Telemedicine As a Tool to Improve Quality, Safety and Costs of Health Care: Russian Experience

Submitted by: Russia
Telemedicine as a Tool to Improve Quality, Safety and Costs of Health Care: Russian Experience

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Federal Research Center for Obstetrics, Gynecology and Perinatology
Russian Society of Obstetricians and Gynecologists
Russian Society of Perinatal Medicine
Russian Telemedicine Association

Health Information Technologies

**TYPES**
- Electronic Medical Records
- Telemedicine
- Evidence-Based Medicine
- Consumer health informatics
- Health knowledge management
- Medical research using Grids
- Healthcare Information Systems

**EFFECTS**
- Improve health care quality
- Prevent medical errors
- Reduce health care costs
- Increase administrative efficiencies
- Decrease paperwork
- Expand access to affordable care
Healthcare in Russia at a Glance

<table>
<thead>
<tr>
<th>Key Parameters</th>
<th>Value</th>
<th>Governance of Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of hospitals</td>
<td>5,877</td>
<td></td>
</tr>
<tr>
<td>Number of beds</td>
<td>1,278,932</td>
<td></td>
</tr>
<tr>
<td>Number of polyclinics</td>
<td>11,046</td>
<td></td>
</tr>
<tr>
<td>Number of doctors (thd)</td>
<td>625.7</td>
<td></td>
</tr>
<tr>
<td>Number of nurses (thd)</td>
<td>1,335.4</td>
<td></td>
</tr>
<tr>
<td>Total HC spending in GDP</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Total HC spending per capita (in ppt)</td>
<td>$797</td>
<td></td>
</tr>
<tr>
<td>Federal HC spending per capita (in ppt)</td>
<td>$512</td>
<td></td>
</tr>
</tbody>
</table>

Source: Russian Statistics, Global Healthcare Organization, 2009

Telemedicine in Russia

Telemedicine is the use of telecommunication and information technologies in order to provide clinical health care at a distance

- > 600 stationary and mobile telemedicine centers in whole Russia
- Russian Railways TMCs (15 y. ago)
  - 25 centers in Moscow
- Russian Telemedicine Association
Telemedicine Network of Russian is a part of international Telemedicine Network

Leading Medical Centers of Russia

Telemedical Centers in regions of Russia

Telemedicine Network of Russian is a part of international Telemedicine Network

International Society for Telemedicine & eHealth

Telemedicine as a part of different medical care delivery types

<table>
<thead>
<tr>
<th>General health care delivery</th>
<th>Specialist health care delivery</th>
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<tbody>
<tr>
<td>• Telenuring</td>
<td>• Telecardiology</td>
</tr>
<tr>
<td>• Telepharmacy</td>
<td>• Teletrauma</td>
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<tr>
<td>• Telerehabilitation</td>
<td>• Telepsychiatry</td>
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<tr>
<td></td>
<td>• Teleradiology</td>
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<td></td>
<td>• Telepathology</td>
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<td>• Teledermatology</td>
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<td></td>
<td>• Teledentistry</td>
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<td></td>
<td>• Tele-audiology</td>
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<tr>
<td></td>
<td>• Teleneonatology</td>
</tr>
<tr>
<td></td>
<td>• Tele-OBGYN</td>
</tr>
</tbody>
</table>
Telemedicine forms: Planned Teleconsultation

Russian Association of Telemedicine

Telemedicine forms: Urgent Teleconsultation

Russian Association of Telemedicine
Telemedicine forms:
On-time Medical Telelecture

Telemedicine forms:
Medical Consiliums
Telemedicine forms:
Scientific-Practical Conference

Ministry of Health of the Russian Federation
Federal Research Center for Obstetrics, Gynecology and Perinatology

Patient Care
Research
Education

Vision
To bring together individuals with expertise across the spectrum of women’s health, from basic science to clinical skills through research excellence, innovation in education and outstanding clinical care
Millennium Development Goals (MDGs)

MDG 4: reduce child mortality
- Target 4.A: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

MDG 5: improve maternal health
- Target 5.A. Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio
- Target 5.B. Achieve, by 2015, universal access to reproductive health

The United Nations Millennium Development Goals are eight goals that all 191 UN member states have agreed to try to achieve by the year 2015.

