



**HimSS11**  
ANNUAL CONFERENCE & EXHIBITION

**Engaging Patients in their Health Care Using an Interactive Patient Portal**


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DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.




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**Conflict of Interest Disclosures**

Stephen L. Wagner, Ph.D., FACMPE  
and  
Michael R. Solomon, Ph.D., M.B.A.

Have no real or apparent  
conflicts of interest to report.


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## Session Objectives

1. Evaluate the effect of a patient portal featuring interactive self-service, secure messaging, and health education applications on the level of engagement of patients in their health and healthcare
2. Compare patient engagement based on patients' chronic medical conditions, including level of engagement before using the patient portal, and frequency of use of the portal applications
3. Assess the role of a patient portal in stimulating patients with chronic medical conditions who have not seen their doctor for an extended period to schedule an appointment
4. Demonstrate the use of a reliable and accurate measurement instrument for evaluating the Meaningful Use of electronic health record applications to engage patients in their health and healthcare
5. Discuss the implications of change in patient engagement discovered from the use of a patient portal on a health care organization's strategies and priorities for achieving EHR meaningful use to engage patients and their families

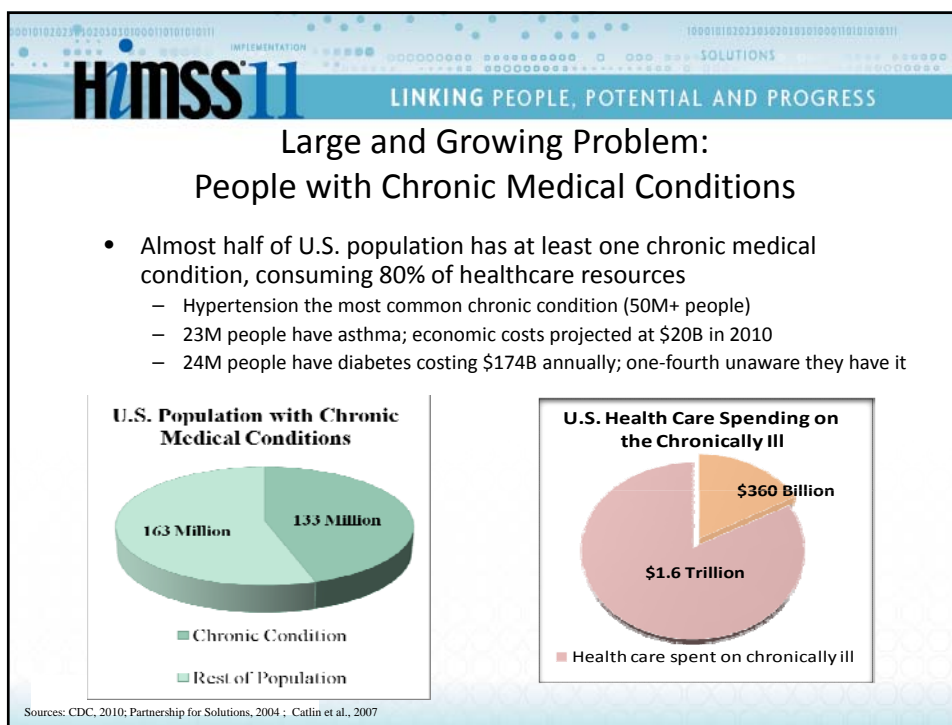
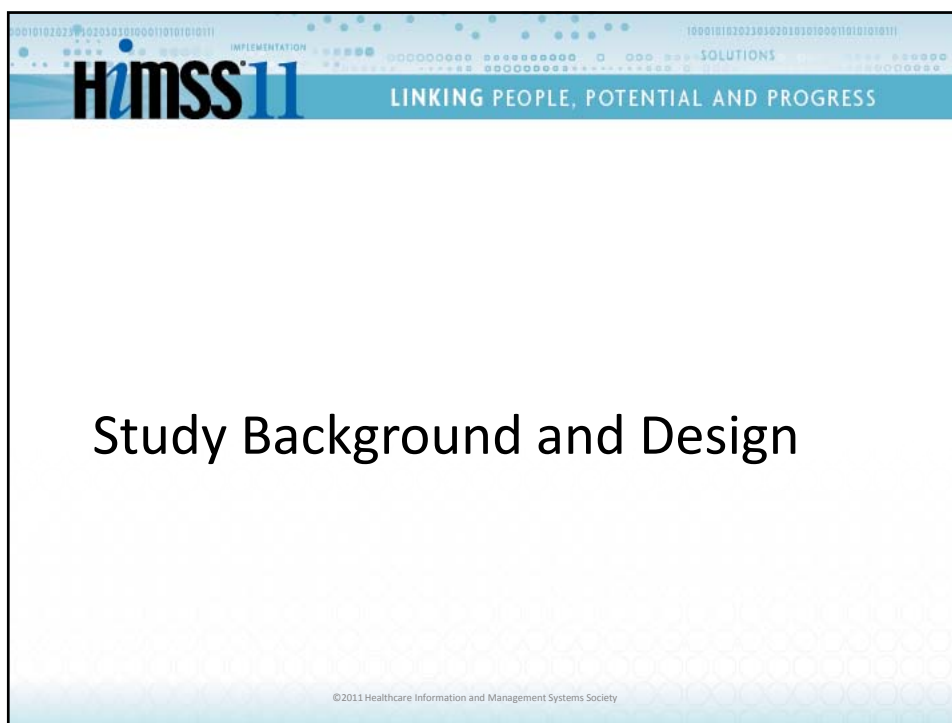
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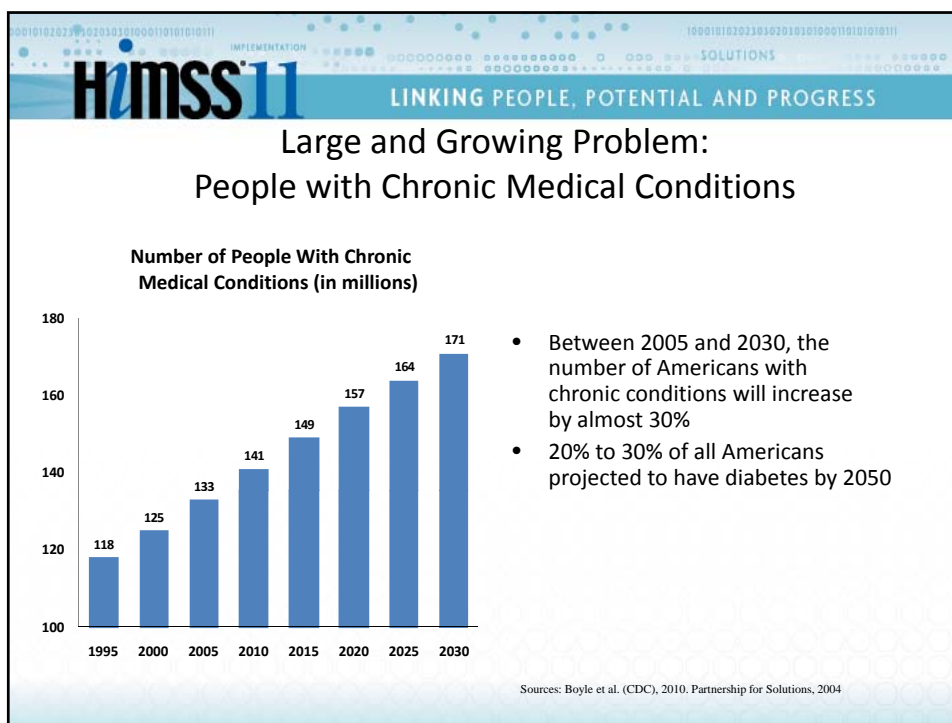


## Presentation Segments

- Study Background and Design
- Results
- Strategic Implications and Recommendations

