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Letter to the Editor

Authors' response to the letter "Concerning The HEARTS app: a clinical tool for cardiovascular risk and hypertension management in primary health care"

Dear editor,

Thanks for the opportunity to reply to the letter from Muñoz Laguna J and Banegas JR (1) regarding the HEARTS app (2).

First, the risk score used in the HEARTS app is utterly based on the World Health Organization Cardiovascular Disease (CVD) Risk Chart Working Group study. It is, so far, the most updated, robust, and accessible CVD risk charts for the low-middle income countries globally (3). Indeed, these risk models were first derived in well-established international cohorts with baseline information on all the risk factor variables for the prediction models, had at least one year of follow-up, and provided detailed information on cause-specific mortality and non-fatal CVD events. Moreover, for the recalibration of the models, age and sex-specific incidences of myocardial infarction and stroke from each of the 21 global regions defined by the Global Burden of Disease were used. This was further completed by averaging country-specific risk factor values from the Non-Communicable Disease Risk Factor Collaboration. Therefore, Latin America and the Caribbean (LAC) regional data was used for calibration if not for the initial derivation models due to the lack of available cohort information from this Region at the study time. Finally, the models underwent external validation using individual participant data from 19 other cohorts. Although these countries did not include any from LAC, the external validation results were robust with good C indices. When available and well-established, prediction models using data from the Region may improve the score over time. The risk prediction models in the future could be further calibrated and revised according to country-specific CVD incidence. In summary, the WHO prediction models used by the HEARTS app offer a simple and reliable estimate for risk estimation for the time being.

Second, social inequity is a serious and challenging problem in this Region, and health inequities are rampant. Surely, digital inequity is prevalent as well. However, the HEARTS app, a free, customized for three languages and accessible tool, with relevant and practical information, may gain uptake in more diverse communities and even the public. Moreover, it can be used in each country in the Region, the vast majority of which do not have well-consolidated cohort studies. Therefore, to say that the HEARTS app "could create differential engagement and generate digital inequity" (1) is speculative by nature. For instance, as of January 2021, South America presented a mobile connectivity rate of 103 %, as mobile internet users in the Region had multiple mobile subscriptions. Central America and Mexico altogether had a mobile internet penetration rate of 97 % and the Caribbean 77 %. Indeed, smartphone and internet use is very high in LAC. Moreover, the HEARTS App, so far, has reached over 110 000 users, with 6.5 million CVD risk estimations, with an average engagement time of 2 minutes and 40 seconds. and has received very positive reviews.

Third, we agree that there are several barriers to the implementation of CVD risk calculators in primary care (3), and the HEARTS application is also expected to have many challenges in being incorporated into daily practice. However, the HEARTS app has several attributes for higher engagement. In addition to CVD risk estimation, the app is linked with the HEARTS in the Americas website, a repository of scientific and communications materials for the very dynamic HEARTS community. The app promotes accurate blood pressure measurement using standardized protocols and validated automatic blood pressure devices, emphasizes non-pharmacologic treatment, and prioritizes pharmacological treatment protocols for hypertension and CVD secondary prevention for each HEARTS implementing country. The HEARTS App offers a unique opportunity to use a systematic approach for calculating CVD risk scores as part of routine care. Therefore, using the task-shifting approach, integrating CVD risk calculators into primary health care would potentially improve opportunities to prevent CVD for many patients.

Fourth, the HEARTS app, which is patient-centered and health system-oriented, is the tool conceived to facilitate the implementation of the HEARTS in the Americas Initiative and is designed to operate effectively in this ecosystem. This initiative has uncovered a set of structural challenges health systems face when tackling non-communicable diseases and proposed innovative solutions to help break political inertia, improve access to high quality health care and address technical shortcomings. The institutionalization of HEARTS in the Americas, its complete orientation towards the primary health care level, and the adoption of a public health perspective are central to changing the game's rules and achieving sustainability (4). However, as we recognized (2), the optimization of any tool depends not only on using it correctly but also on ensuring sustained and consistent implementation of the recommendations generated by the tool.

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CVD kills more people in LAC than any other condition. This situation can be modified because CVD, particularly hypertension, can be prevented and treated. Now is the time to take bold and coordinated action to improve primary health care services. If we do, we will benefit more people with chronic diseases and significantly increase the chance of better care for the most vulnerable and remote communities. HEARTS in the Americas is paving the way and promoting a new model of care to improve access and quality of care by expanding the potential of team care at the primary level. The HEARTS app is instrumental to this effort and to avoid distractions. It´s time to walk the talk.

Conflicts of interest. None declared.

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