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Linking Evidence to Policy in Latin America

Cristina Rabadán-Diehl

Connecting evidence to policy is a challenge worldwide but especially in Latin America, where resources are scarce and politics unpredictable. However, various aspects of the region—including its growing health research community and cultural solidarity—make it a good candidate for mechanisms of “knowledge translation.” While the importance of using evidence-based knowledge to inform health policy is widely recognized internationally, scientists have been somewhat removed from the conversation. In Latin America, a region experiencing strong growth in biomedical discoveries, scientists are especially underrepresented in national health agenda dialogues.

The following article focuses primarily on Latin America and current efforts there to facilitate knowledge translation, particularly where advances in biomedical research can be applied and implemented in order to improve public health. It is not intended to be a comprehensive review of all programs or approaches in the region, but rather an attempt to illustrate the perceptions and gaps within the research community in the area of knowledge translation.

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Global Challenges to Evidence-Linked Policy

Currently, health scientists in low- and middle-income countries do not communicate effectively with policy makers. While many important stakeholders operate in the health policy realm, the most critical link lies between health scientists and policy makers. Promising efforts are thus being made to build competencies among those who work on health policy to understand scientific methodology, research designs and scientific results, briefings, and scientific forums, and to apply these to their health policy formulations.¹ From the scientific community, efforts are likewise under way to link evidence to policy. Scientists contribute to reports generated by scientific associations, participate in policy dialogues led by multilateral organizations such as the Pan American Health Organization (PAHO), and conduct policy roundtables directed to policy makers. Yet more often than not, the scientific presentations addressed to policy makers start by stating the magnitude of the problem, but continue by explaining the data in highly technical scientific terms, often without providing the political and economic context needed by their audience. This lack of clear communication has led to a gap between what is known through research and what can be done through policy.

Researchers and policy makers have different time lines and resources. For researchers, knowing the policy environment is crucial, and one must recognize that scientific evidence is only one element contributing to the decision-making process. Moreover, priority agendas and timing are often very different for scientists than for policy makers: while the researcher thinks long term, policy makers tend to favor actions with near-term outcomes during their time in office. One must also recognize that the tools available to researchers and policy makers are relatively new, limiting the number of individuals who are knowledgeable in both areas. In the research realm and more recently in the policy arena, information has been categorized with the aim of allowing systematic reviews of a large number of topic areas. For example, multiple databases now permit evaluation of national policies ranging from urban planning to public health.

Policymakers have resources to reach out to scientists, but there are few reciprocal mechanisms connect scientists to policy makers. People trained in public health are critical for improving the health of the population, but scientists and clinical investigators are the ones who generate the evidence to change clinical practices and inform the development of guidelines. Unfortunately, cross-discipline knowledge is rare: researchers often lack the access and the abilities necessary to guide policy makers, while policy makers often lack the training to understand the results generated by researchers. The question is whether, in addition to training public health professionals, investments should go toward creating similar basic competencies for both groups so that they can communicate effectively. On this

count, effort has been made in working with ministries of health but very little with the research community. The U.S.-based Center for Disease Control and Prevention (CDC) Field of Epidemiology Training Program (FETP)² and the National Network of Public Health Institutes (NNPHI) program³ coordinate with the ministries to build institutional capacity in the areas of epidemiology and sustainable public health systems. TEPHINET (Training Programs in Epidemiology and Public Health Interventions Network)⁴ links the FETPs and other programs and can provide logistical and financial support for training, services, and global networks of public health professionals in the field of epidemiology. REDSUR,⁵ the network for the Latin American FETPs, is part of TEPHINET.