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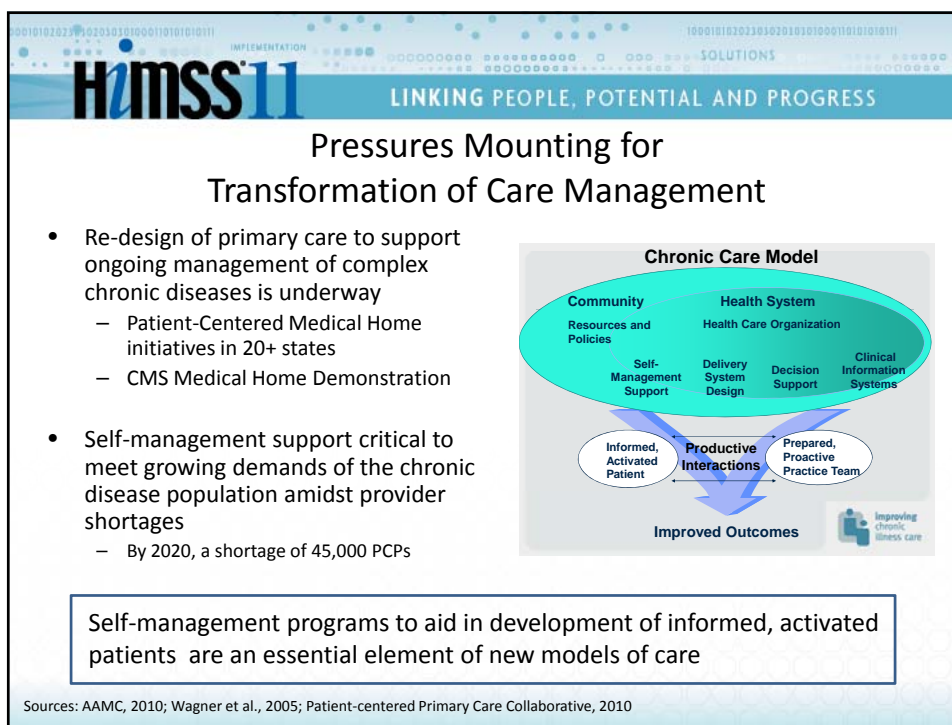
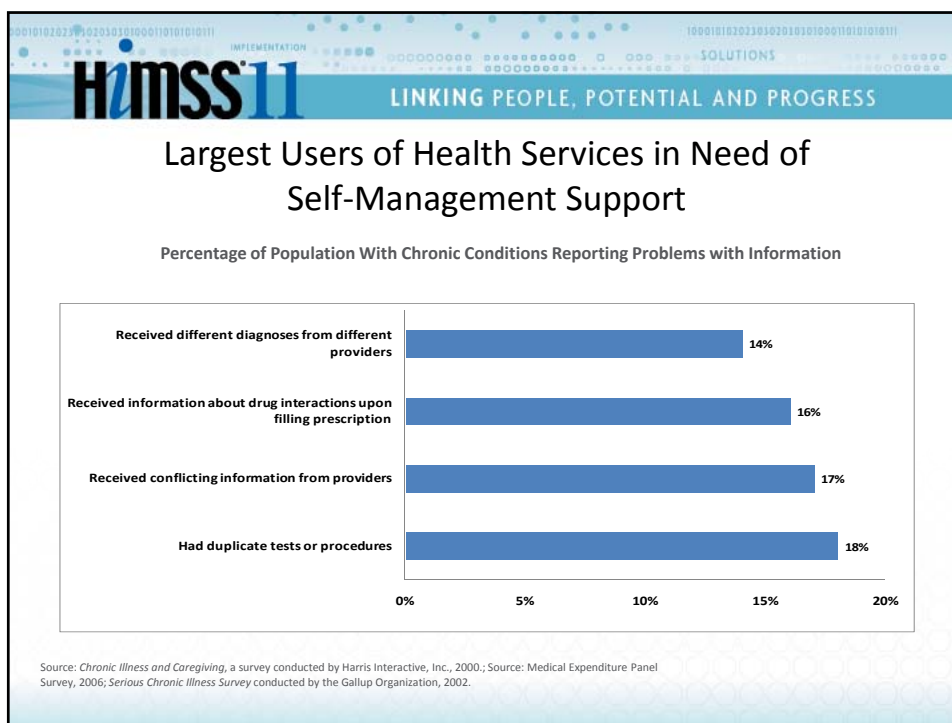


