



Technological Innovation to address Neglected Tropical Diseases

The case of Chagas

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Content

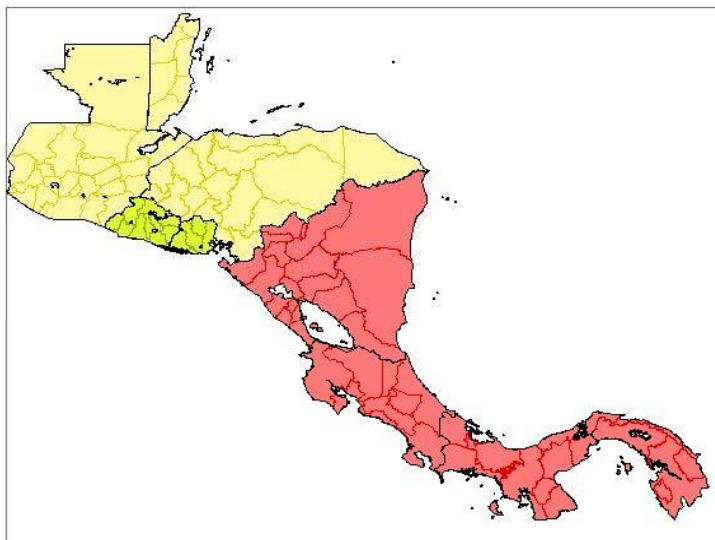
- A brief overview of Chagas
- Challenges in Innovation for NTDs
- PAHO: Access and Innovation for NTDs
- Integration of Innovation and Access / Chagas
- Regional Mobilization through Regional Platforms for Innovation
- Recent Global and Regional Mandates



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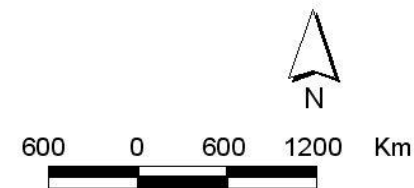
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Neglected Diseases



Chagas Disease: Vector-borne transmission of the major vector interrupted

- Area participating in the Initiative where transmission by the major vector has not been interrupted
- Area participating in the Initiative where transmission by the major vector has been interrupted
- Non-endemic area with no evidence of vector-borne transmission
- Area participating in the Initiative where interruption of vector-borne transmission is not a goal
- Area participating in the Initiative where the main vector was eliminated
- Countries not included in the study
- Country limits



Lambert Azimuthal Equal Area Projection

Situation Analysis

Total Population 531,432,850

Number Infected: 8 million*

Incidence of Vector Transmission: 41,200 (annual)

Congenital Chagas: 14.385 (annual)