Low- and middle-income countries have shown encouraging recent improvements in communication between health scientists and policy makers. The past fifteen years have seen a considerable increase in awareness and action in this gap area. In 2005, the World Health Organization (WHO) created EVIPNet (Evidence-Informed Policy Network) as a platform to encourage scientific knowledge translation in low- and middle-income countries.⁶ Many programs are now devoted to linking research, policy, and practice, such as the Research and Policy in Development (RAPID) program⁸ which is supported by the Special Programme for Research and Training in Tropical Diseases (TDR), WHO, and the Lancet. Newly developed tools could be used to assess whether an organization has the competencies needed to engage and use research for policy making, such as the ORACLE (Organizational Research Access, Culture, and Leadership) initiative, developed by a group at the Sax Institute in Australia.⁹ Equally important is that research findings are evaluated, especially within the policy context, as highlighted in the World Health Summit's 2013 yearbook.¹⁰ An example of such an approach is found in Malawi, where a partnership between an NGO and the country's Ministry of Health created KTPMalawi (Knowledge Translation Platform in Malawi) to develop a specific methodology to address some of the country's health priorities.¹¹

Region-Specific Challenges in Latin America

Scientific and health research capacity in Latin America is on the rise, but a proportional focus on connecting it to policy lags behind other regions. Generally, the challenges associated with health research in Latin America have been addressed by many authors in peer-reviewed journals and elsewhere.^{12,13,14} Indeed, health and science have not previously been priorities in most of the countries in the region, resulting in poor investment and infrastructure (institutional and human resources) for biomedical research. In the last century, Latin American countries provided the grounds for foreign researchers to conduct their investigations, but very little attention was devoted to sustainability, ownership, or benefits to the

region. Fortunately, that situation is changing, as demonstrated in a series of articles published in *Nature* in June 2014 that focused on the growth of scientific research in Latin America during the previous two decades.¹⁵ While such articles tend to comment only on a handful of countries (Argentina, Brazil, Chile, Colombia, Peru, and Venezuela), this piece noted that investment by the countries in research has increased considerably, specifically investments in science and technology. The investment in human resource capacity, such as repatriation of scientists and creation of programs that allow young scientists to return to their countries after they go abroad, is starting to pay off.¹⁶ Yet despite the strengthening of research in this geographic area, as shown by analysis of scientific output, perceptions of Latin American science output continue to underestimate this reality, in part because the journals in which these scientists publish are not indexed in major citation databases.¹⁷ As the investment in biomedical research increases in Latin America, a need exists to invest in bridging science and policy as recognized by the research community in the region.¹⁸

Despite the uptick in research capacity, there remain many challenges for small countries in the Americas to generate and use policy-oriented health research. Research infrastructure and human capacity across the Latin America region are diverse. The Global Development Network (GDN), in partnership with the Inter-American Development Bank (IDB), recently published a study aimed at examining the challenges that small countries in the Americas encounter when it comes to generating and using policy-oriented social science research, including on health.¹⁹ One of the study's key conclusions is that the number of researchers and amount of research output are still low, especially in the areas of science, technology, and innovation. However, some positive trends were observed. Research publications in peer-reviewed journals from 2005 to 2015 show considerable growth rates for Uruguay (94%), Ecuador (151%), Costa Rica (57%), and Bolivia (72%), although no distinction is made on how many of those publications focus on health research topics. One further question involves the number of professionals in the biomedical field. The same study indicates that for the same groups of countries, most graduate students are in non-health-related fields, with the number of PhD graduates in 2012 higher in the social sciences and humanities (48%), as compared to the natural sciences (14.75%). The report also indicates that opportunities for engagement between researchers and policy makers are limited, with researchers expressing difficulties in identifying policy-relevant research questions.