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### Largest Users of Health Services in Need of Self-Management Support

- People with chronic conditions consume 93% of prescriptions and represent 79% of physician visits, yet...
  - Have trouble getting access to advice on diet and nutrition, medications
  - Do not receive information they need to make informed health care decisions
- One-half of patients do not receive recommended screening and preventive care services
- 40% – 50% patients do not take their medications as prescribed
  - The total direct and indirect costs to U.S. society from prescription drug non-adherence are ~\$177+ billion annually


Sources: BCG, 2003; Dimatteo, 2004; Ernst & Grizzle, 2001; *Chronic Illness and Caregiving*, a survey conducted by Harris Interactive, Inc., 2000.; Medical Expenditure Panel Survey, 2006; *Serious Chronic Illness Survey* conducted by the Gallup Organization, 2002.



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## Study Purpose

Explore change in “*patient activation*” – a measure of **engagement**, **knowledge**, **skills**, and **self-confidence** – when a Web-based patient portal featuring self-management tools is used by patients with a variety of chronic medical conditions




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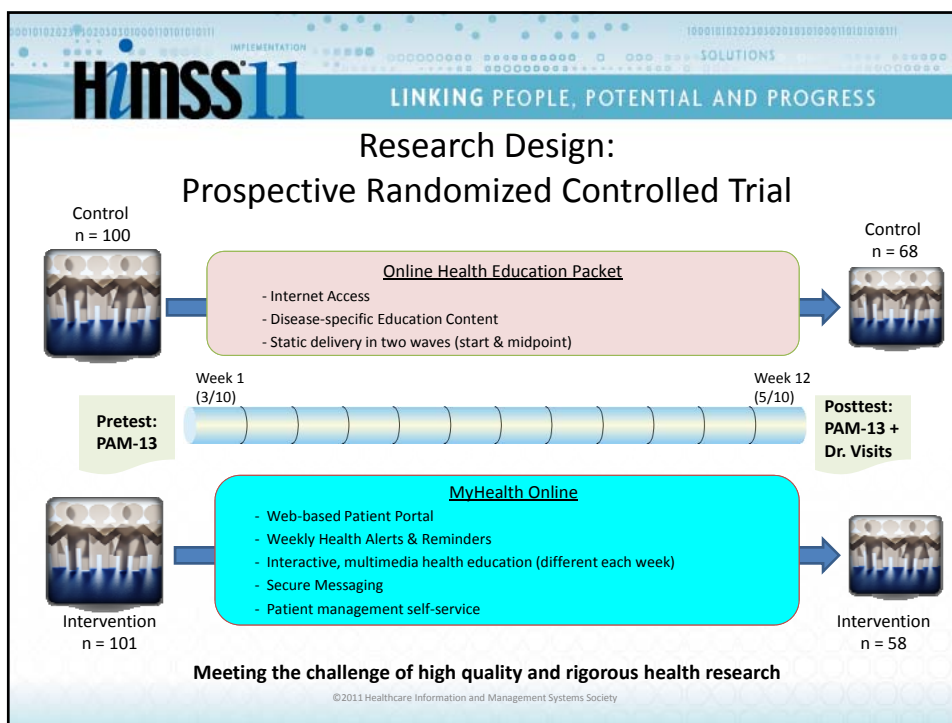
## Significance of this Research

- Health care providers must implement programs that scale
- Web-based patient portals have potential to expand access to self-management tools
- Results help fill gaps in understanding the role of HIT in developing patients engaged in their health and health care



