INCENTIVES FOR DEVELOPING ORPHAN DRUGS AROUND THE WORLD

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Introduction – Problem Statement

• 6-8% of the worldwide population suffer from a rare disease
• Less than 10% of pharmaceutical spending is invested in rare diseases
• Why so few orphan drugs?
  • Stringent requirements for authorization of medicinal products that make R&D programs a challenge
  • Too small populations to secure return on investment
• Yet, more and more rare diseases are identified so the problem intensifies
Introduction – Problem Solution

• Encourage both research in rare diseases and development of orphan drugs

• How?

➢ Specific legislation for Orphan Drugs that include incentives for their development

• A few countries have adopted a specific orphan legislation with incentives

• Some countries actively promote the treatment of rare diseases but lack adequate orphan legislation

• Most countries have no specific orphan legislation or rare disease program
What are the most common incentives?

- Market exclusivity
- Accelerated authorization
- Tax credits
- Waived or reduced fees
- Regulatory support
- Protocol assistance
- R&D grants
- Pricing & reimbursement
  - Earlier access to procedure
  - Return on Investment
What is Market Exclusivity?

- Competent authority may not authorize a same/similar medicinal product for the same therapeutic indication → Protection against competition
- Market exclusivity duration, which is valid from Marketing Authorization (MA), varies country by country, e.g.:
  - **USA**: 7 years
  - **EU**: 10 years (+ 2 years if paediatric development)
  - **Japan**: 10 years
## Countries with Well Established Orphan Drug Regulations

<table>
<thead>
<tr>
<th></th>
<th>USA</th>
<th>EU</th>
<th>JAPAN</th>
<th>AUSTRALIA</th>
<th>SWITZERLAND</th>
<th>ARGENTINA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competent Authorities</td>
<td>FDA/OOPD</td>
<td>EMA/COMP</td>
<td>MHLW/PMDA</td>
<td>TGA</td>
<td>SwissMedic</td>
<td>ANMAT</td>
</tr>
<tr>
<td>Prevalence (10,000)</td>
<td>200,000 inhabitants (≤7.5/10,000)</td>
<td>≤5/10,000</td>
<td>50,000 inhabitants ≤4/10,000</td>
<td>2000 inhabitants ≤1.1/10,000</td>
<td>≤5/10,000</td>
<td>≤1/2,000</td>
</tr>
<tr>
<td>Market Exclusivity</td>
<td>7 years</td>
<td>10 years (+2 for peadiatrics)</td>
<td>10 years</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Taxes Reduction</td>
<td>Up to 50% for Clinical Trial</td>
<td>managed by Member States</td>
<td>12% calculation as tax credit deduction</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>R&amp;D Grant</td>
<td>&lt; NIH program</td>
<td>CE/ MS</td>
<td>&lt; Government</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Exemption of Regulatory Fee</td>
<td>Yes</td>
<td>Reduced (Advice, Inspection and MAA)</td>
<td>Reduced</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Protocol Assistance</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Country</td>
<td>Specific Regulation/Law with provisions for Orphan Drugs</td>
<td>Prevalence Definition</td>
<td>Priority/Accelerated Review</td>
<td>Reduced Data Requirement</td>
<td>Data Protection Incentive</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
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<tr>
<td>Canada</td>
<td>No Initial <em>draft</em> discussion document</td>
<td>≤5/10,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>No Some specific provisions for ODs</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Yes</td>
<td>Not defined</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>Yes Submission pathway not described</td>
<td>Not available</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>Senate bill available, actual regulation not listed on official site</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>Yes Federal Law FZ-61</td>
<td>≤10/100,000</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S. Korea</td>
<td>Yes</td>
<td>&lt;20,000</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>Yes</td>
<td>&lt;20,000</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>Yes</td>
<td>≤1/10,000</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>No, <em>draft</em> available</td>
<td>≤5/100,000</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Ukraine</td>
<td>Yes</td>
<td>≤5/10,000</td>
<td>✓</td>
<td>✓</td>
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</tr>
</tbody>
</table>
## Overview of Current Orphan Drug Regulations in Latin America

<table>
<thead>
<tr>
<th>Country</th>
<th>Official Regulation (Law) for Orphan Drugs</th>
<th>Prevalence Definition</th>
<th>Priority/Accelerated Review</th>
<th>Reduced Data Requirement</th>
<th>Data Protection Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>No Decree in law to recognize ODs</td>
<td>≤5/10,000</td>
<td>✓</td>
<td>Same as for a new molecule</td>
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<tr>
<td>Argentina</td>
<td>Yes</td>
<td>≤1/2000</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Chile</td>
<td>No, MOH Recommendations for OD registration</td>
<td>≤5/10,000</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Columbia</td>
<td>No, Decree for vital medicines Applicable to ODs</td>
<td>Medicines intended to treat a rare, severe or patient disabling</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Costa Rica</td>
<td>No Some specific provisions for ODs</td>
<td>Some specific provisions for ODs</td>
<td>Medicine intended to treat a rare, severe or patient disabling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>El Salvador</td>
<td>No Some specific provisions for ODs</td>
<td>Some specific provisions for ODs</td>
<td>Medicine intended to treat a rare, severe or patient disabling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guatemala</td>
<td>No Some specific provisions for ODs</td>
<td>Some specific provisions for ODs</td>
<td>Medicine intended to treat a rare, severe or patient disabling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honduras</td>
<td>No Some specific provisions for ODs</td>
<td>Some specific provisions for ODs</td>
<td>Medicine intended to treat a rare, severe or patient disabling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicaragua</td>
<td>No Some specific provisions for ODs</td>
<td>Some specific provisions for ODs</td>
<td>Medicine intended to treat a rare, severe or patient disabling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panama</td>
<td>Yes</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Latin American Countries without any Provision for Orphan Drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bahamas</td>
<td>Barbados</td>
<td>Bolivia</td>
<td>Brazil</td>
<td>Dominican R.</td>
<td>Ecuador</td>
</tr>
</tbody>
</table>
Orphan Drug Regulations/Laws or provisions (2015)

Legend:
- Green: OD Regulation/Law available
- Yellow: Draft Orphan Drug Regulation available
- Blue: Official provisions from which Orphan Drugs can benefit (but which are not specific to Orphan Drugs)
Summary

• Incentives enacted in US & EU laws have given birth to an Orphan Drug industry and increased focus on Rare Diseases.

However:

• Only a small number of countries have adopted specific orphan drug laws

• A few countries have implemented incentives for orphan drug development.

➢ More regulations/laws providing incentives for Rare Disease research and Orphan Drug development are lacking in the majority of countries around the globe.
Conclusions

Given the characteristics of rare diseases (serious, debilitating, life threatening) and their increasing number:

- Governments should consider them as a priority and adopt specific regulations/laws that incentivize:
  - Research in Rare Diseases
  - Development of Orphan Drugs
  - Patient Access to such treatments

It is in our hands to improve the lives of patients with Rare Diseases globally!