Individual Latin American researchers' practical concerns include inadequate resources and funding, leaving them little time to engage in policy given the constant demand to publish original findings and apply for grant funding. Creating a niche of scientists who can simultaneously dedicate time to policy could help

address the existing gap in effectively communicating evidence to policy makers, but such an approach would entail practical concerns from the Latin American researcher's perspective. In Latin American countries, where adequate research infrastructure and human resources remain a challenge, successful investigators often feel their success is punished given that they are asked to "do it all"—not only secure financial resources to conduct research, but at the same time be planners, managers, implementers, communicators, and business administrators. The relative scarcity of researchers in Latin America can lead to greater pressure and expectations than that experienced in high-income countries with better-resourced environments. For investigators in Latin America, where funds to support biomedical research are still sparse, it is imperative to engage in research collaborations. Such collaborations are based not only on mutual trust but also on the quality of the data they generate to become competitive at the international level. That international recognition arms them with the credibility to compete and gain access to funds from organizations such as the U.S. National Institutes of Health, the Canadian Institutes of Health Research, the UK Wellcome Trust, and so on. Consequently, generating a strategy that would allow these scientists access to the research funds they need, acknowledging extremely limited human and financial resources, leaves them very little time to also engage in policy.

Latin American researchers perceive that policy makers do not value their work. Some of the difficulties that researchers have in identifying policy priorities may owe to their own perceptions. A survey of Argentine health researchers showed that they view policy makers to be driven primarily by self-interest and costs to the state rather than the healthcare needs of the population.²⁰ Such perceptions might derive from experience in how research results are applied. A recent study mapping the use of research on maternal and child programs, for example, looked at three countries in Africa (Ghana, Malawi, and Mozambique) and three in Latin America (Brazil, Chile, and Mexico).²¹ The authors found that the impact of research on policy formulation remains low and that research results are more often used to justify past policy decisions rather than drive future action. Yet another study²² analyzed the evaluation of WHO's Sponsoring National Processes (SNP) program²³ in five countries, including Argentina. The SNP program, which aims to catalyze the use of evidence generated through health policy and systems research in the policy-making process, has project teams that include researchers, policy advocates, and policy makers. The SNP information was supplemented by findings from individual-country final-project technical reports submitted by project teams (but not included in the SNP evaluation report). The project team in Argentina appears to have focused primarily on the production of policy briefs and policy dialogues, but there was little evidence of sustained advocacy and dissemination efforts. An evaluation is needed of the impact, if any, of the policy briefs or dialogues on the policy-making process. Similarly, evidence is needed

regarding the creation of structural links across researchers and policy makers or of capacity-creation or strengthening efforts.

Given that health policy in Latin America is still not a political priority, researchers must determine how to position themselves. Public policy reflects local or regional political, social, and economic values. Influencing public policy in Latin American countries is challenging because, as discussed, health remains a low political priority. It might therefore take time to see locally generated research have a direct impact in these countries. Research under way holds the promise to build historical memory, however, and demonstrate what can be done with available opportunities. Yet because policy priorities are decided predominantly in other sectors, such as finance, commerce, and education, health issues must compete to get the necessary priority level. How should researchers position themselves in such an environment? Should research teams develop their own unique expertise and work toward indispensable expertise, or should they develop a number of competencies to ensure that their voice is heard and they become indispensable if political priorities change?

Opportunities for Knowledge-Translation Mechanisms in the Region

In spite of these unique regional challenges, Latin America is for several reasons a good candidate for expanding knowledge-translation mechanisms. When compared to countries in North America and the European Union, relatively few health policy and science experts in middle-income countries are available to participate in knowledge-translation networks. Yet whereas networks in Africa and Asia often rely on experts from Australia, Japan, and North America, the Latin America region is perhaps better positioned. This is because experts who were educated and trained in other parts of the world appear motivated to contribute to their countries' growth and development, particularly in response to recent efforts by governments such as Brazil, Argentina, and Colombia to bring the diaspora back home.²⁴ While significant advances have been made in such knowledge translation in Latin America, efforts are focused primarily on improving the network processes through which experts with different training can engage in a meaningful dialogue. Not much traction exists on the particular impacts of these platforms on health outcomes, with the notable exception of Brazil,²⁵ which has shown health improvements in perinatal mortality using such tools.