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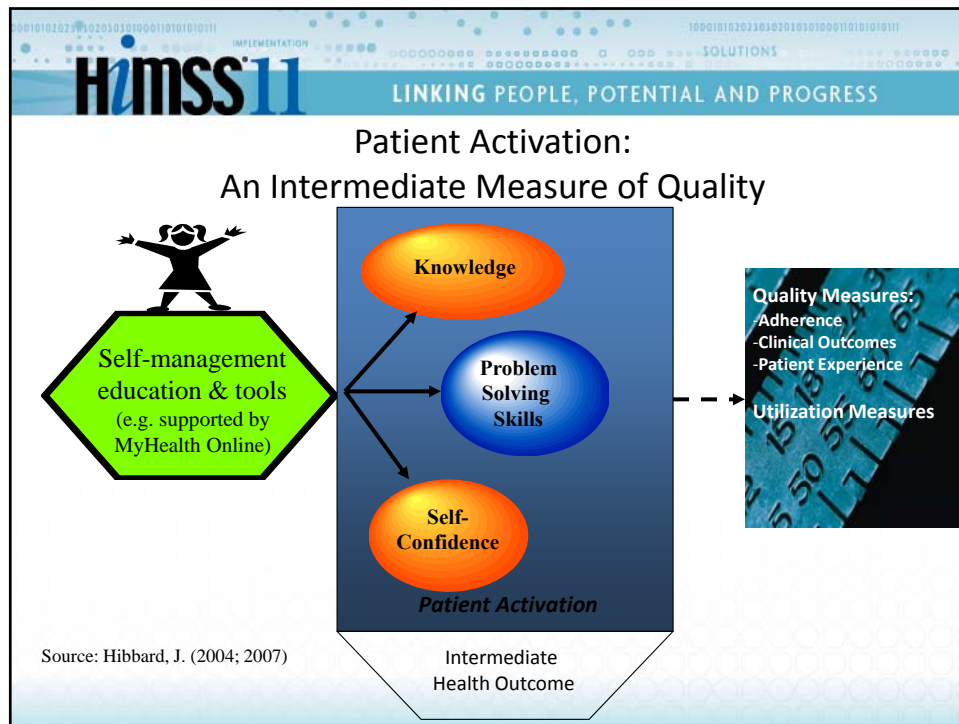




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**Carolinas HealthCare System**

- Includes 33 affiliated hospitals in North and South Carolina.
- Operations comprise more than 6,300 licensed beds and employ more than 48,000 people.
- 1,500 physicians serve patients at more than 500 care locations, including physician practices, nursing homes, surgical and rehabilitation centers, home health agencies and other facilities.
- For the seventh year in a row, Carolinas HealthCare System (CHS) has been ranked as one of the nation's Most Wired Hospitals and Health Systems. CHS is also one of only 25 health systems in the United States to earn the additional recognition of Most Wireless.



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### Patient Activation Measure™

Activation Development

Taking an active role in my own health care is the most important thing that affects my health.	<input type="radio"/> Disagree Strongly	<input type="radio"/> Disagree	<input type="radio"/> Agree	<input type="radio"/> Agree Strongly
I am confident that I can follow through on medical treatments I may need to do at home.	<input type="radio"/> Disagree Strongly	<input type="radio"/> Disagree	<input type="radio"/> Agree	<input type="radio"/> Agree Strongly
I know what treatments are available for my health problems.	<input type="radio"/> Disagree Strongly	<input type="radio"/> Disagree	<input type="radio"/> Agree	<input type="radio"/> Agree Strongly
I know how to prevent problems with my health.	<input type="radio"/> Disagree Strongly	<input type="radio"/> Disagree	<input type="radio"/> Agree	<input type="radio"/> Agree Strongly
I am confident I can figure out solutions when new problems arise with my health.	<input type="radio"/> Disagree Strongly	<input type="radio"/> Disagree	<input type="radio"/> Agree	<input type="radio"/> Agree Strongly

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Source: Hibbard & Cunningham, 2008

100 – Most activated  
0 – Least Activated



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## MyHealth Online

Carolinus HealthCare System

Welcome Ztest,Mho • [mary.ito@carolinushealthcare.org](mailto:mary.ito@carolinushealthcare.org) • Preferences • Help • Sign Out

PATIENT: Ztest, Mho [change patient](#)

**Home**  
[Schedule an Appointment](#)  
[Medications](#)

**My Appointments**  
**My Billing Information**  
**My Medications**  
**My Personal Information**  
**My Messages**  
**My Access**  
**My Health Resources**

