

MT-MED

Mobile Telemedicine

– Scenarios, Model and Pilot Study –
for Georgian Healthcare System

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Business Partnership Grant

Requirements

- Partnership between Science Group (NGO) and Business Company (LLC/JSC)
- Company should provide extra 15% of grant support volume
- The Business feasibility should be presented

STEP-BPG 2009:

- 54 Proposals presented (July 2009) – 6 awarded (Dec 2009)
- Funding – 40000 GEL (24,000 Euros):
- 20% by GRDF (local branch of US CRDF), 80% - by GNSF
- Start – Jan 2010. Duration – 1 year

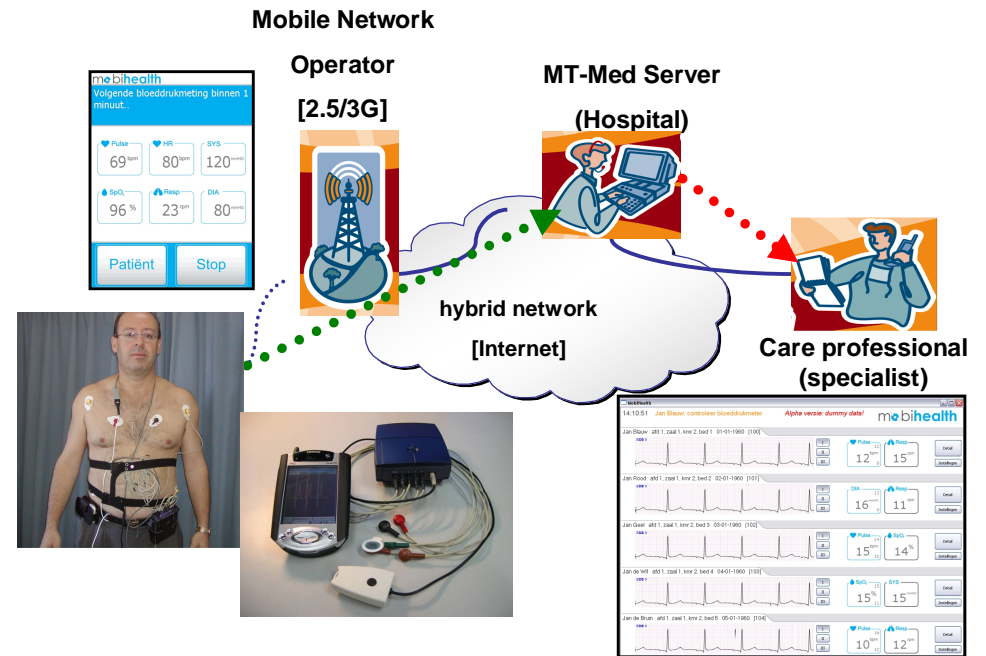
Summary

eHealth / Telemedicine

- Telemedicine means provision of medicine over distance which may exist between the patient's and specialist's locations.
- Both patients' data as well as Diagnostic or treatment suggestions are interexchanged by different communication means.
- Mobile communication has been the cutting edge of telemedicine since 21st Millennium, when cell phones became dominant means of communication.

Product

the service of **Mobile Telemedicine (MT-Med)**, by means of specialized MT equipment and high-speed data mobile communication provided by MagtiCom.



