent decades, have increased the amount of information recorded on a daily basis, becoming a standard in clinical practice, in which documents written by doctors, nurses and other professionals in contact with the patient have been added to,[2] and in some cases, it is even necessary to use more than a dozen computer applications to carry out an appointment or discharge from an inpatient. This user experience leads to a large consumption of time that should be directed to the patient, to an increased probability of error and, no less worrying, to an increase in dissatisfaction of health professionals, interfering inevitably and negatively, in the necessary empathy with patients and in teamwork with colleagues.

Challenges such as the aforementioned diversity of applications, the lack of involvement of users in the design of interfaces, *framing their layout with* the professional group, the clinical context (e.g. hospitalization, outpatient clinic, urgency), the patient profile and, as evidenced by a recent study,[3] the lack of investment in this dimension (*user experience*), influence, and others, clinical decision-making and patient experience. These factors also include the limited internal interoperability between services, departments and institutions of the health system, the lack of adequate training, the lack of human resources, the fact that some applications are outdated, the lack of autonomy in defining solutions tailored to the institutions or, the dependence on external suppliers and the complexity of the Health System itself.

All these issues remain on the agenda, and concerns, for those who are dedicated to the challenge of digital transformation.

According to Deloitte (2020), in Portugal, 81% of doctors and nurses consider that the pandemic has led hospitals to be-

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come more digital, but still, Portugal is below the European average in the use of 4.0 technologies in the health sector.[4]

Digital transformation goes further the use of innovative technologies, based on continuous improvement, process automation, management models, innovation, and training.

Thus, as conditions for digital transformation in health, it is important to list:

- Motivation and social and political support;
- eSkill's of citizens' health and digital literacy professionals;
- Technical skills of technical staff;
- Reinforcement of the action of digital transformation agents;
- Strong infrastructures, fast networks and appropriate hardware;
- Digital pillars and experience;
- Mobile-by-default principle;
- All2All Thinking;
- CyberSecurity as a service;
- e-Health as a principle and not as a supplement.[5]

We know that improving the experience of healthcare professionals is the key to making better use of existing technologies and providing better care. We have already listed several variables with an impact on the experience of health professionals with the information systems. It is demanding to measure the experience of professionals to assertively identify the factors of greatest dissatisfaction and act on them. It is also urgent to measure the variation of experience in the implementation of digital transformation projects, in order to understand which measures have the most impact on increased satisfaction. And finally publish this information, so that those who must decide on investments in information technologies can consider the experience of professionals in setting priorities.[6]

Tools supported by clinical decision support systems, using artificial intelligence, are now already a daily reality in our hospitals. The delivery of dashboards that allow a 360° view of the patient's journey, more than necessary, remains a challenge for institutions as a result of the still limited interoperability of systems and the domain of the free text in the clinical records, but it cannot and should not be more delayed further. As well as the "delivery" of this information in a perceptible mode to our patients, in order to enhance the best results at the lowest cost/price.

We must therefore invest firmly in Text mining Tools, Natural Processing Language, Voice-to-Text, Voice and Textbots that will increasingly approach to the real human interactions with the ability to acquire, learn and apply knowledge, as well as consistent digital literacy actions accessible to both professionals and patients, such as training, digital mediation services, and so on.

If, on the one hand, digital transformation cannot be imposed, it cannot be seen only as an end to achieve, but rather, as a continuous state of sense by an entire community that will, by default, have to start thinking (and feeling) in a digital way in many of its daily actions.

We believe that the necessary skills will begin to emerge as something natural and be required as an alternative to the bureaucracy that still occurs today in many of the services, in this case, health services. We would even say that the leaders of these organizations should also be constantly evaluated for their ability to manage this huge change the change to a digital culture. And for this, it is necessary to give "protected time" to our People so they could invest their energy and motivation to lead digital processes.

All these examples, requires strong, audacious, and disruptive leadership. The lack of time or investment will no longer be able to serve as an alibi for late action in certain matters, for which health our society has long been delayed. We must act today, for our citizens, for our taxpayers and, particular, for our Health Professionals.

We will all agree that the focus on the Digital Transition in Health is not restricted to the implementation of new technologies in clinical-administrative processes or acquisition of often isolated solutions leading to duplication or loss of information. Rather, it requires an effort and a willingness of all to change: to change the way institutions, professionals, patients and caregivers relate to each other; to an increasingly digital, collaborative and sharing culture.

The pandemic has accelerated this entire digital transition and make us rethink the way we relate to work and people, but we fear that this current time could not be enough to align strategies, to consolidate the adoption of these tools by professionals and to boost digital and health literacy of citizens and to lead to a real cultural change. It is mandatory to continue to invest in this strategy and to do so in a consistent, planned and conscious way.

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