

Precision Solutions

A Strategy to Improve Medical Care for Patients With Pulmonary Hypertension in Latin America



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Pulmonary hypertension (PH) is a life-threatening condition characterized by abnormally elevated pulmonary pressures and progressive right-sided heart failure.¹ Current therapies can improve quality of life and reduce morbidity and mortality; however, lung transplantation remains the only option for end-stage disease because of the progressive nature of PH. One of the key priorities in PH care is early diagnosis, risk stratification, and treatment initiation of patients receiving care at regional medical centers.² Recent studies by our group and others have shown that access to specialized PH care is highly variable in the United States and Latin America (LATAM), creating health disparities that influence the individual level of care and medical outcomes for patients with PH.³

To understand the current status of PH care in LATAM, the Department of Pulmonary Circulation of the Latin American Thoracic Society, the Colombian Network of Pulmonary Hypertension (HAPredCO), the “Help Us to Breathe” Foundation, and the “Latino Society of Pulmonary Hypertension” carried out a multinational survey with eight domains on the state of PH: (1) education, (2) promotion and prevention, (3) early detection, (4) referral to specialized centers, (5)

diagnostics, (6) treatment, (7) control and rehabilitation, and (8) palliation (Fig 1). Of the eight domains, the ones perceived to be most problematic were early detection and treatment. The survey results provide a sobering reality of PH in LATAM that demands prompt action by health care professional organizations and each country’s health system.

To address this challenge, we have developed an approach called Precision Solutions, which aims to strategically use the local and regional resources available to the health care practitioner to enable early interventions, aiming to improve clinical outcomes and reduce health disparities in PH care. Precision Solutions is built on a comprehensive health pathway (CHP) that defines the necessary conditions to ensure integration of health system administrators (eg, insurance, health care provider, public health) and other sectors (Fig 2). CHP is defined as a coherent and coordinated set of health care services that are delivered to individuals through regulations that aim to facilitate access to high-quality medical care.^{4,5} The key advantage of CHP is that it provides a platform to organize effective responses for individuals, families, and communities based on (1) intersectoral and sectoral actions to promote the health and normal development; (2) disease prevention, early diagnosis, and treatment, including medications, palliative care, and rehabilitation; and (3) follow-up care to ensure health recovery and maintenance.⁶ Although the CHP provides a practical framework to address the medical needs of individuals and communities, its high complexity can make it difficult for some regions and countries in LATAM to properly apply the framework to serve the needs of their patient communities. Thus, the guiding principle behind Precision Solutions is that by focusing resources on the most needful regions, engaging relevant stakeholders, preventing complications, and promoting collaboration, quality care can be delivered, and patient outcomes can be improved significantly.

Understanding Precision Solutions

Chronic diseases such as PH present multifaceted challenges that demand comprehensive and coordinated care. Disease severity, access to health care resources, socioeconomic conditions, and cultural considerations greatly influence a patient’s care trajectory.⁷ Health

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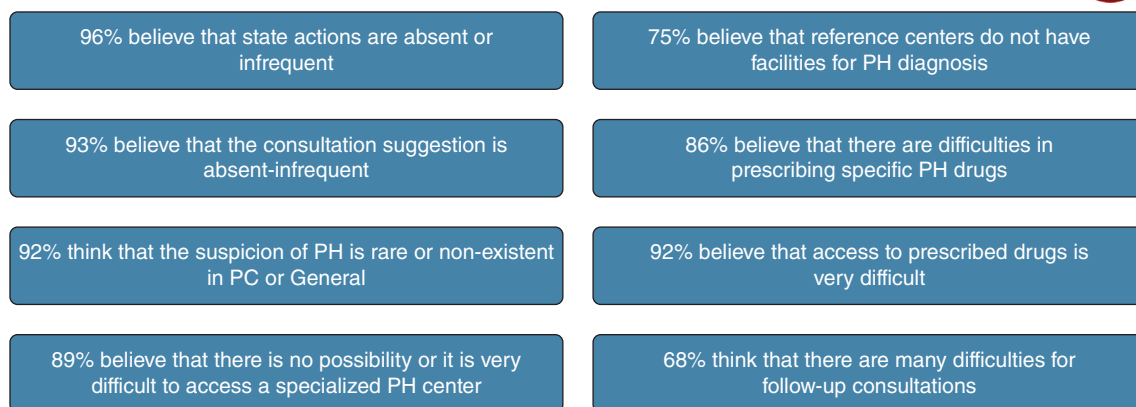