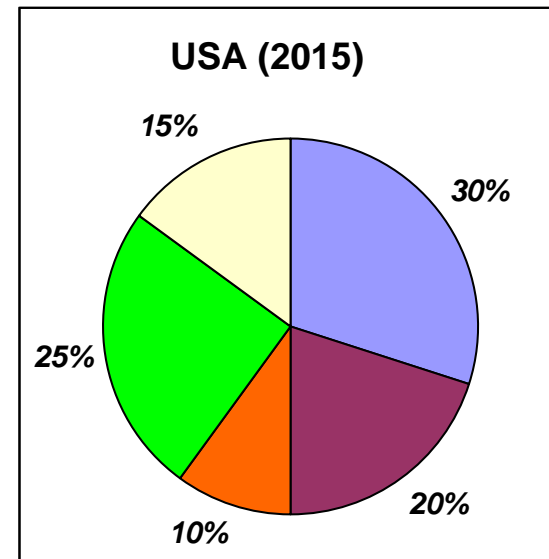
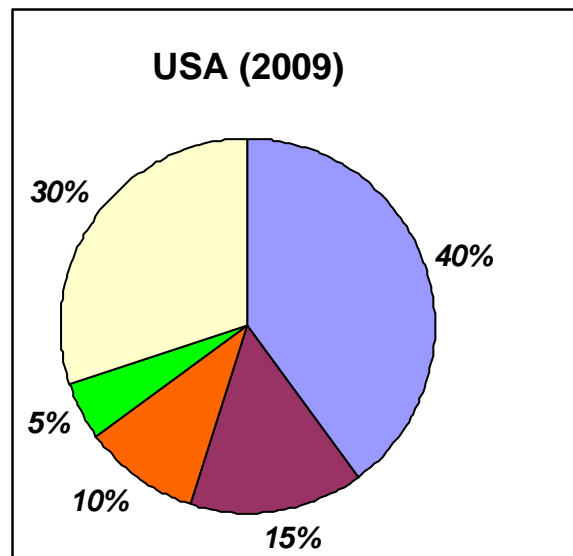
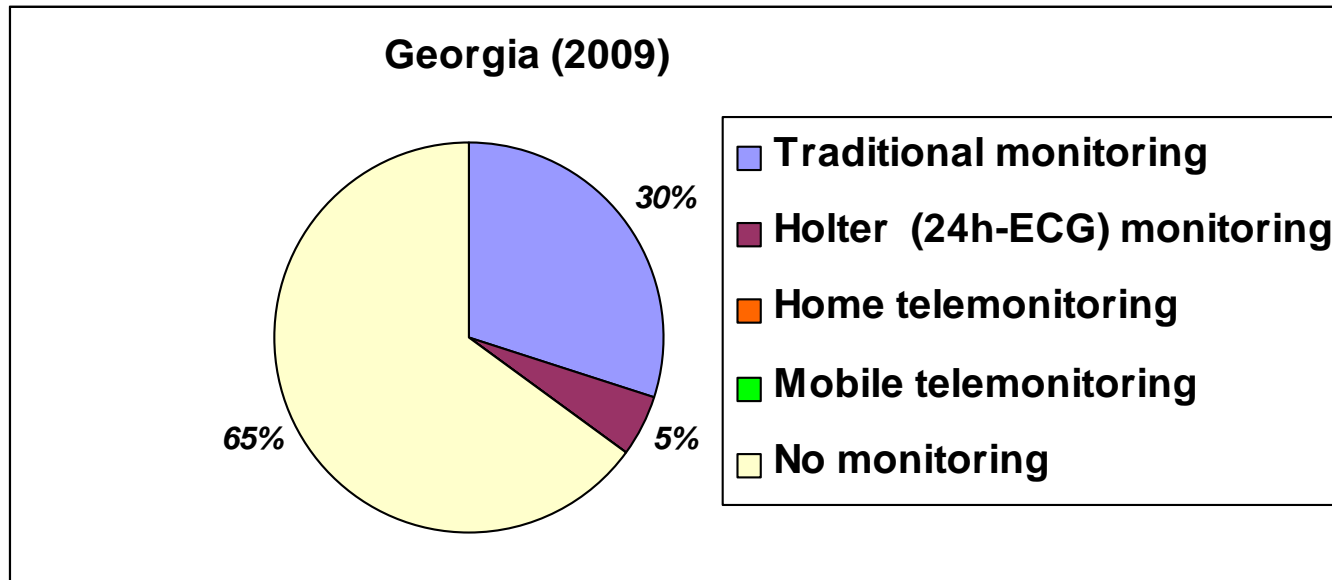
Business benefit:

- **Better Flexibility and Mobility** – both indoor & outdoor
- **Improving Quality of Life of patient** (home diagnostics)
- **Improved Safety and Best Monitoring option**
- **Cost efficiency**
- **Reliability**
- **Instant, 24h service**

Financial side:

- **Cost-efficiency** (see below)