Seropositive Women between 15 and 44 years:
1.809.507

Expose population in endemic areas: 108,595,000

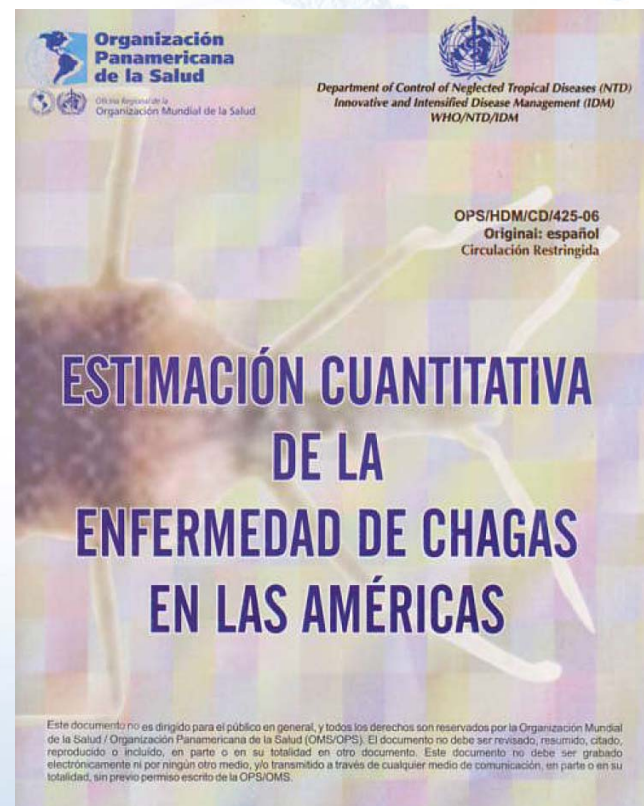
Cardiopathy: 1,772,365

Prevalence in Blood Banks: 1,28%

Estimated deaths annual: 12,000 (down from
45,000)*

Vertical Mother to Child transmission: 2 – 8% of
mothers infected*

*PAHO CE146/13 June 7 2010



Geo- Epidemiological Initiatives in the Control of Chagas

- Subregional Initiative for the Control of Chagas in the Southern Cone: (INCOSUR/CHAGAS): Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay.
- Central American Initiative for the Control of Chagas (IPCA): Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua y Panama.
- Andean Initiative for the Control de Chagas (IPA): Colombia, Ecuador, Peru and Venezuela.
- Amazonian Initiative for the Prevention and Surveillance of Chagas (AMCHA)
- Mexico

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Neglected Tropical Diseases

Neglected Diseases (ND)

Facts

Challenges

Tool-ready ND

Powerful and inexpensive control tools are available

Delivery and access strategies

Tool-deficient ND

Need to develop simple and cost effective tools

Development and production of diagnostics, medicines & pesticides

Challenges in Innovation in NTDs and Chagas

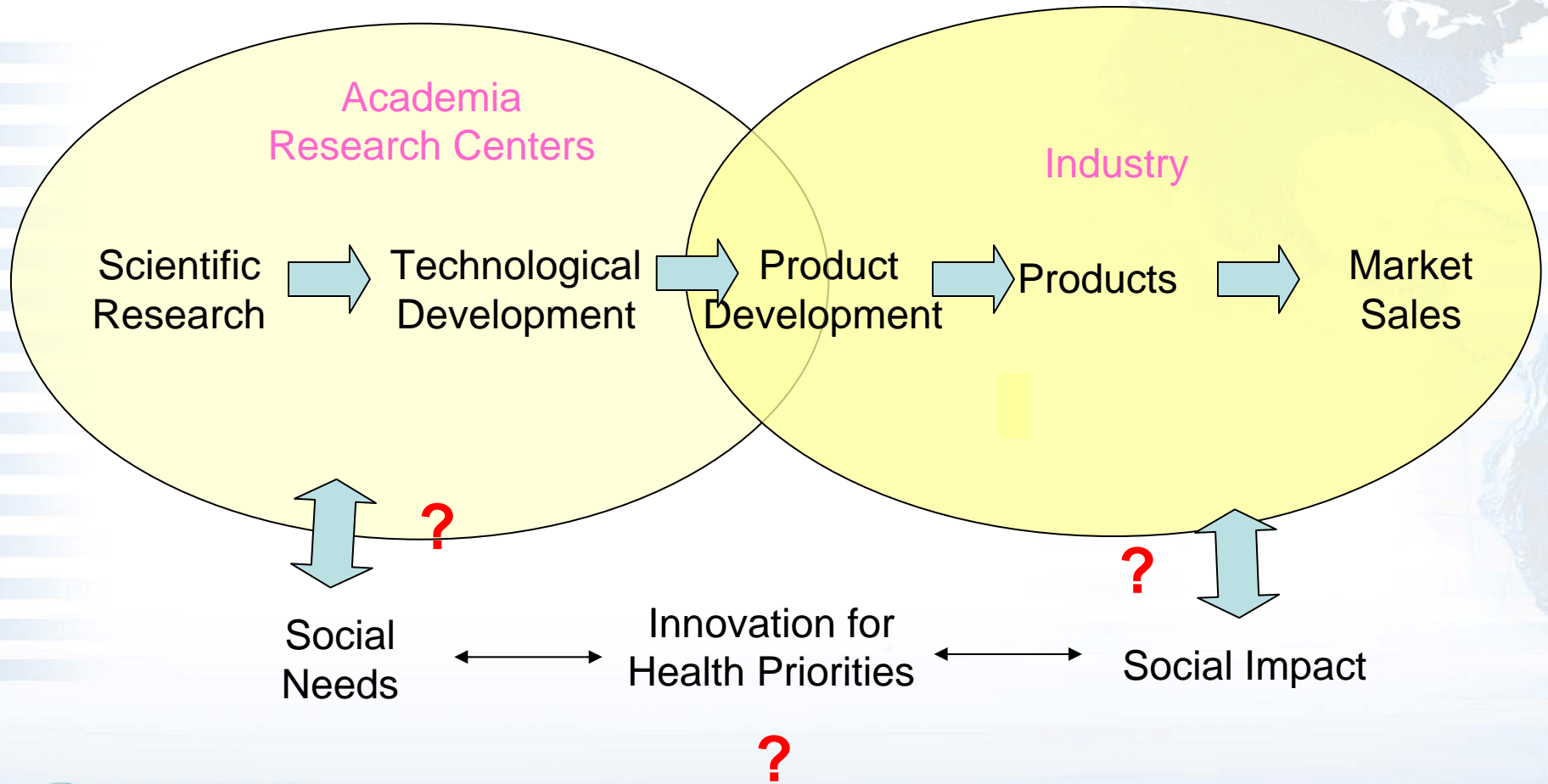
- The need for a robust **industrial/health-policy framework**
- Poor **resource** allocation by the private sector
- Academic/ Research institutions do not have the **expertise** or the incentives to go from basic research to production.
- Science and Technology Councils generally do not **prioritize** research in this field
- Although **funding** is a key part of the challenge, inadequate **infrastructure** further worsens the problem
- Innovation processes have become technologically intensive
- Challenges in **access (costs + others) and delivery problems.**