**Healthy Happenings**  
 December is Mental Health Month. For more information, click on the Healthy Happenings link.

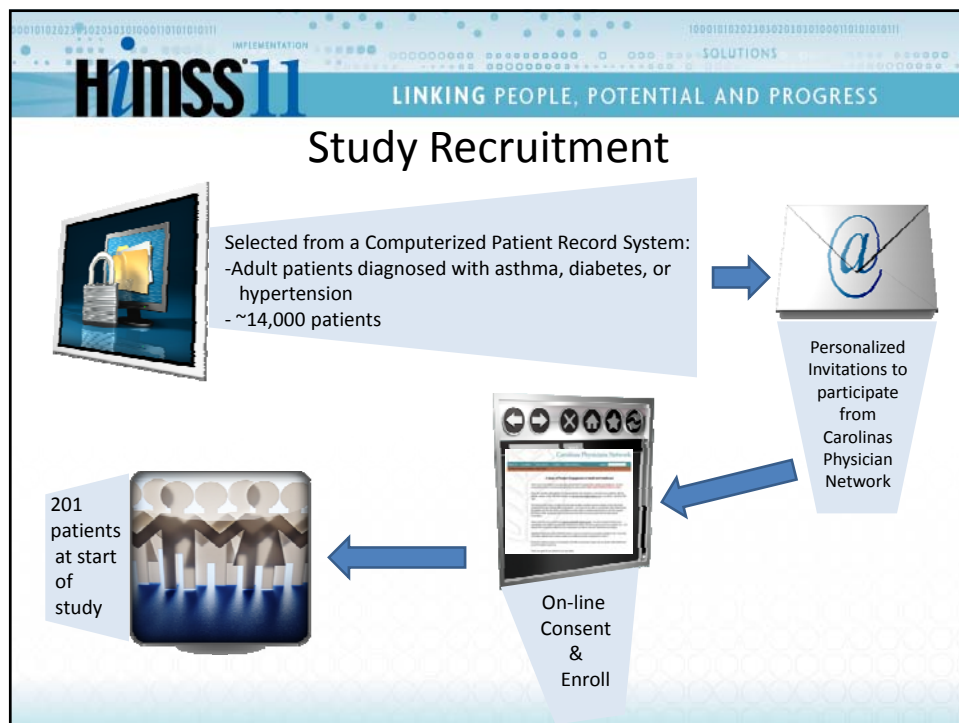
**Notifications & Reminders**

Date	Subject	Category
12/6/2010	Upcoming Appointment	Appointment Information
12/7/2010	Diabetes and A1c Testing Week 1	MHO Study Reminders