In addition to harnessing the power of its trained diasporas, Latin America benefits from strong regional solidarity. A testament to this solidarity includes the Americas region being declared the world's first to eliminate, in the past fifty years, four important diseases: smallpox (1971), polio (1994), rubella (2015), and measles (2016). The feeling of belonging to a larger community and the ability to work at

the regional level is clear wherever you encounter more than one person from the Latin America region or whenever you step inside the PAHO headquarters office in Washington, D.C., whether on a regular day or during its regular meetings with member states. No matter the topic or the reason for the gathering, those meetings feel like a family reunion. In each sector, in each discipline, there is an underlying sentiment of belonging. Participants have the passion, the commitment, and the desire to be there.

Addressing Latin America's Challenges in Linking Evidence to Health Policy

For decades, PAHO has been playing an important regional role in bridging research and policy. To this end, in 2009, the 49th Directing Council approved PAHO's "Policy on Research for Health" document, which contains an overarching strategy aimed at integrating health research into PAHO's many actions in addressing regional needs.²⁶ Drawing on its ability to convene stakeholders, PAHO has used the regional EVIPNet program²⁷ to bring together national teams of academics, policy advisors, and technical experts to identify health policy options that could be informed by evidence. EVIPNet seeks to create teams of individuals with diverse competencies to seek such solutions. In addition to the PAHO networks, other intergovernmental networks include the Ibero-American Programme for the Development of Science and Technology (CYTED)²⁸ and the Inter-American Institute for Global Change Research (IAI).²⁹ These programs originally were initiated by countries in the Global North, but with time have evolved to foster the exchange of knowledge and resources between developing countries in the Global South, also known as "South-South cooperation."

Almost a decade ago, the Council on Health Research for Development (COHRED), a global nonprofit, addressed knowledge translation in Latin America by convening a "regional think tank" meeting in Antigua, Guatemala. Participants called for each country in the region to create a national health policy focused on supporting health research systems.³⁰ The report clearly addresses some critical issues and gets to the heart of the matter with this question: How does research influence the formulation of policies and health practice? The answer, according to the report, depends on whether and how research results are translated into action. Research, including evaluation of the impact of past decisions, should ultimately support decision making at many levels (policy makers, clinicians, health authorities, and the public), with the ultimate aim to improve the population's health. The quality, relevance, and delivery strategy of the information provided by researchers is important, as is the ability of politicians to parlay results into policies that bring about desirable changes. Research results must be written or presented in a form that supports decision making at different levels. This COHRED meeting led to the first regional Latin American Conference on Research

and Innovation for Health in 2008 in Brazil and the second in Panama in 2011. At these get-togethers, countries in partnership with other stakeholders—including PAHO—work together to identify potential ways to realize knowledge translation.

Scientists can influence policy directly in ways such as by holding public office or becoming involved in the diplomatic corps. The current Costa Rican ambassador to the United States, Román Macaya Hayes,³¹ a biochemist by training, is pursuing tangible change during his time in Washington. Since his arrival three years ago, he has been proactively exploring research collaborations between scientists in the United States and Costa Rica, and engaging with policy and political decision makers from both countries about how to frame science policy issues within the greater policy context. A strong supporter of including scientists as part of a diplomatic cadre, he hosts science dialogues at the Costa Rican embassy and travels throughout the United States to engage with other scientists.

The global health community is beginning to recognize the importance of increasing the representation of Latin American scientists. In June 2016 in Miami, the Epidemiology Congress of the Americas,³² an international conference organized by multiple organizations, was dedicated to science in Latin America. Participants included the International Epidemiological Association (IEA), the American College of Epidemiology (ACE), and the American Public Health Association–Epidemiology Section (APHA-EPI). One third of the attendees came from Latin America, and several sessions focused on policy issues and how researchers were interacting with their governments on health issues.