Cardiac patients monitoring: present and trend



Chronic Diseases cost for Healthcare in Georgia

Chronic Diseases	# (,000)	Prevalence	Insidence	Admission	approximate cost (mln. GEL)	
					Avg.	Max.
		per 100000				
Art. Hypertension	200	4143	803.5	1450	12.4	42,7
Acute CAD	90	1041	270	N/A	12.1	40,6
Acute MI		51	23	100	4.2	16,7
Cerebrovascular Diseases		344	112	340	15.0	74,6
Bronchial Asthma	170	375	50	1256	7.3	13.0
COPD	50	246	126	1175	6.5	26.0
Epilepsy	40	197.5	29.7	N/A	2,9	14.6
Diabetes Mellitus	100	1237	156	2452	21.9	101.8
Total					77.9	313.2

1 €=2.32 GEL

Innovation



- Mobile Telemedicine never done in Georgia
- Interesting telemedicine scenarios for Myocardial Infarction and Arrhythmias could be innovative worldwide
- Comparative evaluation of GPRS, UMTS, HSDPA and other platforms for telemedicine scenarios
- Potential compatibility and complementarity of these modes.

Technical Advantage

MobiHealth (www.mobihealth.com) equipment produced in Holland (since 2000) and tested in EU (2002-2006, EU FP5 projects MobiHealth and HealthService24)

- ✓ **mobile remote monitoring: anytime, anywhere**
- ✓ **lightweight and secure**
- ✓ **reliable connection to doctor**
- ✓ **immediate, personalized feedback**
- ✓ **long-term operation**
- ✓ **remote supervision**
- ✓ **timely intervention**
- ✓ **adjustability to user-need/requirements**

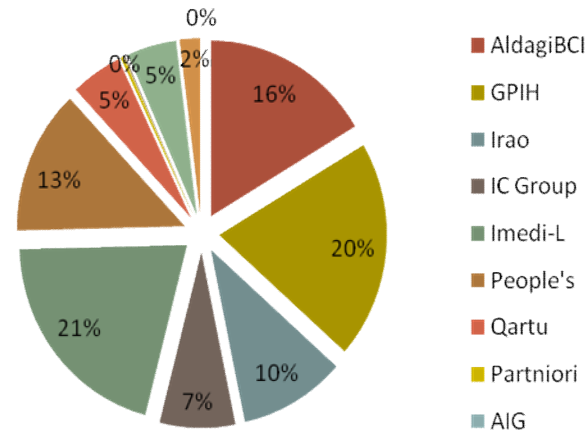


The Target Customers (partners?)

- Target customers

- Insurance Companies

- ImediL -21%,
- Aldagi-BCI -16%
- Irao – 10%



- Cardiology Hospitals with extended outpatient care vision

- Republican Central University Hospital – the largest multiprofile hospital with advanced ER, ICU and CCU
- Emergency Cardiology Center, invasive therapy and cardiac surgery center
- Systola Ltd – arrhythmia patients diagnostic and treatment center

The Business Problem



- **Challenges**

- New Product – to be tested in Georgia
- New Service – to gain the market
- Competitiveness (older technologies)
- Attitude
- Start-up investment cost

- **Market opportunity**

- There are over 70,000 hospital cardiac cases. At least 10% of them need rehabilitation monitoring.

- **Target customers**

- Insurance Companies
- Cardiology Hospitals with extended outpatient care vision
- Mobile operators (MagtiCom)

The Solution



- Assuring Public opinion –
 - by gaining Hearts and Minds of Patients and Public
- The specific value –
 - Comfort of Life, Flexibility and Mobility along with Improved Safety
- Specific benefits to the customer
 - Patients go home earlier with no increased risk
 - Patients monitored without being tied to hospital
- Financial benefits (estimates) to the customer
 - Insurance companies spend 130-250 GEL on hospital patient/day, MT-Med price would be 50-90 (avg. 75) GEL

MT-Med cost composition



	Mobile telemedicine (MT-Med) cost				Inpatient care cost	
	(GEL)					
<i>Narrative</i>	Minim. daily cost	Maxim. daily cost	Minim. hourly cost	Maxim. hourly cost	Minim. daily cost	Maxim. daily cost
data transfer – cardiology patients	5.5	8.1	0.23	0.34		
Equipment	31.25	31.25	1.30	1.30		
Doctor’s salary (24 h shift monitoring)	12.5	20	0.52	0.83		
Nurse’s salary	5	10	0.21	0.42		
Overhead cost (tech.support, medicines, etc.)	10	20	0.42	0.83		
Cardiologic patient telemedicine cost	64.3	89.4	2.68	3.72	130	250
Cardiac Patient MT-Med Efficiency ratio	<i>minimum</i>	145%	<i>maximum</i>	389%	<u>average</u>	<u>267%</u>