Russia towards Millennium Development Goals

MDG 4: reduce child mortality
- Reducing the annual maternal mortality rate in Russia
- From 74/100000 to 39/100000 - 47% in the period from 1990 to 2009 year
- The target of reducing maternal mortality to the year of 2015 - up to 75%.
- Maternal mortality is reducing but still remains high as compared with Western European standards

MDG 5: improve maternal health
- Reduction of annual infant mortality from 27/1000 to 12/1000 - up to 50% in the period of 1990 to 2009 yy.
- The target of reducing infant mortality to the year of 2015 – on 75%
- Infant mortality is reduced but not enough

World Health Organization (WHO). World Health Statistics 2011
The Forum's key objective is to develop strategic and practical recommendations for the reduction of infant mortality considering special factors of the partner economies.

Telemedicine support of:
- research and practice seminars
- training sessions
in order to exchange ideas and practical experience of the Russian and international healthcare experts.

Healthcare ministers from G8 member economies, Asian economies, African- and Latin American economies, as well as senior officials from WHO, UNICEF, and UNFPA are invited to take part in this conference.

Multifunctional Educational Center as a way to improve women and neonatal health

- Providing access to modern international medical literature
- Equipped with computerized information systems
- Distance Education
- Professional conferences
- Internet resources, telemedicine
- Training and simulation centers
Telemedicine Center (founded in 2010)

Total Investments ~ $800,000

Main Central Station

Situational Room

Operation Theatre Rooms

Conference Halls

Server

Connection with up to 24 seats at the same time

Telemedicine Center:
Events from 2010 to May 2012

- Video conferencing subscribers: The CIS economies, USA, France, Belgium, Britain, Spain, Germany. 80 regions of Russia.

- Major medical institutions: U.S. National Institutes of Health (NIH), federal, national, regional medical centers in Russia.

- With the participation of telemedicine center, the following events was conducted: Congress GB; large scientific congresses, symposiums, forums, seminars on obstetrics, gynecology and neonatology national and international importance.
Simulation-Training Center

Training should be conducted not on humans

The basis of education - high-quality mannequins and professional trainers

Simulation-Training Center
(founded in September 2011)

Education in 2011-2012 (n=266)

- Obstet 31
- Neonat 108
- Int Care 26
- Nurses 101

Participants of Training in 2011-2012

- Jan
- Feb
**Resource center**

- Access to modern sources of scientific information:
- Search databases,
- Digital Libraries, Journals, theses, books

**Teleconsultations**

- Primary management
- Prognosis
- Plan for perinatal and early neonatal period
- Diagnosis

We involving experts from:
- Russia
- USA
- Canada
- Sweden
- France
- Belgium
- Germany
- Israel
- ...
Skin Pathology:
Congenital Ichthiosis

Orthopedic Pathology
Neurological pathology

Pulmonary pathology

Congenital Abnormalities

Bilateral cleft lip and palate

Omphalocele

Occipital encephalocele

Spina bifida
Remote video consultation at 150-200 times less expensive than a patient or doctor’s trip!!!

Just a local regional example of our distance work in cooperation with Bakulev’s institute of cardiosurgery: Buryatia region has increased detection of defects and due to this - to reduce maternal and perinatal mortality in 2 times for the last 5 years.

We executing our Ministry of health and WHO orders Regionalization of Perinatal Care: Role of Perinatal Telemedicine Network

• Cooperation
  • Ministry of Health, Ministry of Defense, Emergency Services etc
• Unification
  • Terminology
  • Databases
  • Guidelines

The chain is as strong as its weakest link

At the village level, ... everyone counts!
Telemedicine can assist in fetal therapy and surgery

- To improve the education of novice surgeons
- Communication between the referral site and treatment center
  - Appropriate selection of cases for treatment
  - Accurate timing of referral and follow-up of patients after the treatment procedure
- To standardize the methods of treatment
- To develop protocols for research

The health of the MOTHER and the BABY will be improved by a system that ensures...

... the Right Person
... in the Right Place
... at the Right Time
... doing the Right Thing
... in the Right Way

This is the RIGHT of the mother and baby
The health of the MOTHER and the BABY will be improved by a system than ensures...

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... doing the Right Thing
... in the Right Way

This is the RIGHT of the mother and baby

Telemedicine helps to ensure this RIGHT

Federal Research Center for Obstetrics, Gynecology and Perinatology
of the Ministry of Health of Russian Federation

We are open for Cooperation