Figure 1 – Perception of patients and health care professionals of the pathway of care of patients with pulmonary hypertension in Latin America. PC = pulmonary circulation; PH = pulmonary hypertension.

interventions are conceived as direct actions tailored to the community environment where individuals and families spend their lives. In respiratory medicine, significant gaps between evidence-based recommendations and clinical practice persist, posing a challenge to achieving better implementation and outcomes. This theory-practice gap, research-practice, or

knowledge-action gap, also known as implementation gap, occurs when health care practitioners struggle to integrate the knowledge gained through an academic or a research environment with real-world clinical practice.⁸ The main problem is the lack of integration or articulation of the elements and relationships of medical care. Precision Solutions involves tailoring interventions

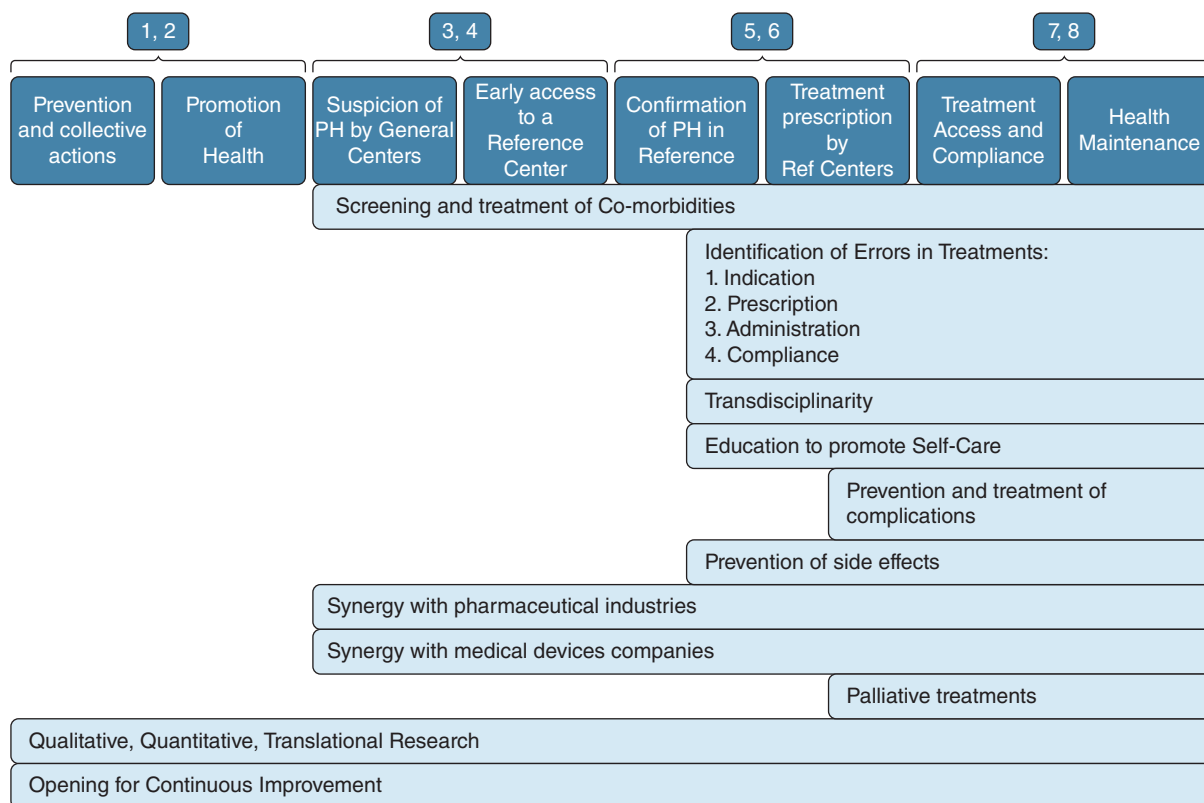


Figure 2 – Representation of the eight fundamental domains of the CHP for patients with pulmonary hypertension. CHP = clinical health pathway; PH = pulmonary hypertension.