Substitutes: MT-Med vs. substitute/competitor monitoring modes

(physicians survey results)



Dimensions of monitoring	None	Traditional monitor.	Holter (24h-ECG)	Home telemonitor	MT-Med
Accuracy	0	(6-10)	(9-10)	(6-10)	(9-10)
Reliability	0	(5-10)	(8-10)	(5-10)	(7-10)
Frequency	0	weekly (1)	2-3 days (3-5)	Instantly (10)	Instantly (10)
Transmission Speed	0	0,5-7 days (1-5)	0,5-2 day (5-7)	Instantly (10)	Instantly (10)
Cost	10	\$10-\$20 (5-8)	\$22 (5-6)	\$3-\$35 (4-10)	\$47-\$62 (1-3)
Universality	0	indoor (2-5)	In- & outdoor (10)	indoor (2-3)	In- & outdoor (10)
Total score	10	20-38 (avg. 29)	40-48 (avg. 44)	33 – 53 (avg. 43)	47-53 (avg. 50)



Competition



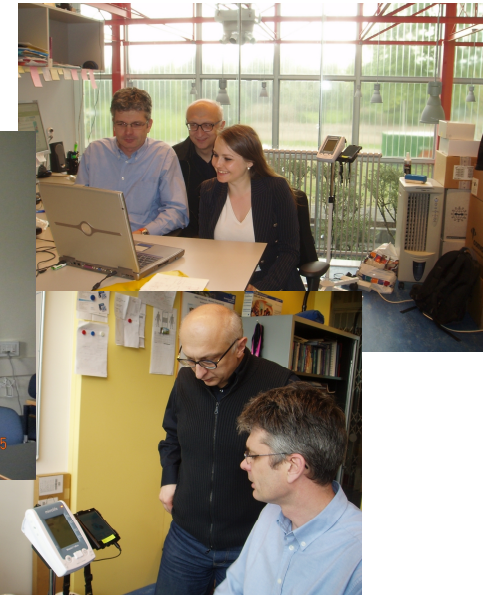
- No Monitoring means high risk for patient!
- Competitors:
 - Home telemonitoring is yesterday's technology dying before appearing in Georgia
 - Cardiology clinics doing Holter monitoring (in 5-15% of their inpatient cases)
 - Guli (Heart),
 - CardioExpress
 - CardioSOS (all - Holter (24h ECG) monitoring, Home telemonitoring is yesterday's technology dying before appearing in Georgia)

We hope that 1-2 of this competitors might become our end-users.

MT-Med Budget (2010)

MT-Med BUDGET			
Item description		Cash	In-Kind
INDIVIDUAL FINANCIAL SUPPORT (SALARIES):		18,196 Lari	0 Lari
TOTAL EQUIPMENT, SUPPLIES, AND SERVICES:		12,980 Lari	0 Lari
TOTAL TRAVEL		5,188 Lari	0 Lari
Institutional support (up to 10%)		10%	3,636 Lari
TOTAL PROJECT COSTS		40,000 Lari	
Project Funding		46000 GEL	
Grant Funding Requested		40,000 GEL	
Contributions from Partner Company		6,000 Lari	17,000 Lari
Contributions from Other Sources			
TOTAL CONTRIBUTIONS		46,000 Lari	17,000 Lari

Road Map



Idea born in 2007 - Collaboration with MagtiCom started, 2 presentations.

Accomplishments for today:

- **Soliciting major partner** (Magticom) with MoU about business development; **and 5 potential partners** (Insurance companies and hospitals)
 - **Established partnership with technology suppliers** (MobiHealth BV)
 - **Formulating excellent project team** – 2 IT, 2 cardiologists, 1 neurologist, 1 ER, 2 – Internal medicine, 1 – sports medicine top specialists
 - **Selecting target hospitals**, where to carry project
- Major accomplishments planned:
 - Technology to be tested - 2010
 - Production and marketing to be started Q4 2010
 - Preparation of EU-RTD (FP7?) Application in 2010
 - Sales Start – 2011
 - Profit breakpoint – Q3/2011 – Q2/2012