Personalized patient education

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Importance of patient education

- Aims: provide accurate, trustworthy, up-to-date information
  - Prevention, health promotion
  - Information about the underlying disease

- Is it necessary to provide education to patient?

- Other sources: media, Internet
  - Easily accessible
  - But the reliability is questionable
Relevant factors

- Internet: infinite source of information
- Mobile Internet: anytime, from anywhere
- Social media: easy to find others with similar problems
- Web 2.0: not just read, but also create content
Some facts

- Search for online information
  - 61% of all adults get health info online
  - 60% of patients say the information found online affected a decision about how to treat an illness or condition
  - 53% say it lead them to ask a doctor new questions, or to get a second opinion from another doctor
  - 38% say it affected a decision about whether to see a doctor

Source: Lee Rainie: The Rise of the e-Patient: Understanding Social Networks and Online Health Information-Seeking
Online search for information about various treatments and medicines

The percentage of internet users who have looked online for information about the following treatments or medicines, 2002 and 2008.

<table>
<thead>
<tr>
<th>Treatment Type</th>
<th>2002</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info about prescription or over-the-counter drugs</td>
<td>34%</td>
<td>45%</td>
</tr>
<tr>
<td>Info about alternative treatments or medicines</td>
<td>28%</td>
<td>35%</td>
</tr>
<tr>
<td>Info about experimental treatments or medicines</td>
<td>18%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: Pew Internet & American Life Project 2008 Fall Tracking Survey, November-December 2008. Interviews conducted in English or Spanish. N=1,650 and margin of error is ±3% based on internet users.
Does online health information help or harm?

- 41% Help
- 3% Harm

Source: Lee Rainie: The Rise of the e-Patient: Understanding Social Networks and Online Health Information-Seeking
Conclusion

- Letting the patient find information alone is insufficient
- He/she can not judge what is accurate and relevant
- Health care providers need to teach patients to correctly interpret online information
  - Main barrier: lack of time
  - Requires resources
Why personalize the education?

- It’s more effective as patients
  - read it
  - remember it
  - find it more relevant

- Traditional form: one-by-one consultation with a trained professional

- It’s wide spread requires the use of info-communication technologies (ICT)
Components

- Patient profile
- Knowledge base
- Algorithm or rule set
- Personalized information
- Communication channel
Elements of a patient profile

- Demographics
- Diagnosis
- Therapy
- Prior knowledge, literacy
- Motivations
- Psycho-social factors
Knowledge base

- Elementary units of information
- Multimedia: text, images, video, animation
- Interactive elements
- The same information in different forms
  - Simply vs. more complicated wording
  - Text vs. image
- Should be validated and up-to-date
Personalization methods

- **Adaptation**
  - More relevant information (e.g. according to age, gender, disease stage)
  - Less redundant information (e.g. do not repeat already known facts)
  - Include personal goals

- **Feedback**
  - Compare to others (but avoid being too negative)
  - Compare to earlier stage (especially if improved)
  - Reinforcement
Interactivity

- Initial questionnaire
- Patient profile
- Personalized education material
- Interactive element

Update / extend

Evaluate response
Future plans

- Develop a methodology based on these principles
- Establish the element of the patient profile
- Develop a software prototype (mobile interface is also considered)
Thank you for your attention!

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