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Innovation in Health Technologies



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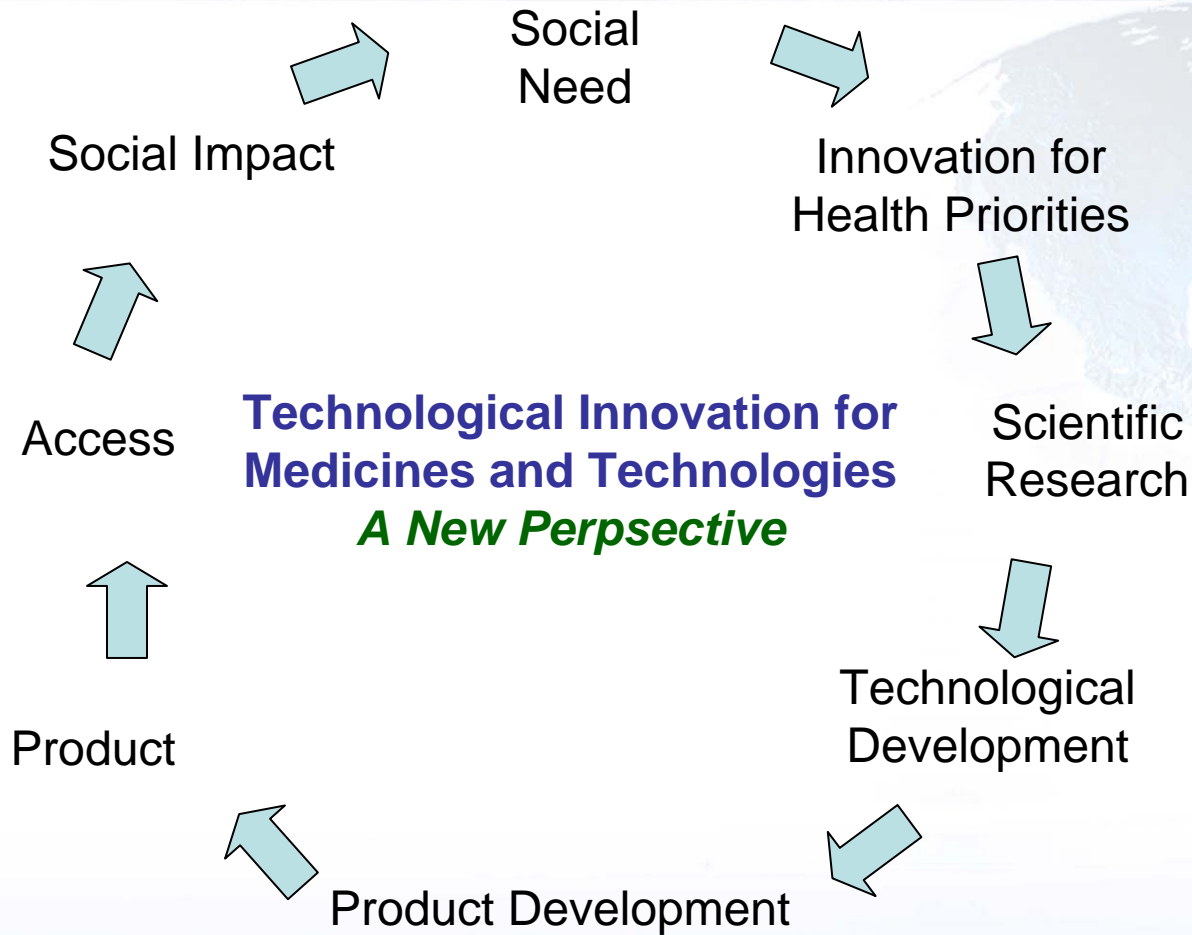


