Panel debate on Challenges on Accessibility to Digital Services

Rome, Italy, 26.03.2018

Panelists:
Lynne Zucker, Vice-President of Clinical Systems Integration, Canada Health Infoway / Inforoute Santé du Canada, Toronto, Canada
Martijn Hartog, eSociety Institute of The Hague University of Applied Sciences, The Netherlands
Lukas Smirek, Stuttgart Media University, Germany
Arian Rajh, Croatian Agency for Medicinal Products and Medical Devices, Croatia
Jon Sanford, Georgia Institute of Technology, USA

Moderator:
Lasse Berntzen, University College of Southeast Norway, Norway
Moderators Summary

Lasse Berntzen
University College of Southeast Norway
From the moderator:

• It is both a pleasure and a challenge to moderate a panel coming from different backgrounds with different perspectives. The panel theme was Challenges of Accessibility to Digital Services. Accessibility is often confused with availability (and even availability has different meanings, like uptime of systems).

• The following two slides shows some of the issues raised by the panel. I also included a slide showing my ideas about prerequisites for participation in the Digital Society.

• Each participant was asked to provide a few slides. You will find them below, and I hope you will get some nice ideas from reading them.
Accessibility

• Accessibility is about overcoming human impairments.
• It is important to take accessibility into account when designing products, services and processes.
• Accessibility is embedded in current operating systems platforms and mobile devices (e.g. iPhone).
• The challenge is not access to information, but ability to understand the information.
• Therefore efforts to implement “plain language” policies are important.
Availability

• Availability is about having access to technology.
• This is important for applications like healthcare (remote care)
• New sensing platforms can collect data about patient condition and send to relevant medical authorities.
• But technology is more than ICT. Technology can help patients live in their homes instead of moving to institutions. Technology may help patients go to bed when they want, take a bath without assistance, and take their medication at right time.
The Preconditions for Participation

• Accessibility is about overcoming human imperfections.
• Availability is about access to technology
• In order to take part in the digital society, the following needs to be in place:
  • Infrastructure (network)
  • Access to technology (PC, mobile device)
  • Accessibility
  • Knowledge on how to use (training)
  • Legal framework (privacy, freedom of speech)
  • Technology to support legal framework (sign in, encryption)
Challenges on Accessibility to Digital Services

eTelemed 2018
Rome, Italy
March 26, 2018

Lynne Zucker
Vice President, Clinical Systems Integration
Canadian Context for Telehealth

• A concentration of specialists in and around major urban centres
• Canada’s vast geography makes it difficult and costly for some patients and clinicians to connect face-to-face
• Canadians living in rural or northern areas must often travel long distances to access specialized health care
Telehealth Improves Access for Canadians Living in Rural and Remote Communities

• In 2016, telehealth saved rural Canadians nearly 218 million kilometres of travel, representing:
  — 26 million litres of gasoline
  — Nearly 60 million kilograms of CO₂ emissions (equivalent to taking more than 12,000 cars off the road)

• Significant improvements to timeliness of care received:
  — Wait times for some dermatology programs decreased from seven weeks (49 days) to 10 days
  — Teleophthalmology wait times decreased from about 25 days to less than two days
  — Telecrisis, telewoundcare and tele-endocrinology also experienced reduced wait times

• Patients saved approximately $325 million in personal travel costs
Growth in Telehealth use Since 2010

*Estimated values based on updated data provided by the Ontario Telemedicine Network.
Telehomecare: The Intersection of Technology and Patient Empowerment
How Does it Work?

**PATIENT’S HOME**

- Monitoring Devices
  - Blood Pressure
  - Blood Glucose
  - Pulse
  - Weight
  - Peak Flow
  - etc.

Data Transmission

**DIRECT FOLLOW-UP**

- Contact patient
- Health education & coaching
- Contact primary care /specialist
- Coordinate with other providers

**MONITORING CENTRE**

- Review patient data
- Software

Data Transmission

- Personal Health Record
- Clinician EMR
- Hospital information system
Telehomecare Patient Experience Survey

183 patients responded over a six-month period

Satisfied with quality of care, teaching and coaching (99%)

Would recommend program to others (97%)

Better quality of life (88%)

Less need to visit an ED (86%)

% Strongly/Moderately Agree

“The program gave my mother the opportunity to recover in the comfort of her home. This was a major contributor to her recovery. It was also a great relief and support as a caregiver to be able to recognize and control potential crisis/anxiety with this condition. It gave us hope that my mother would survive her illness. We always received quality advice and speedy assistance!”

- Caregiver for patient enrolled in OTN Telehomecare program

Telehomecare → Virtual Care

• Tools and programs at providers’ discretion depending on acuity of patients
  • Referrals based on care pathways
  • Apps for self-management and prevention
  • More intensive interventions for those with higher acuity and specialized needs
  • Improve access, comfort and convenience for patients
Looking Ahead: Kaiser Permanente

• More than half of the interactions between Kaiser Permanente physicians and members were conducted virtually.

• In 2016, 52 per cent of the integrated health system's 110 million physician-member interactions took place via smartphone, videoconferencing, kiosks, or other technology tools.

37 million test results

20 million emails to providers

17 million electronic prescription refills
Big White Wall

- **Post a Talkabout**
  Talk to other Big White Wall members who may be experiencing the same thing as you.

- **Create a Brick**
  Express your feelings by creating a Brick using pictures and images.

- **Assess Yourself**
  Take assessments to set goals and track your progress.

- **Find Useful Stuff**
  With over 200 articles on Big White Wall, you can understand more about how you are feeling.

- **Join a Program**
  Register for on-line guided support courses using recognized therapies.

