Innovation and Industrial Development in Health: Prospection for Action

Coordination: Presidency of FIOCRUZ
An Agreement between FIOCRUZ and FIOTEC – Ministry of Health
The Country’s Situation

The Health System

  - Universalization, decentralization e hierarchization
  - Federal Level: coordination, regulation and financing
- Highly influential over the entire health system
  - Ex: Medicine program (generics), immunizations, blood control, blood derived products, investments (REFORSUS), services, etc.

A Strong Demand for Health Services and Products
Health Industrial Complex

Product Manufacturing Industries

- Pharmaceutical Industry
  Drugs / Medications
- Vaccine Industry
- Blood-derived products
- Diagnostic Reagents Industry
- Medical equipment and medical products industry
  - Non-electric/electronic devices
  - Electric/electronic devices
  - Prosthetics and orthotics
  - Consumer goods

Service Sector

- Public
- Private
- Philanthropy

Source: ECIB-COMPLEXO DA SAÚDE, 2002
Competition in the Industry

- Downfall in Competitiveness in the 90’s
- Growing gap between supply capacity and social needs
- Outburst of the Trade Deficit – from US$ 750 million to US$ 3.5 billion
  - Medications: US$ 860 million
  - Drugs: US$ 1,250 million
  - Vaccines: US$ 121 million
  - Diagnostic reagents: US$ 126 million
  - Material and Equipment: US$ 870 million
- Major Determinant: domestic (in)capacity to produce innovation in terms of health
Risks and Prospects

Risks

- Product re-specialization caused by globalization (products with low aggregate value)
- Broadening of the technological gap and loss of competitiveness
- Vulnerability of the Brazilian economy and social policy
- Health policy highly and increasingly dependent on imports
  - Present estimate: R$ 12 billion/year
Prospects

- Favorable political environment to implement socially oriented development policies
  
  Ex: BNDES Seminar on the Health Industrial Complex; The release seminar of the Innovation Project; The Forum on Competitiveness in the Pharmaceutic Production Chain and in Biotechnology

- Evidence of significant space to move forward:
  - The size of national health needs
  - The structuring process of the Health System (SUS): the inducing role of the State
  - The relevant deficit with developing countries

- Major Instruments:
  - Industrial and innovation-oriented policies
  - Health policies: the use of the State’s purchase capacity, coordination and induction
Prospects

- The establishment of a thorough tie between industrial, innovation and social policies
  - Niche identification, innovation networks and anchors in the different segments of the complex
  - Evaluation of health needs on short, mid and long terms
  - Strengthening of the partnerships between the public and the private spheres
- Strengthening of local innovation bases on a policy destined to reduce national inequalities
  - Induction of local productive arrangements in health
  - Use of local habilities and the formation of innovation networks in health
Objectives of the Study

General Objectives

- To propose a mid and long term plan for innovation and development in health
- To serve as subsidy for the formulation and the establishment of innovation and industrial policies for manufacturing activities in health
- To identify and promote competitive niches and windows of opportunities for Brazil
- To develop a discussion over the matter and to define priorities as to the State, the production sector and the University (Triple Helix).
Objectives of the Study

Specific Objectives

- To evaluate the technological frontier of the world in terms of health
- To evaluate the Brazil’s capacity in innovation in health as compared to the rest of the world
- To evaluate long term needs of development and innovation in health
- To serve as subsidy for policies concerning the competitiveness of domestic manufacturers in terms of technology and management
- To develop terms of commitment between the State and the manufacturers with the aim of expanding competitiveness and innovation
Selected Sectors and Areas

**Vertical Studies**
- Drugs and Medications
- Vaccines
- Diagnostic Reagents

**Horizontal Studies**
- Disease Burden
- Intellectual Property

**Priorities Defined by Health Needs**
Methodology: stress the establishment of policies

- Projects developed for different sectors and areas of priority by consultants specialized in the health field
- Discussion with specialist technical groups about the projects’ contributions (Workshops)
- Discussion with public administrators aiming at defining policies and priorities for development and innovation in health
- Dissemination of the results to the State and to society
- Signing of the Terms of Commitment for development and innovation in health
Institutional Partnerships

- Ministry of Health
  - Minister Cabinet, Executive Secretariat, Health Surveillance Secretariat, Science, Technology and Health Products Secretariat, SAS, ANVISA, FUNASA
- Ministry of Science and Technology and Ministry of Education
  - FINEP, CNPq, CAPES
- Ministry of Development, Industry and Commerce
  - BNDES
- Brazil’s Private Industry
- Public Manufacturers of Goods and Services in Health
- Science and Technology in Health Community
- International Institutions
Process and Timeline

