

**Clinical benefit of a diabetes management solution for HCPs: a cross sectional analysis across ES, UK, US and BR**

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**Background and aims:** Diabetes is a chronic, metabolic disease characterized by elevated levels of blood glucose that lead over time to serious damage to different tissues. According to the IDF, in 2021 about 537 million people had diabetes, the majority living in low-and middle-income countries. This number is expected to be 643 million by 2030 and 783 million by 2045. More than 6.7 million deaths are attributed to diabetes every year and both the number of cases and the deaths attributed to it have been steadily increasing over the past decades. To better understand the impact of a diabetes management tool for healthcare professionals (HCPs) on improving healthcare, facilitate personalized care and uncover cultural differences in user needs, we conducted an investigation around the usability and benefits of the RocheDiabetes Care Platform across 4 countries (US, UK, Brazil and Spain), targeting all HCPs included in its intended use. Deeping into the countries explored, 37 million people in the US have diabetes with a total annual cost of \$327 billion. In Brazil, 15.7 million people live with diabetes with an expenditure of \$42.9 billion. In Spain, 5.1 million people has diabetes supposing a total of \$15.5 billion and the prevalence of this disease in the UK is 3.9 million with \$23.4 billion healthcare expenditure.

**Materials and methods:** The approach to measure the impact of the benefits of the tool was based on a quantitative survey focusing on HCPs using the software, with a set of nine questions to cover all relevant features. This survey used the Likert Scale with values ranging from 1 (I fully disagree) to 5 (I fully agree) and mean scores were compared to a neutral Likert scale value of 3 with the aim to prove superiority for each benefit. A random sample included 176 HCPs evenly distributed among the countries. The HCPs invited to answer the questionnaire included nurses, endocrinologists, diabetologists, general practitioners and diabetes educators. Thus, covering for the different levels of care.

**Results:** Results adjusted for multiple testing showed that the mean Likert score was significantly higher than the neutral score of three with p-values <0.0001 for all questions. The composite scoring of all the questions by country was above 4 being Brazil the highest one with  $4.42 \pm 0.51$  and US the lowest one with  $4.02 \pm 0.55$  (mean  $\pm$  SD). Deeper analysis on the data seems to indicate a difference in mean scores between the United States and Brazil in the statement “I can spend less time gathering data and more time with my patient”. More studies are needed to understand the reason for the disparity, although the results could be explained by the cultural and economic differences among those two countries where the distribution and access to healthcare by persons with diabetes and HCPs is variable. Finally, results do not seem to indicate notable differences between the medical backgrounds when it comes to the assessment of the advantages.

**Conclusion:** The quantitative survey proved superiority in the composite mean scores for all the questions analyzed. This demonstrates that, in a more and more digitized medical environment, data analysis, visualization or pattern detection are a key component for treating persons with diabetes irrespective of culture and health care setting.

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