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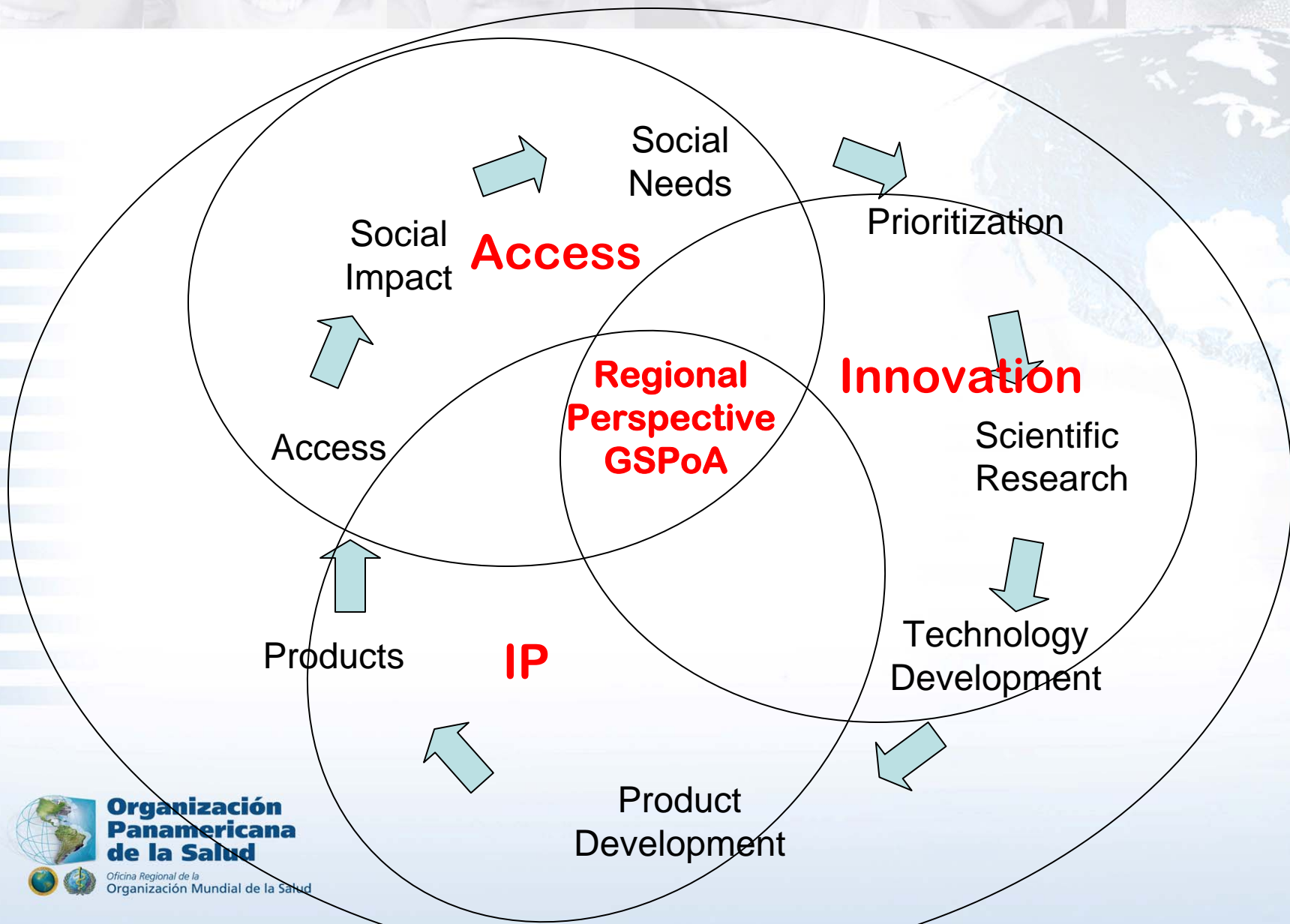


