

# Advancing biobanking in Latin America: success stories and challenges ahead

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We have read with great interest the comment by Rivera Alcántara et al.<sup>1</sup> regarding biobanks, specifically their implementation and development in Latin America. While the storage and study of tissues, especially brain tissue, have remarkable historical precedents, it is in recent times that the systematic storage of biological material under appropriate conditions for later more complex analysis has significantly advanced.

This provides the correlative possibility of analyzing the pathogenic aspects of diseases, even longitudinally in the case of some biomarkers. This approach represents a synergistic effort in the multidimensional analysis of contemporary biomedicine and poses enormous challenges in handling heterogeneous data from very diverse sources, origins, and management processes.

We agree with Rivera Alcántara et al. about the importance of biobanks in advancing knowledge about diseases in diverse populations and we would like to share some additional successful experiences from Latin America. The Fleni Brain Bank,<sup>2</sup> inaugurated many years ago by Dr. Analía Taratuto, was initially dedicated to the surveillance of prion encephalopathies. Subsequently, the bank expanded to include traditional neurodegenerative diseases, also functioning as a classical clinicopathological meeting, a practice that has existed in standard medicine since the 19th century. This experience has been unique in Argentina and has fostered collaboration with various basic and clinical groups to better understand neurological diseases, aiming to modernize and analyze their specific morphological and molecular aspects. Additionally, we highlight the experience of Latam Fingers, a multidomain intervention project for dementia prevention. Among its protocol objectives is the storage of biological material (blood, plasma, DNA) to contribute to understanding certain response mechanisms to multidomain preventive interventions, including longitudinal studies.<sup>3</sup> In this framework, the Biobank for Aging Studies (BAS) of the University of São Paulo stands out

as the largest brain bank in Latin America, with a collection of more than 4000 brains with over 2200 cases with extensive neuropathological evaluation. BAS has contributed extensively to research regarding the role of genetics and environmental factors in diverse populations.<sup>4</sup> Recently, BAS launched a mentorship program for brain banks, a unique initiative to support researchers from low- and middle-income countries in establishing brain banks in their home countries. This program exemplifies a capacity-building effort aimed at improving regional research infrastructure.<sup>5</sup>

In addition to these efforts, there are ongoing projects aimed at creating networks of regional biobanks. Such initiatives collectively provide a robust platform for the advancement of biobanking in Latin America. However, as Rivera Alcántara et al. rightly stressed, funding remains a critical barrier to progress. Biobanks require dedicated financial support, as they cannot rely solely on resources from routine healthcare practices. The challenge ahead is to raise awareness of the indispensable role biobanks play in advancing our understanding of the biological basis of human diseases. Their continued development will remain a cornerstone of scientific discovery in the region.

## Contributors

All authors contributed equally to this work.

## Declaration of interests

None.

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