In Lima, Peru, the Center of Excellence in Chronic Diseases (CRONICAS), at the Universidad Peruana Cayetano Heredia, has invested in a core group of competencies, such as clinical trial methodology, and is training researchers to develop a broader view on and approach to research, rather than a focus in just one area. Since its inception in 2009,³³ the center and its leadership have gained eminence in the region. In addition to having attracted prestigious international funding, the center participates in national-level committees on health law implementation as well as on expert panels in international organizations such as PAHO and WHO.

However, until more centers like CRONICAS are established in Latin America, the question remains as to whether researchers' current limitations should simply be accepted, allowing them to focus on what they do well—generate evidence—while competencies in policy are built only in the public sector. A related question arises: what responsibility does an individual have to his or her country or its people? In my conversations with researchers from the region, many are conflicted about these challenges, acknowledging that they feel pressure to contribute but

lack the time to do so beyond their immediate responsibilities. This conflict is not surprising given that engaging in policy will not finance their research.

Conclusion

There are a number of ways in which policy makers in Latin American countries can better connect healthcare-evidence-based policy with research networks in the region and internationally. Three broad recommendations are proposed as follows:

1. *Integrate science communication and evidence-based policy into university and postgraduate curricula for scientists and health professionals.* Increasing the critical mass of knowledge translators among evidence generators will require that universities and schools of public health in the region introduce to curricula more competencies, which will be used to train scientists and health professionals in health policy. Such competencies should be embedded in the core curriculum as mandatory subjects and could include, but are not limited to, knowledge of legal concepts, analysis of economic decisions as they relate to health systems, organizational understanding of the decision-making process, and communications skills. In order to link with country priorities, the responsibility of expanding curricula should be shared between government and academic institutions so that the latter are not ultimately working in isolation but instead as part of a countrywide endeavor. To support the efforts of academic institutions, governments could generate mechanisms such as incentives, prizes, and scholarships, thereby providing motivation to create more programs linked at the national level.

One could begin by focusing on postgraduate programs directed to those who will ultimately advise on health policies, so that in a three- to five-year window they could produce individuals capable of formulating health-policy-relevant questions. These health policy questions would integrate economic information as it relates to health and information flow between researchers and policy. Further, such postgraduate programs would yield trained professionals who can support the individuals or organizations responsible for making policy, and also professionals capable of spotting talent in different scientific disciplines and promoting teamwork. Such an approach would create a cadre of public health brokers with the appropriate training to identify and convene all relevant stakeholders, including researchers, nongovernment actors, and civil society. Academic institutions in Latin America are starting to see the need and the opportunity to become leaders in this field. In turn, institutions in some countries³⁴ have developed curricula and are training scholars not only from their own country but also from others in Latin America. Students graduate already having competencies in knowledge translation with a focus on policy.

2. Channel regional solidarity and shared language into interdisciplinary knowledge-translation mechanisms. Latin America is unique in its sense of national and regional solidarity. Research teams in the Latin America region are so few that interest in individual competition is overridden by the practical need for collaboration. The many shared social and cultural ties, including language, allow such teams to communicate more effectively across countries and develop common tools and approaches. These cultural and social threads, alongside the existing collaborative spirit, represent a strength that could be built upon to establish networks that would allow researchers to be more generalists and bridge disciplines under bigger umbrellas. Regional hubs housing centers capable of supporting the infrastructure needed for data analysis, highly specialized laboratory testing, program evaluations, economic analysis, and other tasks could serve the countries in a more strategic and cost-effective way. Such an approach could facilitate the breaking down of silos that exist among disciplines and within governments.

3. Engage young researchers in regional and global networks. Young Latin American researchers actively participate in scientific discussions and voice their opinion on how to be more engaged with their own governments and the global scientific community. They are part of a generation familiar with technology and social networks, and are the first to have access to the tools needed to build competencies. **SD**

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The opinions and characterizations in this article are those of the author and do not necessarily represent official positions of the United States government.

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