

Citizen science and literacy in health: A strategic alliance for health promotion

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On April 7, World Health Day was celebrated and in 2025, the World Health Organization motto was "Healthy beginnings, hopeful futures", highlighting the importance of maternal and child health and the impact of early life choices⁽¹⁾. The key to health promotion is access to the information necessary for conscious decision making and an active citizenship in the context. The current paradox is obvious: there has never been so much information available, but its practical usefulness remains limited to many citizens. Health messages, for the most part, remain inaccessible to a substantial part of the population, especially among people with lower levels of education or greater social vulnerability, which in turn negatively impacts the adoption of healthier behaviors, access to and use of health services⁽²⁻⁴⁾.

Health literacy is defined by the World Health Organization⁽⁵⁾ as the ability of individuals to obtain, understand and use health information in order to promote and maintain good health. As Arriaga et al.⁽⁶⁾ and Vaz de Almeida point out⁽⁷⁾, low levels of literacy in health often compro-

mise the construction of solid knowledge, based on validated scientific information, in addition to undermining the principles of equity and social justice, limiting the impact of public health policies.

In this context, there is a need to promote scientific literacy and health, indissociable concepts of Citizen Science. Citizen Science in Health assumes a role with great transformative potential in defending citizen involvement in research projects, to make the scientific process more inclusive and representative.

In the logic of Citizen Science, citizens can be involved in this process from the definition of the topics that will be researched, the choice of methodologies, the realization of data collection to the analysis of the data, performed from their own perceptions, as well as the dissemination of the results using accessible strategies such as the Evidence Summary for the Citizen⁽⁸⁾. This active involvement not only promotes inclusion and access to information, but also strengthens the scientific literacy of the population. The World Health Organization⁽⁹⁾ has been promoting

citizen participation in evidence-based policies for years, promoting the vision of investing "with" or "by" the public, rather than "over" or "for".

By engaging in research projects, we enhance citizens' confidence in scientific processes, as well as their appropriation of the built knowledge, which can translate into greater adherence to public health recommendations⁽¹⁰⁻¹¹⁾. The health of each person results, to a large extent, from their individual decisions - these decisions must be rooted in reliable, understandable and contextualized knowledge. Citizen Science is not just a methodology, but a strategy to bring science closer to people and turn information into action, representing a link between scientific knowledge and everyday life, a catalyst for the democratization of science, social inclusion and the promotion of sustained health⁽¹⁰⁻¹¹⁾.

It is important to highlight the need to also invest in the scientific literacy of all professionals who are in contact with citizens. Your own scientific perception should be empowered in this sense, allowing the communication to take place in an inclusive way, promoting both health literacy and scientific literacy. Healthcare professionals, researchers and political authorities have the responsibility to adopt strategies that ensure inclusion, promote equity in access to information, and foster an active and informed citizenship.

Promoting citizen involvement in the production and communication of scientific knowledge is also a strategy that directly responds to the Sustainable Development Goals (SDGs), namely the SDGs 3 – Quality Health and SDGs 4 – Quality Education related to empowering citizens in health literacy empowering citizens to understand and use information in a criti-

cal and informed manner and the inclusion of citizens in public health-related decision-making institutions, the SDGs 10 – Reducing Inequalities, by making information open and understandable for all, especially the most vulnerable, the SDGs 16 – Peace, Justice and Effective Institutions as Science Cidad promotes confidence in scientific and health-related institutions, creating proximity with citizens, and the SDGs 17 – Partnerships for the Implementation of the Goals, which have emerged from Science Cities, researchers, health and policy makers.

In this sense, we invite you to recognize the importance of articulation between health literacy and citizen science in health, considering that this relationship strengthens both individuals and communities, contributing to a more inclusive, participatory and impactful society in the promotion of community health.

Keywords: Citizen Science; Citizen Participation in Science and Technology; Health Literacy; Communication in Health; Empowerment for Health; Promotion of Health.

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