

Translating theory into practice: Challenges and opportunities of Implementation Science

*Transposição da teoria para a prática: desafios e
oportunidades na ciência da implementação*

*Traducir la teoría a la práctica: desafíos y oportunidad
en la Ciencia de la Implementación*

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The advance of scientific knowledge has demanded new ways of applying science to the real world. In healthcare, the synthesis of primary research results is linked to the context of practices, user preferences, and the expertise of professionals. In the movement towards evidence-based health practice, synthesis plays a crucial role in the transformation of healthcare practices, as long as it is led by studies based on careful and accurate review methodologies.

There is a consensus that summarized evidence results alone cannot transform reality if this knowledge does not move towards the point of care. That is why Implementation Science has emerged in order to go beyond the dissemination of evidence to apply it in the most diverse fields and scenarios of healthcare.

Implementation Science is understood as the study based on models, methods, and structures that promote the systematic integration of research results and other sources of evidence into the routine practice of healthcare, with a view to improving the quality and effectiveness of healthcare services.^(1–2) Involving collaborative work between researchers and professionals from multiple fields, as well as the participation of health system users, Implementation Science aims to ensure the practical application of technically and culturally appropriate interventions.

Thinking is key to building practical knowledge that is applicable to people's needs, given that—according to this perspective—scientific rationality generates knowledge as a social value applicable to ordinary life. Therefore, this editorial seeks to reflect upon the polysemic meaning of Implementation Science as an emerging science based on pragmatism.

Conceição⁽³⁾ highlights the understanding that knowledge and rationality are related to human action and behavior, giving it a practical purpose, based on the Kantian Critique of Pure Reason—as the philosophical basis of pragmatism. The author claims that Kantian pragmatic anthropology is structured based on knowledge that stems from the practical domain of reason, from the doctrine of prudence, in sum: knowledge of how human beings can exert influence on others and direct them towards their purpose. In other words, practical knowledge becomes pragmatic, “as long as it serves to realize our general purpose”. The author goes on to state that “a doctrine is pragmatic provided that it is prudent and useful to us in public affairs, in which there is not only pure theory, but in which praxis is necessary.”⁽³⁾

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On the global stage, there is concern about high financial costs in health research, the results of which take years to be converted into social praxis and improved quality of care for the population.⁽²⁾ In this sense, the polysemy of Implementation Science is expressed in the different terminologies adopted to signify the pragmatism of this movement to integrate the results of evidence capable of having an impact on the lives of the general population. Similarly, there is a wide variety of theories, models, methods, and frameworks for conducting studies based on the assumptions and philosophy of Implementation Science.^(1-2,4) Expressions such as knowledge translation, knowledge mobilization, knowledge transfer, research implementation, among others, have the same defining features as Implementation Science. In other words, it is about integrating the results of primary or secondary research into routine healthcare practice, effectively including stakeholders in the process of producing and integrating knowledge that applies to the reality of the healthcare system and user needs.⁽⁴⁾

International research funding agencies have encouraged researchers seeking funding for their scientific investigations to incorporate strategies for integrating research results into practice. Regardless of the origin of the evidence, whether from qualitative or quantitative research, the fact is that there are various models and frameworks that guide Implementation Science studies. For example, the *QuaRIS group* has proposed qualitative methodological guidelines for the development of evidence implementation studies that reflect the complex and dynamic nature involved in improving care in clinical settings, the community, and health services in general.

Another example is the Knowledge-into-action (KTA) model of the knowledge translation strategy/approach disseminated by the *Canadian Institute of Health Research* (CIHR) and adopted by the Brazilian Ministry of Health.^(4,5)

Global initiatives, such as the training of science reviewers and implementers, are being applied with the intention of reducing the gaps between what knowledge is produced and what is implemented in practice.⁽⁶⁾ The trend of these initiatives is to pave the way for healthcare based on the best scientific evidence.

Two cycles (internal and external) make up the KTA Model. The internal cycle is that of knowledge **creation**, which involves primary scientific research (1st generation), the synthesis of evidence (2nd generation) and the generation of tools or knowledge products (3rd generation). The external **action** cycle corresponds to the application of knowledge in seven phases: investigating the problem (1st), adapting the product or tool to the local context or practice scenario (2nd), recognizing barriers and facilitators to accessing the product (3rd), selecting, articulating, and implementing interventions (4th), monitoring use (5th), evaluating outcomes or results (6th), and the sustainability of the use of knowledge at the point of care.

In short, in the context of health, Implementation Science and the variety of terminologies it encompasses have as their fundamental premise the pragmatism of returning the findings of scientific research to the citizens who financed them through their taxes. Implementation Science is a citizen science, since it underpins and structures evidence-based practice in meeting the healthcare needs of the population, according to the capacity of healthcare systems and the preferences and expertise of the stakeholders.

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