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A Focus on Innovation



Integration of Access, Innovation and IP



PAHO: Access and Innovation for NTDs

- Clear mandate from member countries to tackle NTD (CD49.R19 and CD48.R15)
- Advocacy and awareness
- Address many different areas (cross-cutting and holistic approach)
- Can engage major stakeholders and bring parties together
- Tradition in Regional integration/coordination and TC
- Honest broker:
 - Innovative models are being developed to overcome market deficiencies with incentives in R&D including discovery
 - Strategic debates to tackle access barriers (eg: Intellectual property, differential pricing debate, etc)
- Linkages between health, science and technology and industrial development

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Integration of Activities in Access and Innovation / Chagas

- A series of integrated activities to improve access and innovation to combat Chagas Disease:
 - Promote **sustainable production and access** to existing therapeutics
 - Identify **gaps in technological innovation** related to medicines and technologies that hamper eradication efforts
 - Promote **cooperation and network development** to improve national and regional innovation systems
 - Facilitate **access to information** that can promote innovation, rational use and access to health products

Sustainable Production and Access

- Support **Benznidazole** production / access (TT Roche-LAFEPE, DNDi)
- Manage **Nifurtimox** donation (WHO / Bayer)
- PAHO Strategic Fund to be used for pooled procurement for Member States:
 - To improve demand information (current, potential, not satisfied)
 - Review scenarios: historic demand, potential expanded treatment
 - Examine calendar for product requirements
 - Contribute to overcoming difficulties in product registration
 - Support procurement and supply management (including planning)
 - Support production planning

Technological Innovation in Diagnostics

- PAHO / WHO-TDR / DNDi / MSF:
 - Product Profile development for diagnostic/follow up tools:
 - Technical Working Group gathered in Rio de Janeiro, Brazil, April 2010, define product specs.
- Implementation phase: ***Call for Innovation***

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Cooperation & Network Development

- Promote cooperation and network development to improve national and regional innovation systems
- Facilitate access to information that can promote innovation, rational use and access to health products
 - Knowledge base:
 - State of Innovation for Chagas Disease
 - Undergoing and (finished but non published) clinical trials
 - Taxonomy
 - Resources
 - Researchers
 - Center of excellence
 - Networks
 - Funding
 - Production and Development
 - Medicines, Diagnostics, Other technologies
 - Scale up and development centers

