

# Interdisciplinary research in public health: the 'why' and the 'how'

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Public health constitutes a field of choice for developing interdisciplinary research. Targeting population health improvement necessarily entails embedding research and intervention within a variety of complementary disciplinary approaches. Medicine (and its scientific and professional domains), psychology, epidemiology, economics, social and political sciences, health services research, humanities, geography and legal science all involve research perspectives conducive to the observation, analysis, understanding and interpretation of health facts. When implementing and directing efficient and positive health actions for population, communities and people, the fact of working across disciplines—whether health be their main research focus and health improvement their aim—provides rich, innovative and relevant data for public health intervention.

A number of definitions of interdisciplinarity are available in the literature.<sup>1</sup> From these definitions, we retain two key characteristics: the encounter of two or more scientific disciplines and the interactive nature of the research process.

The need for interdisciplinary research and action today is supported by two main arguments. First, the prominence of population health intervention research<sup>2</sup> calls for evidence-based data on the effectiveness and efficiency of interventions that are useful to decision makers and meet the needs and expectations of populations. It implies adopting a multiperspective approach to health problems, their multidimensional factors and possible levers of intervention, as well as embracing the complex dimension of health problems<sup>1</sup>; only joint work between disciplines can help achieve such a goal.

Tobacco reduction is an illuminating example: psychological, sociological, economic, cultural or health policy factors, among many others, induce smoking behaviours. Tobacco control interventions need to be based on a dialogue between

academic disciplines that can contribute knowledge and offer sound solutions to the problem.<sup>3</sup> More generally, any topic related to population health—nutrition, environmental issues, addictions and so on—necessitates considering individuals within their lived contexts: current literature is crying out for complex systems approaches.<sup>4,5</sup>

Second, today's health challenges call for global and synergistic approaches.<sup>6</sup> As an example, tackling the worldwide major problem of health inequalities requires embracing the phenomenon in a holistic way. Interdisciplinary research provides extensive insight into health inequalities through considering interventions that are no longer exclusively based on the individual and focused on what the health sector alone can do but integrate social, territorial, economic and political perspectives as well as experiential expertise from communities and organisations.<sup>7</sup>

The question remains: how to do this? Although well accepted in principle, interdisciplinary practice continues to prove a real challenge. Working with and between disciplines requires constant explanation, adaptation and scientific readjustment from all researchers involved. Studies examining interdisciplinary mechanics are rare. One French study explored the interdisciplinary processes mobilised in health service research.<sup>8</sup> The authors defined three prerequisites for the successful articulation of various disciplines, mainly humanities, social sciences and epidemiology: the mutual questioning of scientific stances and research environments; awareness of researchers' requirements linked to their institutional positions and disciplinary affiliations; and joint elaboration of research, implying a constant flow between different types of knowledge.

In a recent population health intervention research study,<sup>9</sup> we experienced mixing disciplines, namely epidemiology, sociology and psychology. The above prerequisites proved to be useful, particularly the exchange between disciplines throughout the whole research process.

We also draw attention to two supplementary points. First, the importance of managing temporal conflicts. Unlike the preparatory phases (project elaboration and fieldwork preparation), which are generally accepted as requiring long

timelines, the data collection and analysis phases are seldom prepared for in the same way. For example, in our study, we experienced different timelines throughout the analytical process: sociological and psychological approaches integrate data collection, transcription, coding and interpretation as being parts of the same process and therefore mobilise researchers throughout and over a period of several months. In epidemiology, some parts—for example, data collection by questionnaires and data entry—were delegated. The epidemiological data were available before the sociological and psychological data, delaying the required interpretative work in interdisciplinarity.

Moreover, research time is also subject to continuous adjustments that are made regarding theoretical frameworks. These are often specific to one discipline and thus unfamiliar to others. However, understanding the nature of reliable health indicators and interpretation perspectives depends on these theoretical backgrounds. Interdisciplinary work therefore requires back and forth movement: constant feedback on previously shared and discussed notions is essential.

Second, interdisciplinary projects must organise interdisciplinary exchange spaces and consider them as integral parts of the research process, favouring both disciplinary and interdisciplinary work. Interdisciplinary research relies as much on disciplinary as on interdisciplinary work times. The preservation of discipline specificities (in terms of concepts, methodologies, literature and so on) is invaluable and central to successful interdisciplinary work. Creating interdisciplinary areas could ensure that all researchers are—and feel—equally involved in every disciplinary aspect of the research, thus avoiding the sense of a dominant discipline. Typically in public health, disciplines developing quantitative methods generally weigh more heavily as they usually correspond to studies with higher evidence levels than disciplines relying on qualitative approaches. Understanding the theoretical and methodological stances of other disciplines automatically breaks down disciplinary frontiers.

In order to best respond to the social, economic and political challenges of health and healthcare, public and private funding bodies encourage interdisciplinary research projects. Researchers have so far answered this demand as best they could; the time has now come to explore what lies behind the scenes and make the mechanisms of interdisciplinary public health research more visible.

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