DigiCare4You

REPORT ON THE OUTCOMES OF THE TESTING AND REFINEMENT OF THE DIGITAL TOOLS USED FOR SCREENING

DigiCare4You aims to improve the early prevention and management of Type 2 Diabetes (T2D) and hypertension (HTN) via a community-based, person-centred solution, integrating both social and healthcare systems, supported by the use of digital tools.

To identify the strengths and limitations of the digital screening tools and gain feedback for improvements, a series of tests and online surveys were conducted in the four implementation countries – Albania, Bulgaria, Greece and Spain. These assessed functionality, usability and acceptance among citizens (patients) and implementers (healthcare professionals/doctors).

SCREENING TOOLS TESTING METHODOLOGY

To test the tools, users were first shown a video presentation of the technological solution. They were then asked to perform a series of activities and tests on the system and subsequently to complete an online survey. The surveys were first drafted in English and then translated into the local languages. They included demographic questions and questions concerning acceptance based on the 'Technology Acceptance Model'. The 'System Usability Scale' (SUS) was also employed to measure usability. All participants were asked to perform a series of activities while using the tools such as logging in, entering patient details or completing questionnaires. Implementers and citizens also had distinct additional actions to perform. The first round of testing for the screening tools was conducted by 180 individuals, a mix of citizens and implementers from the four implementation countries.

SCREENING TOOL ACCEPTABILITY AND USABILITY RESULTS AMONG IMPLEMENTERS AND CITIZENS

Basic demographic parameters such as age, gender, education and job position were collected. Concerning age, results showed that increased age was correlated with lower SUS scores. As the survey's main objective was to identify the potential of digital screening tools and solutions, various parameters concerning the familiarity and use of technology were investigated such as frequency of technology use, use of digital health screening tools, familiarity and use of electronic health record systems, acceptance of screening tools in patient management, and acceptance and usability of the DigiCare4You solution.

Despite limited familiarity with digital screening tools across all countries, most implementers believe they could easily learn to use the DigiCare4You system. They also reported an overall intention to use systems such as DigiCare4You, when they become available. Implementers also reported the need to bring about major changes in their clinical practice to use these tools. The perception of whether the necessary infrastructure to support the system's implementation was available varied among implementers. Bulgarian implementers indicated that the infrastructure was available whereby it was more inconclusive in the other countries.

CCitizens were also asked various questions regarding the familiarity and use of technology such as the frequency of technology use, and the use of digital health apps. The survey findings showed that citizens were not familiar with digital health screening tools. All Bulgarian respondents reported having never used such a tool, and this was also the case for 45-75% of respondents in Albania, Greece and Spain. Citizens also had limited familiarity with digital apps for health purposes. Survey data indicated overall positive attitudes towards the technology's potential for health improvement, suggesting acceptance of the technology. Concerning usability, citizens believed they could easily learn to use the technology and also indicated that they were willing to use the system. Regarding the latter, Albanian and Greek participants were more enthusiastic compared to the Bulgarian and Spanish participants.

The survey results indicate some differences between participating countries in the perceived usability of the system. Albanian and Spanish implementers rated usability as OK, Greek as good, and Bulgarian as excellent. Similarly, Greek citizens rated usability as good, while Albanian, Bulgarian, and Spanish citizens rated it as OK. Across the four countries, implementer SUS scores ranged between 22,5 and 100 indicating overall good usability. Among citizens, SUS scores ranged between 15 and 100 indicating an overall OK usability.

Country	Average SUS Score - implementers	Usability Rating	Average SUS Score - Citizens	Usability Rating
Albania	55,42	OK	62,5	OK
Bulgaria	81,88	Excellent	66,2	OK
Greece	76,71	Good	73,5	Good
Spain	60,78	OK	61,32	OK

Table 1. Overview of usability based on the 'System Usability Scale' score for the screening tools among implementers and citizens in the four implementation countries

SUMMARY OF RESULTS

For the screening tools, the results from the implementers indicated acceptance of the tools, especially in Albania and Bulgaria. The system was also perceived as easy to learn. The average SUS score across the countries was 73.9, indicating excellent usability. The testing results for the screening tools among citizens indicated that the system was perceived to be easy to learn to use and that citizens intended to use it. The average SUS score of 68.06 reflects good usability. Interpreting the results reveals the potential of the DigiCare4You digital tools to positively impact healthcare screening services in the community for both citizens and health professionals.

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