to specific aspects of the patient journey and focusing on the most critical areas that require immediate attention to enable health care professionals to allocate resources efficiently and effectively address the complexities inherent in chronic disease management by avoiding a “one-size-fits-all” approach.

Anticipating the Potential Benefits of Precision Solutions in LATAM

The LATAM reality is a clear example of inequity in the health care system. Many actions within an ideal framework are common and should be adopted by all countries, such as guidelines for the diagnosis and treatment of PH. Other actions, however, are determined by local realities that must be faced with ingenious solutions. Therefore, the definition of the steps to follow must be precise; this determines the “precision solutions” initiative, in analogy to what is included in the concept of “precision medicine.” Thus, Precision Solutions goes beyond CHP through the

prioritization of actions to improve the care path with early victories and medium- and long-term plans.

Adopting Precision Solutions offers several compelling benefits. First, it allows a potential optimization of resources by enabling health care systems to allocate resources efficiently by focusing on the most critical areas. Second, Precision Solutions can also reduce complications and disease burden and improve overall patient well-being by addressing the most urgent needs and risks. And third, the strategy can be adapted to the unique challenges faced by different countries and minimize health care disparities across borders.

Although seemingly ambitious in scope, Precision Solutions provides the opportunity to significantly improve regional health care’s effectiveness and efficiency on a short-term basis (Fig 3). To efficiently implement Precision Solutions, we propose the following approaches:

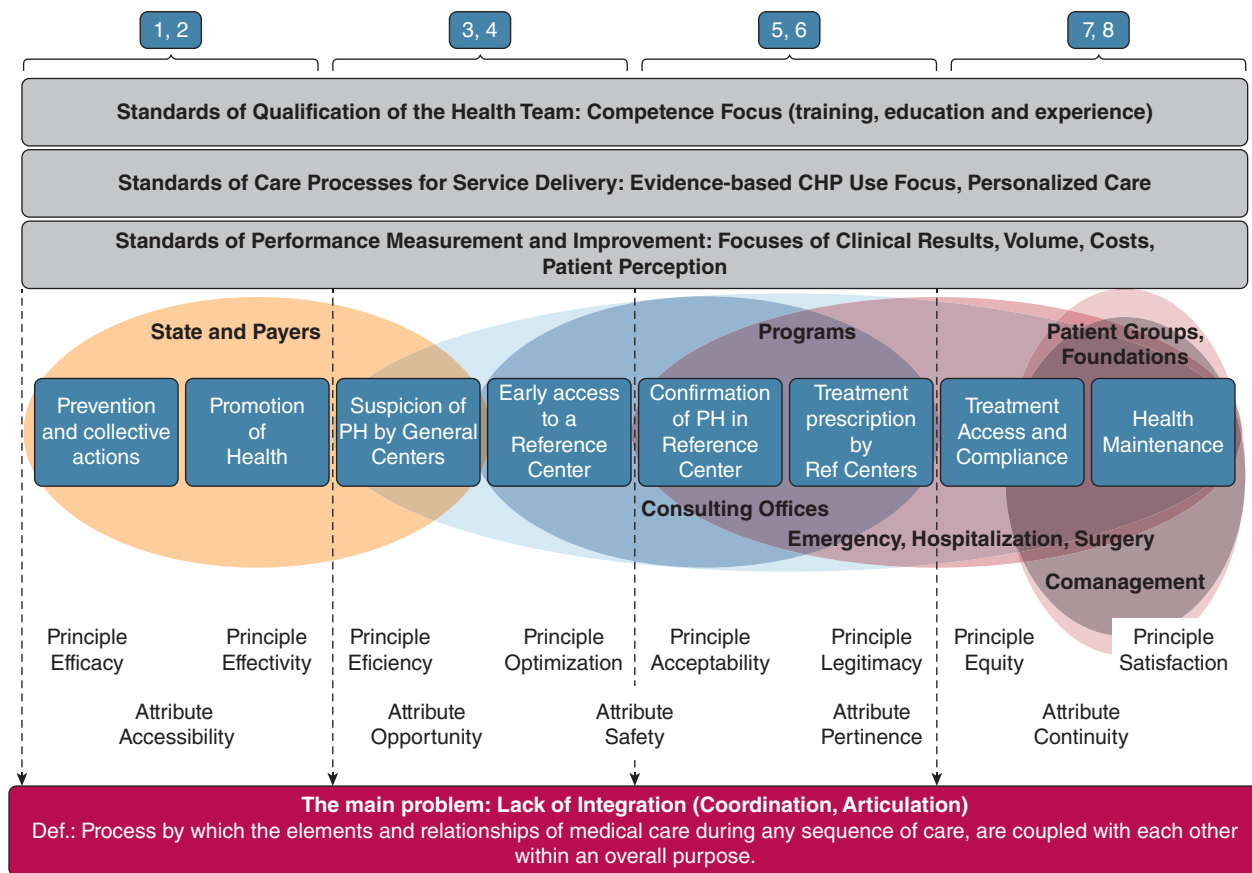


Figure 3 – Representation of the eight domains of quality standards, quality attributes, and quality principles in the Precision Solutions for PH. The colored shaded figures express to what extent the health system actors usually cover the domains of the pathway. As can be recognized, the overlap is apparent, which justifies the difficulties of fulfilling coordinated/articulated responsibilities. CHP = comprehensive health pathway; PH = pulmonary hypertension.

Evaluating Regional Impact and Feasibility

Perform a thorough analysis of all CHP components and evaluate each proposed intervention's potential impact and feasibility. Potential solutions include 360° surveys (patients, relatives, system health managers), among other mechanisms, to identify whether available resources can facilitate actions with the highest potential to generate significant benefits.

Identifying Regional Outcome Indicators

If health care practitioners work together, it is possible to identify clinical outcomes and improve patients' quality of life in different regions of LATAM. Identifying the most relevant outcome indicators allows the prioritization of interventions.

Working With Regional Health Authorities

It is necessary to work with key stakeholders, such as health professionals, patients, caregivers, opinion leaders, and health policymakers, to prioritize implementing interventions. By having different perspectives, the most urgent needs and the appropriate solutions can be identified for immediate action.

Prioritizing Prevention and Management of Complications

Interventions should be prioritized for preventing and managing complications associated with PH. These interventions should include more timely screening strategies, patient education, self-care, risk factor management, and rehabilitation programs. However, recognizing that not all centers or regions can do everything necessary, which would require implementing cost-saving strategies such as outsourcing agreements and telemedicine, is necessary.

Creating Integrated Networks

Networking fosters collaboration and coordination between medical specialties, health professionals, and care services. In addition, efficient referral systems can be established, and effective communication can be promoted between the different actors involved in patient care.

Implementing Regular Performance Review

Implementing a regular CHP evaluation process can be done by collecting data, performing outcome analyses, and adjusting interventions as needed. This evidence-based approach allows for adapting to patients' changing needs and optimizing resource use.

Using Information Technologies and Telemedicine

Exploring opportunities to use telemedicine technology and solutions in caring for patients with PH could improve access to care, facilitate remote monitoring of patients, provide health education virtually, and optimize communication between patients and health care professionals.

Conclusions

The concept of Precision Solutions in the comprehensive care pathway of patients with chronic diseases such as PH emphasizes the importance of strategically prioritizing interventions. Given the complex nature of chronic disease management and the universal limitations to solving all problems, Precision Solutions offers a compelling approach for health care professionals. By identifying and addressing the highest-priority areas, we can optimize resource allocation, improve patient outcomes, and work toward a more effective and efficient health care system that meets the unique needs of people with chronic diseases.

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