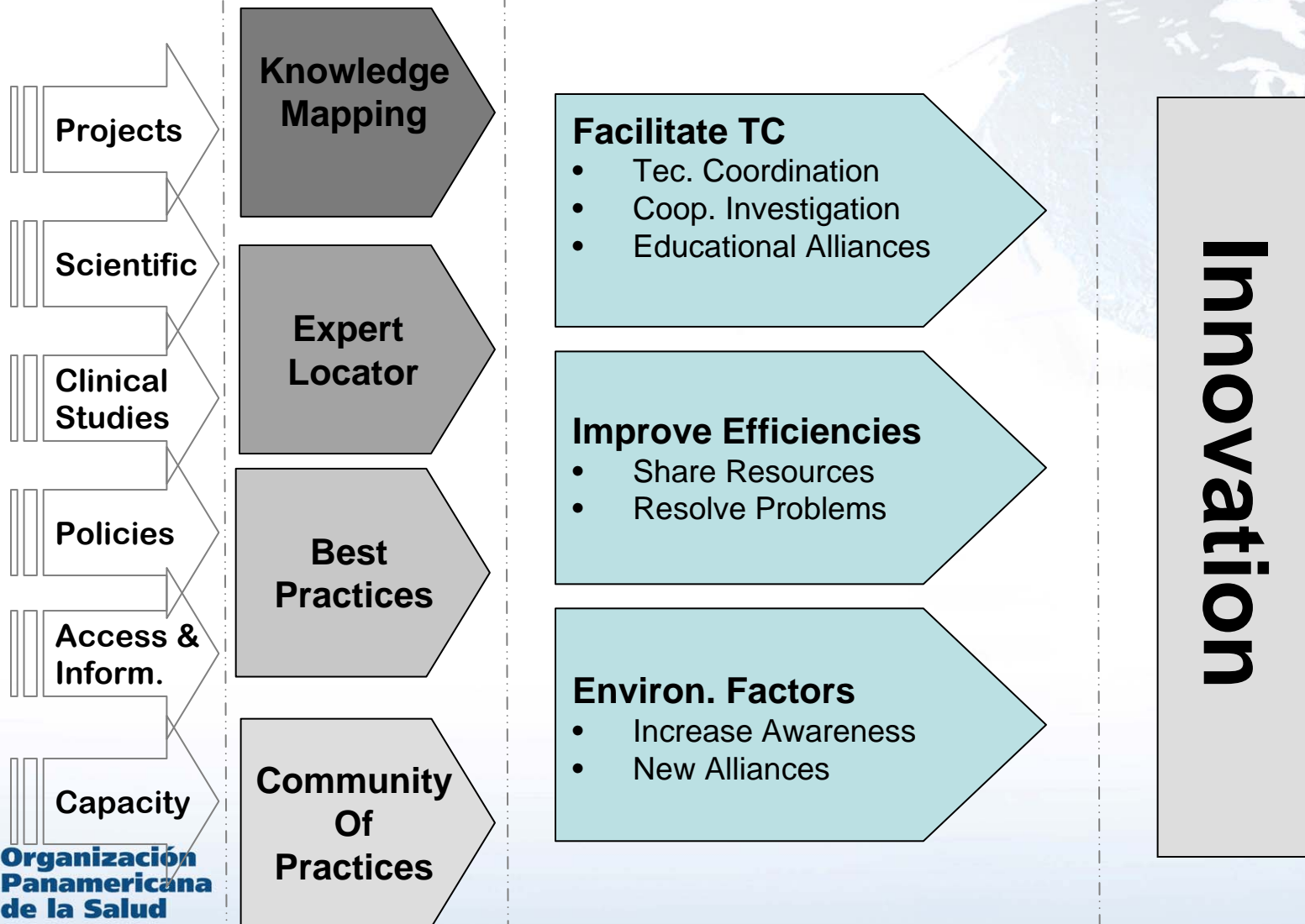


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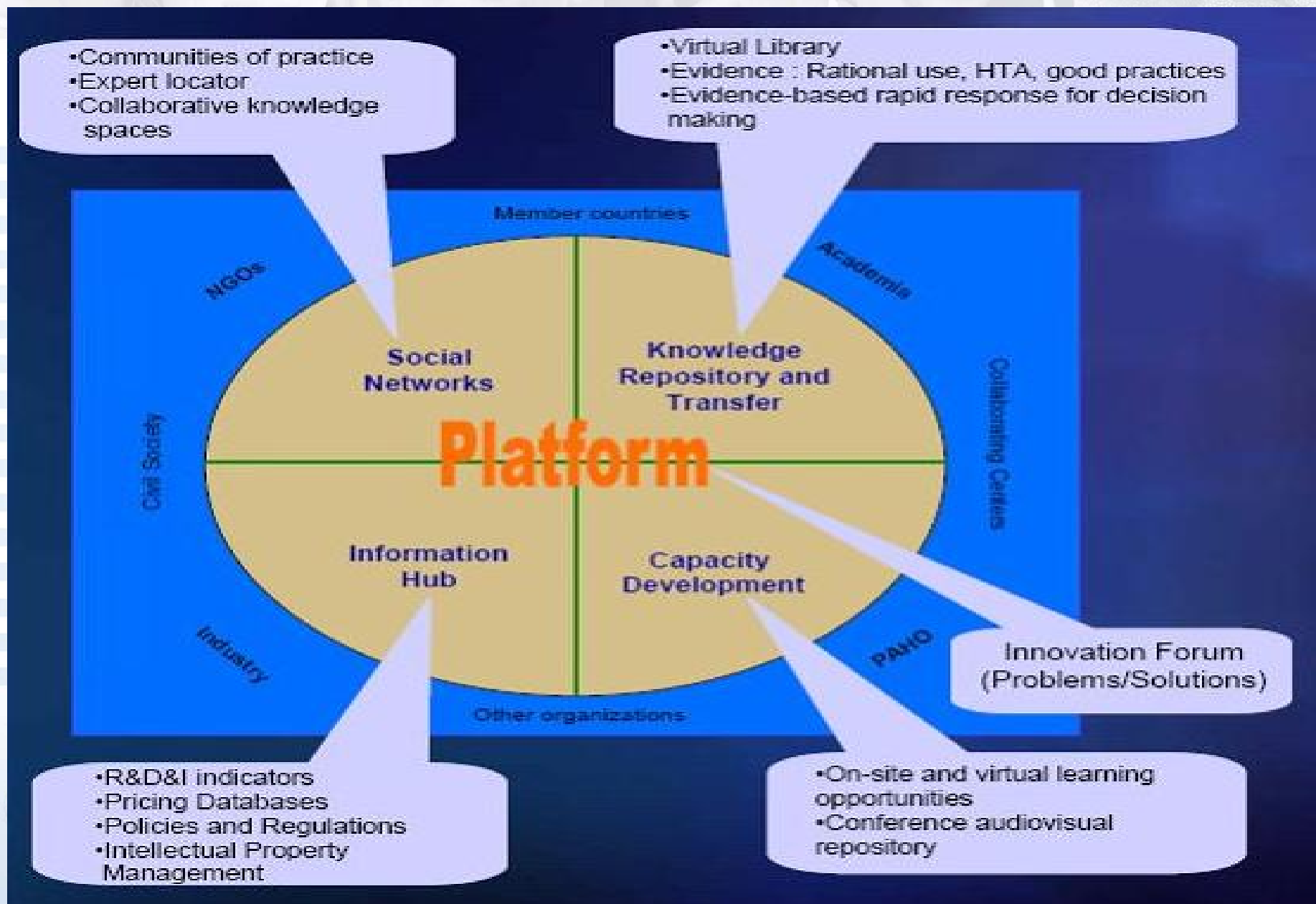


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Collaborative Virtual Platforms



Regional Platform Concept



- Expertise locator Chagas researcher and experts
- CoP for Chagas Innovation
- Chagas networks

- State of Chagas Innovation
- Evidence based summaries : Use of Antiparasitic Drugs for Indeterminate Phase)
- Taxonomy, regulations, Benznidazol TT case information

Member Co

NGO

Social Networks

Knowledge Repository & Transfer

Academia

Collaborating Centers

Platform

Civil Society

Data Hub

- Demand-forecasting tool and estimates for antiparasitic drugs

- Open Innovation forums: Open Call for Chagas Diagnostics (proof of concept)

- Skills development in TT and IPR management

Other Org

WHO

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Recent PAHO and WHO Mandates (I)

- CD49.19 (PAHO 2009 / Elimination of Neglected Diseases and other Poverty Related Diseases)
 - Commitment to eliminate or reduce NDs and other poverty related diseases, including Chagas disease.
 - Call for strengthening national programs, improved surveillance
 - Integration of care in PHC
 - Increased R&D, Innovation.
- WHA63.20 (WHO 2010 / Chagas Disease: Control and Elimination):
 - Recognition of LA Initiatives and CD49.19
 - Operational research, transmission, development of medicines, test of cure, early detection, blood transfusion safety.
 - Provide support to PAHO Member States

146th Session EC PAHO (June 2010)

- Strategy and Plan of Action for Chagas Disease Prevention, Control and Care
 - Interrupt Vector Transmission (household, transfusion, organ transplant, other.)
 - Improve access to health services and quality of care (diagnosis, secondary prevention of congenital Chagas, R&D&i)
 - Eliminating vector transmission by 2015
 - Mobilization of resources

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