- Formulation of the Innovation Project - Oct 2002/ May 2003
- Launch of the Innovation Project - June 2003
- 4 Workshops on Vaccines - June /Oct 2003
- Final Workshop (consensus) - Nov 2003
- Signing of agreement/launch of INOVACINAS-Jan/Jun 2004
- 3 Technical Meetings on Drugs and Medications – Jan/May 2004
- 1st Workshop on Drugs and Medications – July 2004
### Vaccine Studies

<table>
<thead>
<tr>
<th>Studies/Stages</th>
<th>Institution</th>
<th>Study</th>
<th>Workshop</th>
<th>Report</th>
<th>Observations</th>
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</thead>
<tbody>
<tr>
<td>Technological Capacity of Vaccine Production</td>
<td>Dr. Manuel Limonta (Cuba)</td>
<td>07/31</td>
<td>08/11</td>
<td>September 2003</td>
<td>Report with major conclusions.</td>
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<tr>
<td>Prospection of Domestic Capacity of R&amp;D in Vaccines</td>
<td>UFRJ – Chem Department (Drs. José Vitor)</td>
<td>08/15</td>
<td>09/12</td>
<td>October 2003</td>
<td>Report with major conclusions.</td>
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<tr>
<td>Managerial Capacity of Public Manufacturers</td>
<td>FGV (Dr. José Castellari)</td>
<td>09/15</td>
<td>09/29</td>
<td>October 2003</td>
<td>Report with major conclusions.</td>
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<tr>
<td>Development of Propositions</td>
<td>Coordination</td>
<td>October 2003</td>
<td>11/05</td>
<td>November 2003</td>
<td>Includes negotiation with Ministries and Financing Agencies</td>
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<td>Terms of Commitment</td>
<td>Ministry of Health / Financing Agencies / Manufacturers</td>
<td></td>
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<td>Beginning December 2003</td>
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## Present Stage

### Studies on Drugs

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<tr>
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<th>Workshop</th>
<th>Scope Major Groups</th>
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<tbody>
<tr>
<td>Official Laboratories</td>
<td>ENSP/NAF Jorge Bermudez</td>
<td>May 2004</td>
<td>June 2004</td>
<td>August 2004</td>
<td>• Strategic Drugs (HIV, leprosy, tuberculosis, etc)</td>
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<tr>
<td>Domestic Pharmaceutical Industry –</td>
<td>IE/UFRJ-Jacob Frenkel</td>
<td>March 2004</td>
<td>April 2004</td>
<td>August 2004</td>
<td>• Specific Drugs (for rare and chronic diseases)</td>
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<tr>
<td>Economic Prospection</td>
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<td>• Neglected Drugs</td>
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<tr>
<td>Domestic Pharmaceutical Industry –</td>
<td>Chem Depart/UFRJ Adelaide Antunes</td>
<td>March 2004</td>
<td>April 2004</td>
<td>July 2004</td>
<td>• Cardiovascular</td>
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<tr>
<td>Technological Prospection</td>
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<td></td>
<td>• Mental Health</td>
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<tr>
<td>Technical/Political Workshops</td>
<td>Coordination/International Consultant</td>
<td></td>
<td></td>
<td>July -August 2004</td>
<td>• Cancer</td>
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<tr>
<td>Development of Propositions</td>
<td>Coordination</td>
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<td>September 2004</td>
<td>• Infectious Diseases</td>
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## Studies on Diagnostic Reagents

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<tr>
<td>Prospection of Domestic Capacity of R&amp;D in Reagents</td>
<td>Chem Depart UFRJ Adelaide Antunes</td>
<td>October 2004</td>
<td>November 2004</td>
<td>November 2004</td>
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<td>Technological Capacity of Reagent Production</td>
<td>Consultancy Proposal to be defined</td>
<td>October 2004</td>
<td>November 2004</td>
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<tr>
<td>Managerial Capacity of Public Manufacturers</td>
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### Estágio Atual

#### Estudos Horizontais

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<td>Intelectual Property</td>
<td>ENSP/ FIOCRUZ (Dr. Jorge Bermudez)</td>
<td>March 2004</td>
<td>September 2004</td>
<td>July 2004</td>
<td>- The TRIPS Agreement and its impact on public health and innovation</td>
</tr>
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</table>

**Disease Burden** – aims at contributing to identify the priorities of scientific and technological development of health products and research from 2003 to 2015, considering the morbidity/mortality rates.

**Intelectual Property** – Considering international agreements at the World Commerce Organization (TRIPS), it intends to serve as a subsidy for the definition of politics for the development, management and manufacturing of public health products in the country.
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