**Updates**  
 No new updates.

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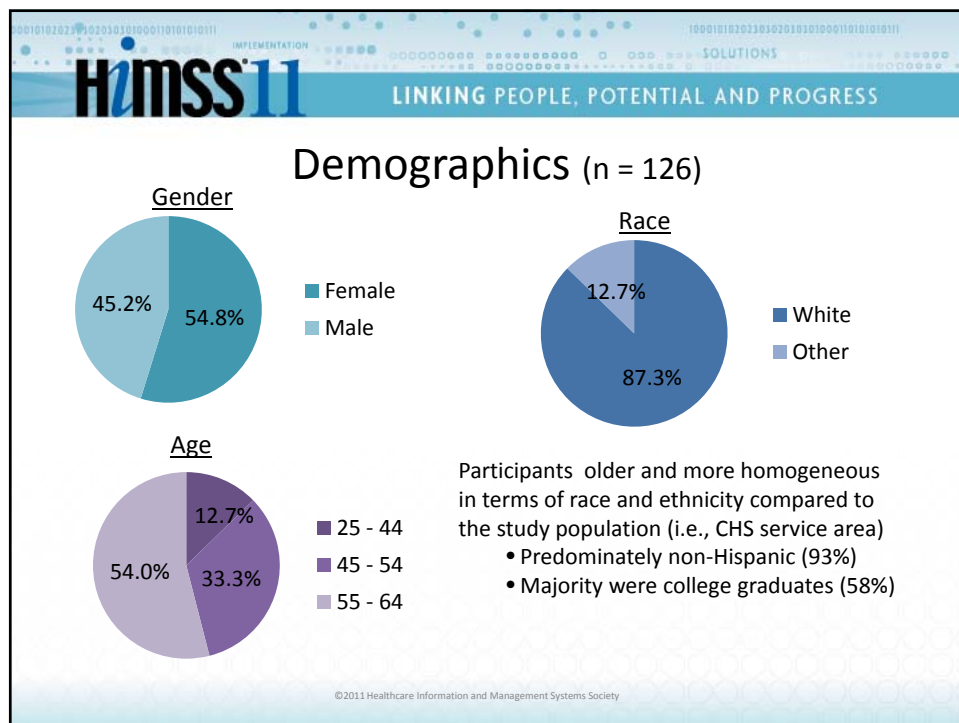
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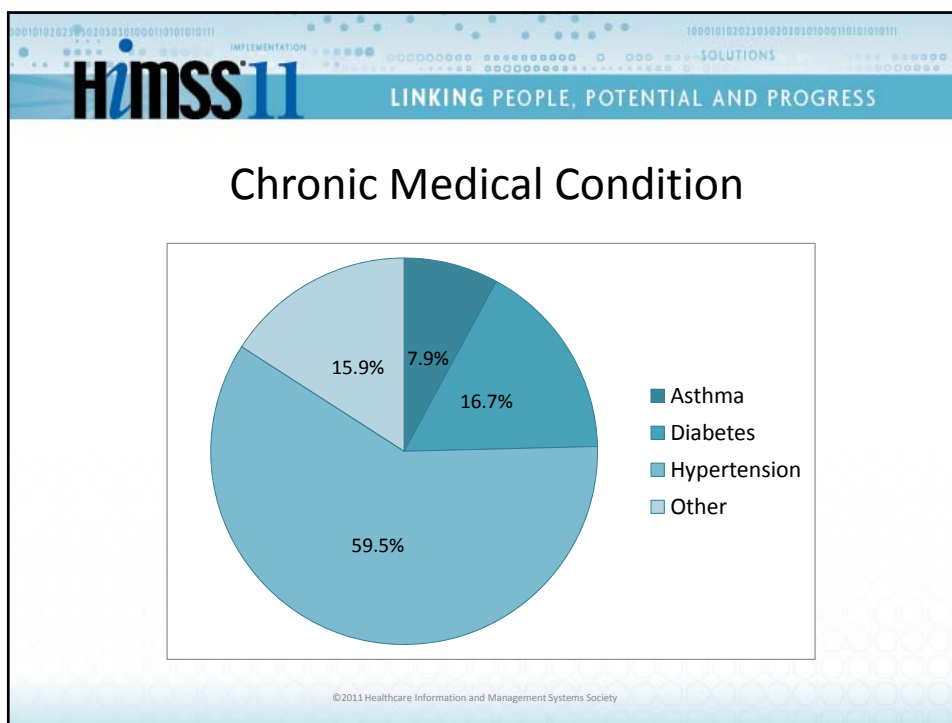