- **Make Friends**
  Connect with other Big White Wall members who feel like you so you can support each other.
First Nations Personal Health Record – National Expansion

• Closing the Circle of Care initiative will deploy a Community Electronic Medical Record (cEMR) Personal Health Record (PHR) for First Nations citizens and their providers
  • 226 First Nations communities in 10 jurisdictions

• The citizen health portal gives people direct access to their health record and their health care team. It enables them to:
  • Know their health information (plus get assistance in managing it)
  • Access it from wherever they are
  • Contribute to their health record
  • Share their information securely
  • Have two-way messaging with their health care team
Thank You!
connecting life-world of citizens with systems-world of professionals
structural engagement and empowerment of a participatory society

introducing sheets as panelist on
‘Challenges on Accessibility on Digital Services’
at
International Conference on Digital Society and eGovernments (ICDS)
International Conference on eHealth, Telemedicine, and Social Medicine (eTELEMED)

March 25 to March 29, 2018, Rome
context

digital connection of
‘life-world’ of citizens with ‘systems-world’ of professionals

participatory society
citizens collaborating with professionals in healthcare | welfare | public administration | safety
active digital citizens
equal partners of public organizations

influence and change of
dynamics
role
responsibilities
stakeholders
policy process

convergence of services on the individual household
complexity
quality
scale
growing diversity requires integration
citizens work and live in networks
technical challenges, data inconsistencies and information overload
interoperability of public and health products and services
people speak their own language

professionals need precise terminology

communication consistent and interoperable?

<table>
<thead>
<tr>
<th>Citizens’ life-world</th>
<th>Professionals’ systems-world</th>
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<tbody>
<tr>
<td>Emotional closeness</td>
<td>Professional distance</td>
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<tr>
<td>Informal action</td>
<td>Formal protocols</td>
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<tr>
<td>Incidental interest</td>
<td>Structural attention</td>
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<tr>
<td>Informal social network</td>
<td>Formal professional network</td>
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<tr>
<td>Mixed levels of understanding</td>
<td>Professional understanding</td>
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<tr>
<td>Flexible work</td>
<td>Fixed, planned work</td>
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<tr>
<td>Integrated tasks</td>
<td>Specialized tasks</td>
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<tr>
<td>Day-to-day language</td>
<td>Professional jargon</td>
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<tr>
<td>Practical skills</td>
<td>Professional knowledge</td>
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<tr>
<td>Informal appointments</td>
<td>Formal appointments</td>
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societal networks require effective solutions
support on a different scale than merely on an individual level

digital solutions at the level of
groups
neighborhoods
towns
cities
regions
society

<table>
<thead>
<tr>
<th>Life world citizens</th>
<th>Systems world professionals</th>
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<tbody>
<tr>
<td>Macro</td>
<td>city and society</td>
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<tr>
<td>Meso</td>
<td>groups, neighborhoods, towns</td>
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<tr>
<td>Micro</td>
<td>citizen</td>
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<td>sector, government and society</td>
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<td>organizations</td>
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<td>professional</td>
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integral information management

a coherent digital society information architecture
supporting citizens and collaboration with professionals

infrastructure

technology

information

(open) data

services

users
structural innovation partner public sector
conceptual, explorative and innovative R&D projects
multidisciplinary practice & higher educational courses/programs

themes
e-government, e-democracy, e-health
transparency, open government, open spending, Linked (Open) Data

Citizen Information Management
new theme in government information
Dutch Citizen Vocabularies Health and Public Administration
equipping citizens for a participatory society
eHealth Academy
100,000 citizens own control and responsibility

eSociety Institute is a knowledge partner of The eSociety Platform (NL) & The Open Data Institute (UK)
connecting life-world of citizens with systems-world of professionals
structural engagement and empowerment of a participatory society

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eSociety Institute of The Hague University of Applied Sciences
Martijn Hartog – senior project leader and R&D coordinator | m.w.hartog@hhs.nl | @martijnhartog
Universal Design vs. Adaptive User Interfaces – How Can We Provide Accessibility in Public Smart Services?

Lukas Smirek (Stuttgart Media University)
Motivation

- Chance or Challenge
- UI must fit individual needs
- Impossible to adjust every device/service by hand
  → Adaptive UIs
Adaptation can take place on different layers

- **Presentation & Input Events:**
  - e.g. Fontsize, volume, key shortcuts, button size & distance

- **Structure & Grammar:**
  - Input & output modalities, navigation & grouping structure, simplification (structure only), widget substitution...

- **Content & Semantics:**
  - Language, Icons, assistance, captions, audio description...
• Contribution by Stuttgart Media University:
  • Development of the Open Accessibility Personalisation Extension (OpenAPE)
    http://openape.gpii.eu

• Questions:
  • Can adaptive UIs provide better accessibility features than universally designed ones?
  • Expectations are high, but what is missing that we do not see more adaptive UIs?
Discoverability and accessibility of reliable sources on the Internet and archiving services

Creator: How to make my digital content more available for the future and more discoverable?

Consumer: How to choose a reliable source on the Internet?

– A method of determining a reliable source refers to its author (creator)
  • Provenance – one of the central terms of archival science
Discoverability and accessibility of reliable sources on the Internet and archiving services

Archives/any repository:

– How could I make my holdings more accessible to information consumers and visible to other environments

• Accessible regardless of technologies, situations, and disabilities

• Visible, providing semantics for environment
Discoverability and accessibility of reliable sources on the Internet and archiving services

Possible solution
  – Digital archival services link together content, creator, and context.

Positive consequences
  – well-designed archival services make content and sources more reliable
  • described
  • available
  • discoverable to other services

...and therefore more
  – visible
  – accessible
  – meaningful (machine processing)

March 25, 2018 to March 29, 2018 - Rome, Italy

Arian Rajh, PhD, Assist. Prof.