Public Private Partnership in ICT infrastructure:
The case study on Telemedicine in Belarus

Olga Andrianova, Dipl.Kff., MBA
The Open University Business School
United Kingdom

25 November 2011, Baku
Outline

1. Background and market needs
2. Telemedicine as a PPP project
   - Scope
   - Key actors
   - Financing
   - Implementation
   - Benefits
3. Conclusion
Background

- 27% of the population of Belarus lives in rural areas
- 20% of the rural population lives in poverty
- Cardiovascular diseases are common among the population in Belarus
- Belarus operates a state financed health care system (government makes all purchases)
Market needs: Telemedicine

- There is a need to provide rural population in Belarus with sufficient medical treatment for cardiovascular diseases with services.
- Telemedicine ("distance health care") is a practice of providing medical services where the distance is a critical factor.
- Solution is to connect a doctor in a local hospital in the rural area with a cardiac specialist in a central hospital by using information and communication technologies (ICTs).
Telemedicine as a PPP project: Scope

- The aim of the PPP project is to expand access for the population to high-quality medical diagnostics and professional consultations via ICTs.
- Type of PPP project is Design-Build-Finance-Operate (DBFO) where the private sector designs, finances, operates the facility during the term of the lease and charges user fees for the lease period.
- Actors:
  - The key actors that enabled mobile operator MTS to make this business model work are the Belarusian privately owned company Cardian, the Ministry of Health of Belarus, the Central Minsk Regional Hospital in Borovliany, the local hospital in Ratomka, patients and local communities, and the UN Initiative Global Compact in Belarus.
  - Other actors include the Scientific Research Institute of Cardiology, the National Academy of Sciences of Belarus and the World Health Organization (WHO), who participated in the first meeting of the working group and served as the main providers of expertise on applications of telemedicine in Belarus.
Telemedicine as a PPP project: Key Actors

**Private Sector**
- **Mobile TeleSystem (MTS):** cell phone provider in Belarus
- **Cardian:** a company for the mobile diagnostic equipment

**Public Sector**
- **Ministry of Health of Belarus:** a key partner and a potential key client for MTS
- **Hospitals and Patients:** users of the mobile cardio equipment

**International Organisations**
- **UN Initiative Global Compact in Belarus/UNDP:** Network promoting Corporate Social Responsibility in Belarus and acts as catalyst and facilitator

Olga Andrianova, The Open University Business School
The case study on Telemedicine in Belarus
Telemedicine as a PPP project: Process

- organize dialogue between partners
- provide expert support
- provide advocacy and publicity for the project
- facilitate the dissemination of best practices from the project in other parts of the country

Cardian-PM Mobile ECG Equipment Installed in Rural Hospitals

MTS purchases Cardian PM equipment and supplies internet for local hospitals to speed adoption

Ministry of Health purchases Cardian PM for local hospitals

ECG recorded with Cardian-PM

ECG data transmitted to Central Hospital

Analysis, diagnosis & treatment options sent back to local hospital

Cardiac specialist reads ECG

Central Hospital for entire region

Rural hospital without cardiac specialist
# Telemedicine as a PPP project: Financing

<table>
<thead>
<tr>
<th>Item</th>
<th>Private Sector</th>
<th>Public Sector</th>
<th>Clarification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cardian PM software application</strong> for the transmission of data via cellular communication channels by a cardiologist at a central medical establishment</td>
<td>$3,850</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>The <strong>Cardian-PM complexes</strong> for the working places of a cardiologist at a <strong>central hospitals</strong> with computer hardware and software</td>
<td>$10,000</td>
<td>Number is funded by the Ministry of Health in the framework of state programme</td>
<td></td>
</tr>
<tr>
<td>Mobile broadband Internet for <strong>local hospitals</strong> by selling them a <strong>USB modem</strong> that plugs into a computer and connects it to the Internet (called MTS-Connect), or</td>
<td>-</td>
<td>one-time fee of $55 for “MTS-Connect”</td>
<td></td>
</tr>
<tr>
<td><strong>An Internet enabled specialized mobile phone for local doctors</strong> or emergency cars that can connect to the Cardian-PM either through a cable or through a Bluetooth wireless connection for transmitting ECGs</td>
<td>-</td>
<td>$150 for a specialized mobile phone</td>
<td></td>
</tr>
<tr>
<td>Recurring fees for the service (charged to hospitals not patients)</td>
<td>-</td>
<td>$10 per month per connection</td>
<td>Electrocardiogram (ECG)</td>
</tr>
</tbody>
</table>
Telemedicine as a PPP project: Implementation

The idea to address social issue on cardiology

A working group on telemedicine and pilot platform of feasibility studies is Minsk District

Memorandum of understanding between JLLC Mobile TeleSystems, UNDP and Ministry of Health

Preparation of a pilot project in Village Ratomka

Press conference and announcement in mass media

Village Ratomka – the Central Hospital in Borovliany analysis monthly 40 cardiograms

03-04/2008

07/2008

12/2008

3/2009
Telemedicine as a PPP project: Implementation

Pilot evaluation and approaching other hospitals by MTS
5/2009

Cardian-PM complexes installed in emergency cars and Central District Hospital in Mozyr and Zhlobin that provide medical care in villages (Chernobyl area)
09/2009

The mobile telemedicine complexes are installed in emergency cars in villages of Vitebsk region
11/2009-02/2010

Revenue from services & gross profit for products $18,072 in 2011 and planned expansion to CIS countries (UA and KZ)
2011
Benefits

- **Business Benefits**
  - Introduction of innovative products and approaches
  - Transformation of business models
  - Opening up of new markets and business opportunities

- **Development Benefits**
  - Increased access to high quality and affordable medical services
  - Reduced travel costs for rural population
  - Improved rural health and life quality
The case study on Telemedicine in Belarus

- PPP project has at the same time high social importance and commercial success that allows long-term sustainable development of socially significant partner projects.

- The success factor: the UN Global Compact was involved in the project and supported actors in idea generation, project planning and facilitation of negotiation process between actors.

Conclusion
Olga Andrianova
Associate Lecturer at the Faculty of Business and Law
The Open University Business School, United Kingdom
Based in Vienna (Austria)
T: +43 699 1 9419839 |
E: o.andrianova@open.ac.uk

Taisiya Eletskikh
Network focal Point Global Compact in Belarus
Based in Minsk (Belarus)
T: +375-296523132
T: +375-259015004
E: eletskikh@tut.by