Social Media is the new marketing platform

People care more about what their peers think about products and services:

• 80% of consumers trust peer recommendations
• 14% of consumers trust advertisements
18% of traditional TV ad campaigns result in a positive ROI

By 2015, companies will generate 50% of web sales via their social presence and mobile applications

79% of the Fortune Global 500 companies are using at least one of the major social media platforms

Social Media is bigger on mobile

<table>
<thead>
<tr>
<th></th>
<th>via Mobile</th>
<th>via PC</th>
<th>YoY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>45.2 min</td>
<td>32.4 min</td>
<td>112% increase</td>
</tr>
<tr>
<td>Twitter</td>
<td>19.6 min</td>
<td>7.2 min</td>
<td>347% increase</td>
</tr>
</tbody>
</table>

There are more than 500 million active users currently accessing Facebook through their mobile devices, and they are twice as active on Facebook than non-mobile users

YouTube mobile gets over 600 million views a day, and traffic from mobile devices tripled in 2011

Social Networking Represents 60% of US Mobile Usage
Global smartphone sales to end users soared to 149 million units in the fourth quarter of 2011, a 47.3% increase from the fourth quarter of 2010.

End users bought 1.8 billion mobile devices globally in 2011; 26.6% (472 million) of those sales were smartphones.

Despite tremendous ramp so far, smartphone user adoption has huge upside.
2. Mobilization

Splinternet: The fragmented mobile internet

App Distribution Models
- Platform App Stores
- OEM App Stores
- 3rd Party App Stores

Platform Versions
- Ice Cream
- Honeycomb
- Gingerbread
- Froyo
- Eclair
- Donut
- Cupcake

Device Capabilities
- Sensors
- Screen Resolution
- Audio/Video
- Codecs

Application Types
- Web
- Native
- Hybrid
3. Consumerization

Moving from... To...

- Limited Connectivity
- Primary device is fixed
- IT has control
- Management and security inside firewall

- Always ON, anywhere
- Primary device is mobile
- User wants agility and freedom
- Boundary-less security and manageability

95% of Information workers use self-purchased technology for work - Gartner

Apple Q3’2011:

- iPhone. Up from 88% last quarter.
- 86% of the Fortune 500 is deploying or testing iPad. Up from 75% last quarter.
- 57% of Global 500 companies testing or deploying iPhone is fueled by employee demand.

- Gartner

"The growing practice of introducing new technologies into consumer markets prior to industrial markets will be the most significant trend affecting information technology (IT) during the next 10 years, according to Gartner, Inc. As a result, the majority of new technologies enterprises adopt for their information systems between 2007 and 2012 will have roots in consumer applications."
4. Hyper-Connectivity

means superfast internet, everywhere and always On

Vision of anywhere, anytime, any device information, communications and entertainment is becoming a reality.

Application and service demands are driving efforts to increase bandwidth directly to the subscriber premises.

Hyper-Connectivity needs will drive maximizing the use of existing copper by using xDSL & Vectoring technologies.

...eventually resulting in transition from Copper to FTTH for:
- Best speeds
- Best quality
- Best service

Industry consensus forecast doubling of traffic

Traffic Relative to 2009

Source: FCC Mobile Broadband Report 2010
Supersize me!
“Hyper-Connectivity Networks”

Connect

Collaborate

Communicate

Mobilization

Information for Life.

Social Media

Faster Networks

Richer Apps

Smarter Devices

2010

2011

2012

2014

2015

HSPA → LTE

Hyper-Connectivity

ADSL2 → FTTH

Internet Everywhere
Always ON

BYOD

BYOA

BYOT

TELUS HEALTH

TELESPORT

Motel

Retail

Automotive

Healthcare

Restaurants

Entertainment

Electronics

Enterprise

Travel

Education

Apparel

Retail

Information for Life.

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Information for Life.
It’s not the ‘bandwidth tsunami’ but the ‘signal storm’ that makes every hour on the network, the Busy Hour!

1. Always On-Line Everywhere

2. Frequent UE State Transition

3. Frequent “Heartbeat”

4. Using Various Applications Anytime

In Canada, while the data traffic has seen tremendous growth of over 100% YoY for the past three years, the signaling traffic has grown by a staggering 2700%.

