DRUG DEVELOPMENT: TARGETING DISEASE IN THE DEVELOPING WORLD

Pharmaceutical companies influence access to medicines in developing countries through the development of innovative and adapted products, operating equitable pricing strategies and building local capacity. By Dawn Connelly

ENDEMIC DISEASES BEING TARGETED

More than half of the 327 products in development at the 20 largest pharmaceutical companies target five conditions; broadly reflecting the focus of available products, although new treatments are now being developed for several neglected diseases.

PRODUCT PIPELINE

Lower respiratory infections 40
Diabetes 36
Liver cirrhosis 14
HIV/AIDS 14
Malaria 10
Diarrhoeal diseases 10
Tuberculosis 7
Chronic obstructive pulmonary disease (COPD) 5
Meningitis 5
Chagas disease 4

PRODUCTS ON THE MARKET

Lower respiratory infections 40
Diabetes 36
HIV/AIDS 24
Liver cirrhosis 14
Malaria 10
Asthma 7
Epilepsy 6
Unipolar depressive disorder 6
Cerebrovascular disease 5

PIPELINE AND MARKETED PRODUCTS

The vast majority of products applicable to developing countries are for infectious diseases. Although there are several drugs for non-communicable diseases in development, most companies struggle to demonstrate how these products will be accessible to patients in developing countries.

REGULATORY APPROVALS

Since 2012, 11 companies have been granted regulatory approval by the US Food and Drug Administration or the European Medicines Agency for 30 new products for diseases relevant to developing countries.

There have been no new approvals for neglected tropical diseases and maternal and neonatal health conditions since 2012.

Johnson & Johnson leads in the number of regulatory approvals.

<table>
<thead>
<tr>
<th>Company</th>
<th>Total approvals</th>
<th>Adapts existing drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilead</td>
<td>10</td>
<td>3</td>
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<tr>
<td>Novartis</td>
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<tr>
<td>AstraZeneca</td>
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<td>1</td>
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<tr>
<td>Pfizer</td>
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<td>GSK</td>
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<tr>
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<td>Roche</td>
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<td>GlaxoSmithKline</td>
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<tr>
<td>Bayer</td>
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</tbody>
</table>
BURDEN OF THE TOP FIVE DISEASES
Among these five commonly targeted diseases, the communicable diseases have a higher burden in poorer countries. However, the burden of disease for the non-communicable conditions targeted is shared more equally.

CAPACITY BUILDING
The 20 largest research-based pharmaceutical companies are active in 75 developing countries in at least one of four areas: research and development; quality management in manufacturing; supply chain management; and pharmacovigilance.

PRICING AND DONATION
Eighteen of the 20 largest research-based pharmaceutical companies have implemented equitable pricing strategies for developing countries and 15 engage in structured donation programmes.