The mission of the institute is to advance health and wellbeing around the world by identifying, validating and accelerating the use of innovative and cost-effective wireless solutions to critical, unmet medical and community needs.
Traditional bioinstrumentation path

Develop technology → Find a problem to solve

Advantages:
- Low risk
- Low cost

Disadvantage:
- Limited applicability
Basic Closed-Loop Medical Device

Glucose Meter

BP Cuff

Scale

Gateway

Care Providers

Secure Server

Secure Transmission
The Corventis example

• Heart rate
• Respiratory rate
• Fluid status
• Posture
• Activity
Applications of Wireless Technology in healthcare

• Education and Awareness
• Remote data collection (lab and population studies)
• Remote monitoring (telemetry)
• Communication and training for healthcare workers
• Disease and Epidemic Outbreak Tracking
• Diagnostic and treatment support
Current distribution. Active and pilot programs
**Impact**

**Peru**
Celt-Preven. Health workers use mobile phones to send SMS messages with real-time data on symptoms experienced by clinical trial participants. Enables immediate response to adverse symptoms.

**South Africa**
Project Masulubane’s SMS message campaign promoting HIV/AIDS awareness resulted in nearly a tripling of call volume to a local HIV/AIDS helpline.

**Uganda**
Text to Change’s SMS-based HIV/AIDS awareness quiz led to an increase of nearly 40% in the number of people coming in for free HIV/AIDS testing.

**Philippines**
Phoned Pill Reminders for TB Treatment. TB patients were given mobile phones and called daily with reminder to take their TB medication—90% did.
## Considerations beyond technology

### Value chain

<table>
<thead>
<tr>
<th>Player</th>
<th>Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient or Citizen (Mobile Subscriber)</td>
<td>Improved health outcomes</td>
</tr>
<tr>
<td>Health Care Provider</td>
<td>More efficient delivery of health services</td>
</tr>
<tr>
<td>NGO</td>
<td>Advance organizational mission, attract funding</td>
</tr>
<tr>
<td>Foundations</td>
<td>Advance organizational mission</td>
</tr>
<tr>
<td>Government</td>
<td>More efficient health care provision</td>
</tr>
<tr>
<td>Equipment Provider</td>
<td>Device revenue generation, brand recognition</td>
</tr>
<tr>
<td>Service Provider</td>
<td>Revenue from service fees, more subscriber base</td>
</tr>
<tr>
<td>Application Solutions Provider</td>
<td>Revenue from additional applications license fees</td>
</tr>
<tr>
<td>Content Management</td>
<td>Increase in volume of readership or revenue</td>
</tr>
<tr>
<td>Platform Provider</td>
<td>Revenue from sales</td>
</tr>
</tbody>
</table>
Case study

• Maternal health
• Neglected technological development
• Alignment with millennium goals
  – Eradicate extreme poverty and hunger
  – Achieve universal primary education
  – Promote gender equality and empower women
  – Reduce child mortality
  – Improve maternal health
  – Combat HIV/AIDS, malaria and other diseases
  – Ensure environmental sustainability
  – Develop a global partnership for development
Challenge

Cardiotocography – Invented late 1950s

Continuous and simultaneous monitoring of uterine contraction and Fetal Hear Rate

Used to detect and monitor fetal distress
Impact and next generations