Information for Life.
Innovation of “Connect, Communicate, Collaborate” requires a new “outside-in” approach.
Targeted ICT can enable resolution of key health issues

Sustainability of the healthcare system is in question

| Chronic Disease Management prevalence increasing | Medication errors and compliance causing important quality issues | Long wait times, poor access to care and lack of continuity of care | Lack of focus on prevention and patient self-management | Need for improvement in performance to address cost challenge |

To support a profound healthcare transformation agenda, investment in health IT needs to focus first and foremost on providing solutions that will address these key issues in a sustainable way.
TELUS empowers healthcare improvement by:

- Organizing **information**
- Moving **information** securely
- Connecting to share **information**
- Making **information** meaningful

At TELUS, we turn **information** into better health outcomes

Thereby touching the lives of everyone, one by one.
Organizing information

Providers, patients and payers require applications that will help them manage great amounts of data.

TELUS provides advanced applications for managing health information while optimizing clinical workflows.

The result: information at your fingertips

**Health Regions**
- Electronic Health Records

**Hospitals**
- Clinical Information System
- Electronic Medical Records

**First Line Care**
- Remote Patient Monitoring

**Home Care**
- Personal Health Record

**Self Care**
- Pharmacy Management Systems

**Pharmacies**
- Claims management

**Insurers and Employers**

**Advanced application**

**Clinical workflow expertise**

**Information for Life**

TELUS HEALTH™
Moving information securely

Today, information resides within the different organizations.

To manage health efficiently, information can no longer reside in silos – it must be connected, shared and secure.

TELUS invests in Care Continuum Solutions to connect applications for secure information sharing.

The result: systems that talk to one another.
Platforms to connect systems and applications

- Hospitals
  - Clinical Information System
- Self Care
  - Personal health record
- Telehealth
- Insurers and Employer
  - Claims management
- First Line Care
  - Electronic Medical Records
- Health Regions
  - Electronic Health Records
- Home Care
  - Remote Patient Monitoring
- Pharmacy
  - Pharmacy management Systems
- Care Transitions
- Care Coordination
- Clinical Collaboration Services
- Provider Portal
- Patient Portal
- Health Integration Platform
Connecting to share information

Healthcare collaboration requires reach.
Reach enables more rapid acceptance and adoption of health IT solutions.

TELUS connects physicians, pharmacists and allied healthcare providers

The TELUS brand reaches all Canadians

The result: people who talk to one another
Strength in Numbers: Reaching physicians

1,600
Number of physicians using our Electronic Medical Record solution

26,845
Typical day for EMR usage: see patients

EMR solutions help doctors track, monitor and manage their patient’s clinical information quickly and accurately.
Strength in Numbers: Reaching hospitals

57 Establishments using OACIS solutions in acute care

26,000 Clinicians using OACIS solutions in acute care

OACIS unifies software platforms within health institutions, helping physicians and caregivers to optimize their workflows.
Strength in Numbers: Reaching Pharmacists

2,700 Pharmacies using TELUS Pharmacy Management solutions

90,000 Patients registered with TELUS Pharma Space

Pharmacy management solutions help pharmacists provide better care and medication management to their patients.
Strength in Numbers: Reaching consumers

- 7.4 M Wireless subscribers
- 10 M Covered by TELUS Health Benefit Management solution
- 550,000 TELUS TV customers
- 10,000 Telehomecare users

Consumer and patient-centric tools to manage your health and that of your loved ones
## TELUS in health solutions span the care continuum

<table>
<thead>
<tr>
<th>Acute Care</th>
<th>First Line Care</th>
<th>Home Care and Self Care</th>
<th>Pharmacy and Pharmas</th>
<th>Insurers and Employers</th>
</tr>
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<tr>
<td>OACIS Clinical Information System</td>
<td>Electronic Medical Records</td>
<td>Remote Patient Monitoring</td>
<td>Pharmacy management Systems</td>
<td>Drug, dental and extended healthcare claims and benefit adjudication</td>
</tr>
<tr>
<td>Business Analytics relating to public health</td>
<td>Drug Information System</td>
<td>Chronic Disease Management</td>
<td>Point-of-sales</td>
<td>Management of providers for insurers and employers</td>
</tr>
<tr>
<td>Medication Reconciliation</td>
<td>eReferrals</td>
<td>TELUS health space</td>
<td>Consumer portals and applications</td>
<td>Business Analytics relating to benefit programs costs</td>
</tr>
<tr>
<td>Integrated Bedside Terminal</td>
<td>Result Distribution</td>
<td>TELUS personal health record</td>
<td>Mobile applications (prescription renewal, online shopping)</td>
<td>Human Resource Outsourcing</td>
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<td>TELUS iScheduler®</td>
<td>Care Coordination</td>
<td>Telehealth</td>
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**Transformation Services** (Strategy, Systems Implementation, Medication management, Clinician Engagement, Analytics)

