Patients’ Perceptions of Web Self-Service Applications in Primary Health Care

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Outline

• Aims of the Research
• Research Background
• Research Methods
• Results
• Conclusion
Analyze, identify and describe the factors that influence patient adoption of consumer e-health innovations in primary health care.
Research Background

• What is consumer e-Health?

• Benefits of consumer e-health:
  – Consumers access information
    • To improved decision making
    • Obtain relief from symptom
    • To improve access and use of health services.

• Key types of consumer e-health innovations:
  – Health-related Web sites
  – Internet-based health services
  – Direct access to clinical records

Research Questions for Consumer e-health

- What is the level of patient acceptance and use of consumer e-health applications?
- What impact does its use have on patient healthcare outcomes?
- What is the adoption process for consumer e-health applications such as person-controlled electronic health records (PCEHR)?
The Research Focus

• Socio-technical approach to capture and analyse patient information needs.

• Rogers’s diffusion innovation theory to explore and explain patient adoption and use of consumer e-health innovations.
Socio-technical approach in consumer e-Health system design:

Stage 1: Obtain an insight into the real world problem situations

Stage 2: Develop a conceptual model to determine the potential solutions to these problems

Stage 3: Bring selected solutions into as-is space to determine their feasibility.

Research Setting

- An online appointment system was developed and implemented in a primary healthcare medical centre.
- Innovation diffusion theory is used as the conceptual framework to identify and analyze major factors that could influence patient adoption of web-based self-service applications.
• Need for timely access to health care services.

• Congested phone call-based appointment service.

• Usefulness of Web-based online appointment system.
System Design

- Design of the online appointment system:
System Implementation

Patient Appointment Information

Request for Appointment

- First Name
- SurName
- Medicare No
- Email

Please input your medicare number, name and email address if you have one.

Submit
System Implementation

Patient Appointment Information

Request for Appointment

Select Date: 2011-01-04  
Doctor Type: General Practitioner

Show Doctors

Available Doctor: DR T MAHON

Start Searching from: 08:00

Duration: Standard --12 minutes

Submit
System Implementation

The system found an available appointment time for you.
The appointment information is:
Appointment Start Time:
Tuesday 04th of January 2011 12:24:00 PM
Appointment End Time:
Tuesday 04th of January 2011 12:35:00 PM

Click "Confirm" to continue, or click "Back" to select a new appointment date and time.
Otherwise, click "Cancel" to return to login page.
Theory for the Research- Rogers’ Diffusion of innovation theory

The Communication Channel

- Active Dissemination of innovation:
  - Fliers
  - Posters
  - Advertising
Data collection:

- **Interview**
  - Structured interview
  - Ethics approval
  - Questions asked

- **Computer log analysis**
  - Track appointment record
  - Track patient login record
Interview Design

• Patient’s demographic information:
  – Age
  – Gender
  – Work Status
  – Education Level

• Preferred method to make an appointment:
  – Comparing online booking with ringing reception at CHC directly, which would be your choice for making an appointment: a phone call or the Internet?
Interview Design

• Awareness
  – Are you aware that we have an online appointment system?

• Use of the system
  – Have you used this system for making appointments with a doctor?

• Consumers’ perception of the system
  – Do you like to use the system?
  – Is it easy to use?
  – Rate your overall satisfaction with the online appointment system on a scale of 1 to 10.
• Intention to use in the future
  – Would you like to use the online appointment service next time?
  – Would you recommend the online appointment service to your family and friends?

• Information needs
  – What information would you like to receive online?
## Results

### Age profile of surveyed patients

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 20</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>20-29</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>30-39</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>40-49</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>50-59</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>60-65</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Above 65</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>46</td>
</tr>
</tbody>
</table>
## Results

### Awareness of the online appointment system

<table>
<thead>
<tr>
<th>Answer (Yes/No)</th>
<th>Numbers</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>85</td>
<td>85%</td>
</tr>
<tr>
<td>Yes</td>
<td>15</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>
Results

• 84.6% of respondents who used the online appointment system at least once agreed that they could schedule an appointment as soon as they needed it.

• 92.3% of respondents who used the online appointment system at least once agreed that the system was easy to use.
## Preferred method to make an appointment

<table>
<thead>
<tr>
<th>Method (phone/Internet/walk in)</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>By phone</td>
<td>72</td>
<td>72%</td>
</tr>
<tr>
<td>By Internet</td>
<td>13</td>
<td>13%</td>
</tr>
<tr>
<td>Walk in and wait</td>
<td>15</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>
Results

Adoption Rate Over 3 Months

<table>
<thead>
<tr>
<th>Month</th>
<th>Percent of Appointment Made Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>3.20%</td>
</tr>
<tr>
<td>May</td>
<td>3.78%</td>
</tr>
<tr>
<td>June</td>
<td>4.40%</td>
</tr>
</tbody>
</table>

Month of survey, 2011

University of Wollongong
Results

• 61% of respondents intend to use the online appointment system in the near future.

• 23% of respondents prefer to use a phone call-based appointment service:
  – A phone call is easier
  – Prefer speaking to someone directly.
  – Trust a person more than a computer.
  – For urgent cases, a phone call is more reliable.
Conclusion

• Advantages of the online appointment system
  – Reduces waiting time
  – Provides after-hours service

• Challenges for the online appointment system
  – Computer literacy
  – Access to computer
  – Ease of use
Conclusion

• Adoption of consumer e-health applications are still hindered by:
  – Lack of computers
  – Access to the internet
  – Inadequate computer skills

• Majority is willing to adopt web self-service in primary health care.
Thank You!