Therapies for major infectious diseases and related cancers

Julie Phillips, CEO

www.biodiem.com
(ASX:BDM)

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BioDiem has an extensive technology portfolio targeting multiple infectious diseases and cancers, supported by:

- Existing license income with strong growth
- Existing licenses to WHO, Serum Institute of India & Changchun BCHT Biotech Co, China

A strong pipeline of products with high value disease targets, including:

- **Large markets**: influenza, schistosomiasis, hepatitis, TB
- **High value niche markets**: fungal diseases, MRSA, sexually transmitted diseases, viral-related cancers
- **Influenza vaccine on the market**

Global network with leading research institutions and companies

- Including WHO, National Institutes of Health (USA), PATH (Program for Appropriate Technology in Health), Centres for Disease Control and Prevention (US), VIVALIS and the Institute of Experimental Medicine
- Partnering strategy accelerates development, lowers cost, while retaining IP control
## Multiple products targeting multiple diseases

<table>
<thead>
<tr>
<th>Product</th>
<th>Disease Targets</th>
<th>Current Partners</th>
<th>Development Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAIV Vaccine (Influenza)</td>
<td>Influenza – Seasonal &amp; Pandemic</td>
<td>WHO, SII (India), BCHT (China), IEM (Russia)</td>
<td>Marketed with license revenues of A$1.4m ytd Phase II (cell-based production technology)</td>
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<td></td>
<td>Bird flu</td>
<td>IEM/WHO</td>
<td>Clinical trial commenced in Russia</td>
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<td>LAIV Vector (Vaccine delivery)</td>
<td>Vaccine development</td>
<td>VIVALIS</td>
<td>First stage of development project underway</td>
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<tr>
<td>BDM-I (Antimicrobial)</td>
<td>Bacterial infections (MRSA, tuberculosis)</td>
<td>US government backed research institutions</td>
<td>Success in activity screening program</td>
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<tr>
<td></td>
<td>Fungal infections (aspergillus, scedosporium, yeasts and others)</td>
<td>US government backed research institutions University of Sydney</td>
<td>Positive screening results in difficult to treat fungi, patents granted for major indications</td>
</tr>
<tr>
<td></td>
<td>Parasitic diseases (schistosomiasis, others)</td>
<td>QIMR program</td>
<td>Success in activity screening program</td>
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<tr>
<td>SAVINE (Custom vaccines)</td>
<td>Nasopharyngeal carcinoma (NPC), tuberculosis</td>
<td>In-house</td>
<td>Seeking partner for more advanced data in animals</td>
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<tr>
<td>BDM-E (eye disease)</td>
<td>RP (orphan eye disease)</td>
<td>Foundation Fighting Blindness University of Miami</td>
<td>Animal model data support activity in retinal disease, safety shown at doses used (in Phase I/II study)</td>
</tr>
<tr>
<td>New vaccine technology</td>
<td>Dengue fever, hepatitis, various targets</td>
<td>Australian Universities</td>
<td>Promising early-stage laboratory results</td>
</tr>
</tbody>
</table>
A growing business in flu vaccines

- Current major revenue generator and growth business
- LAIV licensed to WHO as part of Global Pandemic Influenza Action Plan
- BioDiem has signed sublicenses with Serum Institute of India Ltd (SII), and Changchun BCHT Biotechnology Co. (BCHT) of China
  - H1N1 (pandemic) influenza vaccine launched in India by SII in July 2010 (Nasovac™).
    - Exclusive licence signed with Serum Institute of India for private sector sales in India
  - Currently in production for seasonal influenza
  - Non-exclusive license signed with Serum Institute for Mexico, Argentina, Peru, South Africa, Bangladesh, Bhutan, Nepal, Pakistan and Sri Lanka.
  - BCHT deal for Chinese private sector market signed in February 2012

**YTD flu vaccine licensing revenue of A$1.4 million**
Versatile proprietary platform technologies

- Opportunity to target multiple infectious diseases and related cancers
- Licensing model to be pursued targeting other vaccine developers
- Complementary technologies acquired, broadening disease target range

**LAIV Vector**: A viral vector can deliver a customised protein into the body to produce a **Protective or Boosted** immune response to fight a disease e.g. nasopharyngeal cancer.

**SAVINE**: the “scrambled antigen vaccine” technology allows design of customised proteins e.g. NPC SAVINE for Epstein Barr virus-related diseases.

One in six cancers is linked to a virus infection
BDM-I broad spectrum antimicrobial

- BDM-I’s broad activity could mean claiming a share of several major markets
- Microorganisms being targeted include bacteria, fungi, and parasites
- Increasing resistance to antibiotics is a major concern for healthcare systems worldwide
- Significant opportunity to target high value diseases
- Big Pharma are returning to this space, and looking to acquire
- Pipelines are running dry – innovative products are in high demand

Next steps: An accelerated development program with rapid market Access for life-threatening diseases
• **FDA granted Orphan Drug status** to BDM-E compound for treatment of genetic eye disease *retinitis pigmentosa (RP)*

• BioDiem’s studies show BDM-E has biological effect in inflammation and eye disease models. New intellectual property generated from these studies

• **Clinical usage**: no safety concerns at dosage used

• Results will be presented in July 2012 at International eye research conference

• Research collaboration with Uni of Miami and Foundation Fighting Blindness to evaluate the potential of BDM-E to treat retinitis pigmentosa

• The study will examine the protective ability of BDM-E in a non-clinical disease model which mimics RP.

**Next Steps:** Completion of data package.
On track for sale or out license within 12 months
Why invest in BioDiem?

- BioDiem has successfully licensed its influenza vaccine to the largest markets in the world
- A proven track record of new license growth, e.g. BCHT (China) and the Serum Institute of India
- Exposure to multiple exciting opportunities for disease treatments with high market need
- Global partnering strategy with research leaders accelerates development and delivers more for each research and development dollar
- Potential to engineer multiple new vaccines from BioDiem’s technologies
- The research suggests exciting potential for BDM-I in multiple acute and chronic infectious diseases with a chance for accelerated regulatory approval
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