**Mobility** (Mobilizing health applications, Providing secure IP Anywhere and Mobile VPN)

**Telecom Collaboration Services** (Videoconferencing, Security and risk management, ID Management)

**Infrastructure** (Managed Infrastructure, Customer Premise Solutions, Solutions for voice and data)
Mobile Solutions for Healthcare
Maximizing Health and Telecom Assets
Healthcare Delivery Organization Mobility Solutions

BYOD is becoming the norm in healthcare as MDs have their own devices (85% IOS)
- Proliferation and consumerization of healthcare applications is putting pressure on IT departments
- Patient are increasingly demanding access anywhere
- Early market for MDM - <5% take-up in healthcare across Canada

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Mobilizing TELUS Health Applications

Consistent UI Across TELUS apps

Device level integration (camera, messaging, etc)

API’s

TELUS Mobile apps Assets

Marketing

Mobility BI

Identity Mgmt

Mobile Payment

Billing

Consistent UI Across TELUS apps

Information for Life

TELUS HEALTH™
Remote Patient Monitoring (RPM) + Mobility
Market Size/Trends

Home health monitoring was a $10B market in 2010
By: Brian Dolan | Dec 21, 2010 12:08pm EST
Tags: Berg Insight | home health monitoring | remote patient monitoring

The worldwide market for home health monitoring of "welfare diseases" was worth about €7.6 billion ($10 billion) in 2010, according to Berg Insight. The conditions most commonly treated via these remote monitoring devices are heart failure, asthma and diabetes.

CONCLUSION: The study suggests that the MOM program can significantly reduce RR secondary to HF.
KEY FEATURES
• Personalized, evidence-based care plans
• Multiple modes of communications
• Comprehensive organizational hierarchy structure

Patient Station
• Intelligent Branch Logic Questioning with Interactive Education Material (Protocol)
• Choice of Browser (web) or Client (Win or Linux) Based Application. PLUS: iPhone, iPad and Blackberry apps
• Vital Sign / Biometric Device Connectivity
• Multilingual Educational Platform

Clinical Station
• Rules-Based (branch logic) Monitoring Care Plans using Evidence-based Protocols (Diabetes, COPD, CHF, Medication Observance)
• Remote Patient Monitoring and Profile Viewing
• Adhoc Reporting Capabilities and Data Analysis

Information for Life
Care Coordination

- Care Team Management
  - Secure messaging
  - Alerts and notifications
- Workload Management
  - Care plan - personalized by patient
  - Patient Dashboard
- Portlet-based Web Portal
  Accessible via tablet computers and smartphones
- Reporting and Analysis

Information for Life
Current to Future RPM Application Access

RPM is accessed 2 methods 1) Thick Client JAVA client on PC or 2) Through a PC browser

Consumer Tablets are more conducive to home care therefore…

RPM Native APP on Current Tablet Platforms
RPM Application Access

Tablet Profile
Management MDM

Public Open Access
Open Hotspots, Home

4G

3G

WiFi

RPM App Native on Tablet

Back-end APP infrastructure

App Login

Information for Life
Pharmacy + Mobility
TELUS Pharmacy

- Pharmacy Management System integration
- Web Services
- Pharmacy web portal (Pharmacy Patient Account)
- Mobile App
- Pharmacy Website
- Provide tools to pharmacies that Canadians Want
  - Communication with healthcare professionals
  - Access to personal health data: pharmacological profile
  - Online prescription renewal
  - Ability to book appointments with healthcare professionals online

Caregiver / facility
Business intelligence
Administration Web Portal
TELUS Pharma Space Mobile

Simplified Refills
- One-click prescription refill from anywhere

Medication History
- Medication history at your fingertips

Drug Information
- Access information anytime

Mobility simplifies medication management
Enhancing the Pharmacy Business

Promotions

Real-time product promotions

Geolocation

Geolocation of points of sales

Supporting Pharmacy chains promotion activities
Making information meaningful

Understanding health information requires knowledge and training.

Making health information meaningful requires business intelligence.

TELUS data and business intelligence tools provide the analytics; our industry experts provide the insights.

The result: Big data that tells a story.
So why is TELUS the right Health IT partner?

TELUS is more than a telecom company
The combination of our solutions, services and knowledge can effectively
**Turn Information into better health outcomes**

= Information for Life
Thank you!