CONTRIBUTION OF INFORMATION DESIGN FOR THE AUTONOMY OF THE POPULATION IN A HEALTH CONTEXT

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Abstract

This poster presents part of the study developed by the author in the context of the doctoral study, where the importance of Information Design for the autonomy of the population in health context was analyzed. Currently, despite the existence of governmental measures aiming at a preventive health model, it is often verified that the population still uses health services in a consumer perspective or in a reactive way, not taking into account their own health as a life goal to achieve. This behavior triggers a set of negative consequences, not only in personal terms, but also in terms of the inability of the services to respond effectively. After an in-depth bibliographic review of specialist authors in the field of health and in the field of information design and taking as object of study the clinical analysis report model currently used in Portuguese National Health Service, it was concluded that the current educational health messages are not adjusted to the user literacy, not taking into account either the cognitive needs (at the cultural and social level), nor to their emotional needs. This presentation leads to the recognition of the fundamental role of Information Design tools in this specific context, due to their integrating character. Through the construction of messages with a strong sense of ownership and commitment, an increase in the individual's awareness and autonomy regarding the decisions to be taken within the scope of his/her health is promoted. We conclude, however, that in order to enhance these results, a review of the design paradigm is necessary, in which the user cannot be understood as a mere recipient of contents built based on assumptions, but rather integrated in a process of co-creation during the construction of educational health messages, right from an early stage.

Keywords: Information design, heath message, co-creation design, visual literacy, clinical analysis report.

1. Introduction

The author's doctoral study (Santos, 2020) investigated the significance of Information Design in promoting individual autonomy in healthcare. This poster presents a portion of the research findings. Despite governmental efforts, the Portuguese population's consumerist or reactive approach to healthcare leads to negative consequences, such as patient overload and an ineffective response from healthcare services to the population's needs. Here is discussed that the Information Design tools are crucial for increasing individual awareness and autonomy, but active user participation in the design process is vital. The study included a literature review and validation of the clinical report used in the Portuguese National Health Service, confirming that current health messages do not meet users' diverse needs.

2. Design

Information design aims to create clear, organized, and visually appealing documents that can be easily understood and used for effective action. This can be challenging in the health field where complex relationships and low health literacy can make it difficult for the audience to access the message (Espanha, 2009). When messages are designed with preconceived assumptions from the person creating them, and without considering the informational needs of the audience, the information can result in inadequate communication and visually uninteresting presentations that are not suitable for the intended target audience. This can cause information to be rejected for being difficult to understand, irrelevant, boring, irritating, or unconvincing. The negative impact of this difficulty can lead to frustration for users who may not know how to act on the information they have received, leading to a dependence on doctors

or health professionals for decision-making on health management. Assumptions of Information Design are fundamental to health communication messages, as they often involve changing behaviors and presenting strategies to incorporate new actions into daily life. By applying the principles and process of information design, the audience can be engaged with the message, perceive it, agree with it, think about it, remember it, and have the intention to act on its content (THCU, 2002).

3. Objectives

The objective of this study was to raise awareness about the importance of Information Design in developing health messages tailored to user needs. The engagement fostered through a better understanding of the information enhances users' empowerment to implement behavioral changes for better self-health management. Additionally, we aim to highlight the importance of co-design methodologies to emphasize the need for a paradigm shift in traditional health communication design, which views users merely as passive content recipients, and engage themselves as active agents as the co-creators of communication solutions.

4. Methods

The methodology adopted consisted of a literature review, case studies and practical work that included the methods of observation, interview and co-creation, in which workshops were held to identify the difficulties in accessing and understanding information. An investigation was carried out through design so that it was possible to gather information about users and the context. In summary, the aim of this methodology was to adopt a bottom-up procedure in which people and the community were at the center of the process.

5. Discussion / literature review

Several studies, conducting a comparison of different versions of the layout of the clinical analysis document, before and after user collaboration, highlight the importance of user-centered information design (Nystrom, 2018; Meroni & Sangiorgi, 2011; Zikmund-Fisher et al., 2014). This collaboration is crucial because patients who are involved in making decisions about their health are more likely to achieve better health outcomes (Hibbard, 2003 cited by McCarron et al., 2019). The most effective methods are those that involve direct intentional experiences that represent reality or as closely as possible, and the more sensory the forms of interaction with the informational object, the greater the probability of learning from it. As argued by Edgar Dale in 1946, the amount of information retained and remembered depends on the way it is received (according to Anderson (n.d., as cited in Dale, 1969). Similarly, we also 'store' more information through what we "do" rather than what we "hear" and "read".

5.1. Data survey and analysis
In a first approach of our survey, visual analysis of the sample of reports was carried out. We aimed, at first identify visual factors that could affect users with low literacy and second, to establish guidelines for the design of health communication supports. For this study, 30 reports were analyzed regarding design elements as: support, structure, and organization. The relevant issues found, including the absence of graphics and images, the use of technical language, and the presence of unrecognized symbols, act as barriers to the understanding of the information.

5.2. Co-creation method (workshop)
After analyzing clinical analysis reports, two workshops, each lasting three hours, were developed. The workshops consisted of five phases where participants were asked to perform tasks such as reading and locating information, brainwriting/sketching, organizing information spatially, and evaluating final results. This document simulated the presentation of clinical results of a fictional patient, where the values were intentionally outside the reference parameters, and patients were asked to suggest preventive measures to avoid the onset of the disease.

5.2.1. Results.
The concept tests, containing 3 intentionally altered values for this experiment, yielded the following results: of the twelve participants, only one was able to identify the three altered values; seven participants correctly identified the Total Cholesterol result; three participants misinterpreted results that were normal; two participants mentioned confusing the symbols ">" and "<", revealing to be a barrier to correctly read the results; when asked: "what should you do to prevent your Cholesterol value

from rising" five participants did not know what to suggest. It was also observed that participants had difficulty keeping their gaze on the same line because there was no orientation in the text lines, and mentioned being confused by the existence of two units of measurement for all outcomes.

Based on the findings, a prototype was developed to address reading difficulties and incorporate user responses into graphical elements. Specifically, the results were presented with guiding lines for horizontal reading, highlighting results outside the reference parameters with a gray background. Icons representing right and wrong, chosen by participants, were added at the end of each line. Information on health promotion was included, irrelevant units of measurement were removed to reduce result interpretation ambiguity, and text regarding the sample's nature (e.g., blood, serum) was adjusted to prevent confusion with analysis names. A legend was included to aid symbol comprehension. The prototype underwent testing with users and health professionals, involving tasks similar to those performed with the original report. As a way to increase the difficulty and accuracy in verifying the participants' literacy, seven values outside the reference intervals were placed in this new report.

As a result, all participants correctly identified all the values, except one participant who had doubts about one result, indicating a comprehensive understanding of the document. Some identified issues and improvement suggestions include: confusion caused by added health promotion information, potential anxiety caused by the presence of symbology according to health professionals, removal of irrelevant sample nature information, and inclusion of explanatory notes for interpreting "normal results".

6. Conclusions

To enhance outcomes and develop effective health-related educational content, it is essential to reevaluate the traditional design paradigm. Instead of viewing users as passive recipients of assumed content, they should be recognized as active participants in the co-creation process of health messages. Lastly, we emphasize that participatory methodologies that involve collaboration between users and designers result in integrated, retained, and memorable information, crucial factors in the educational environment.

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