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# Results

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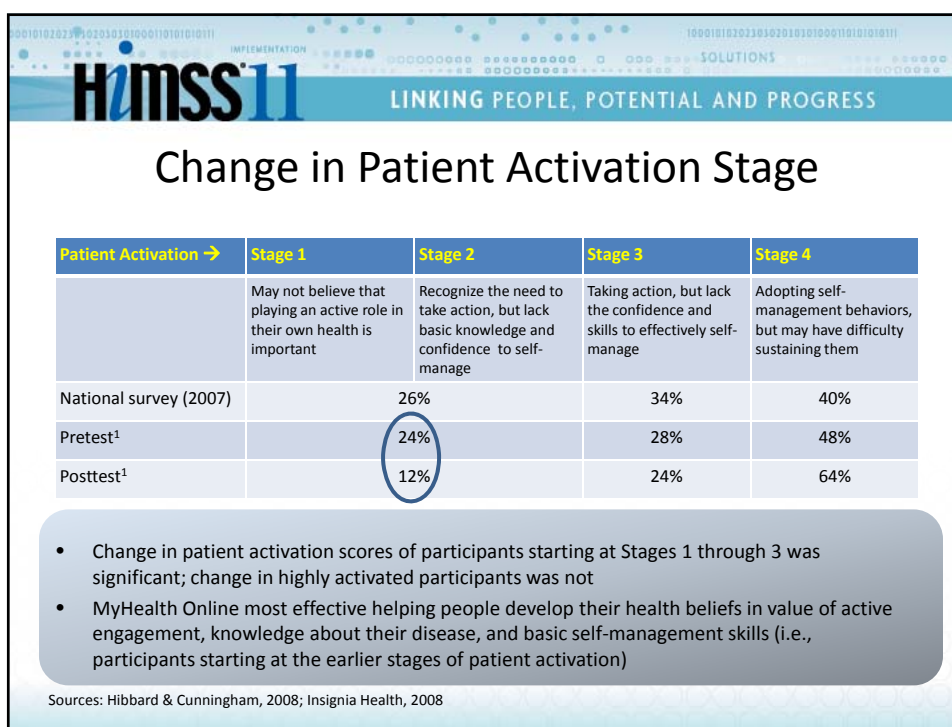
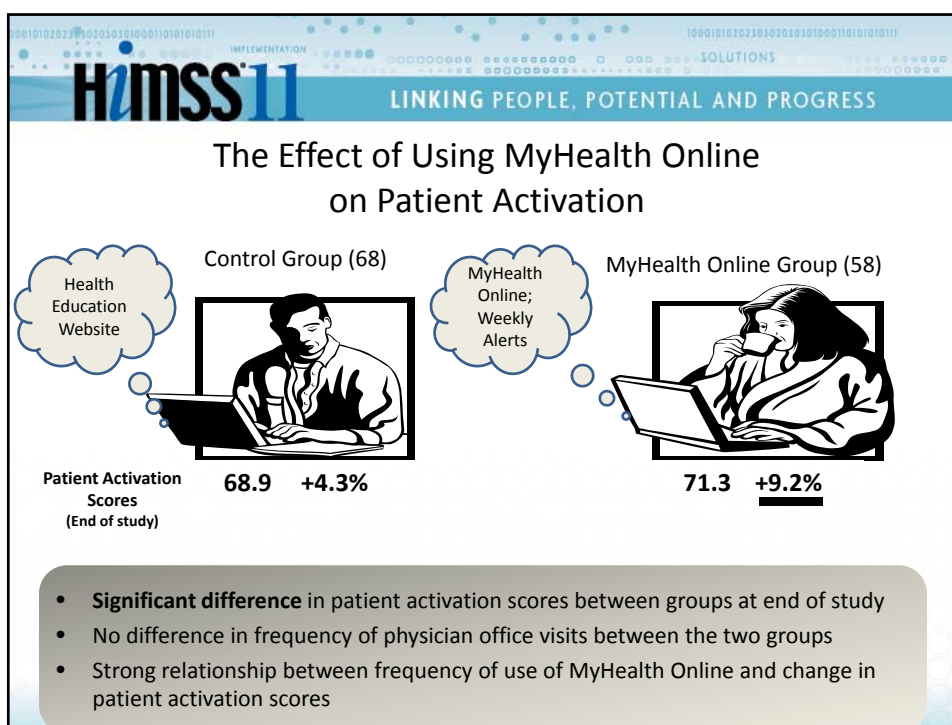


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### Research Questions

1. What is the effect of using MyHealth Online on the patient activation levels of patients with a variety of chronic medical conditions?
2. What is the relationship between the frequency of use of MyHealth Online and patient activation scores?
3. Do patients starting at a particular stage of patient activation experience greater change when using MyHealth Online compared to patients beginning at other stages?


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# Strategic Implications & Recommendations


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## Strategic Implications

Technology enables *targeted* and *scalable* chronic care self-management programs

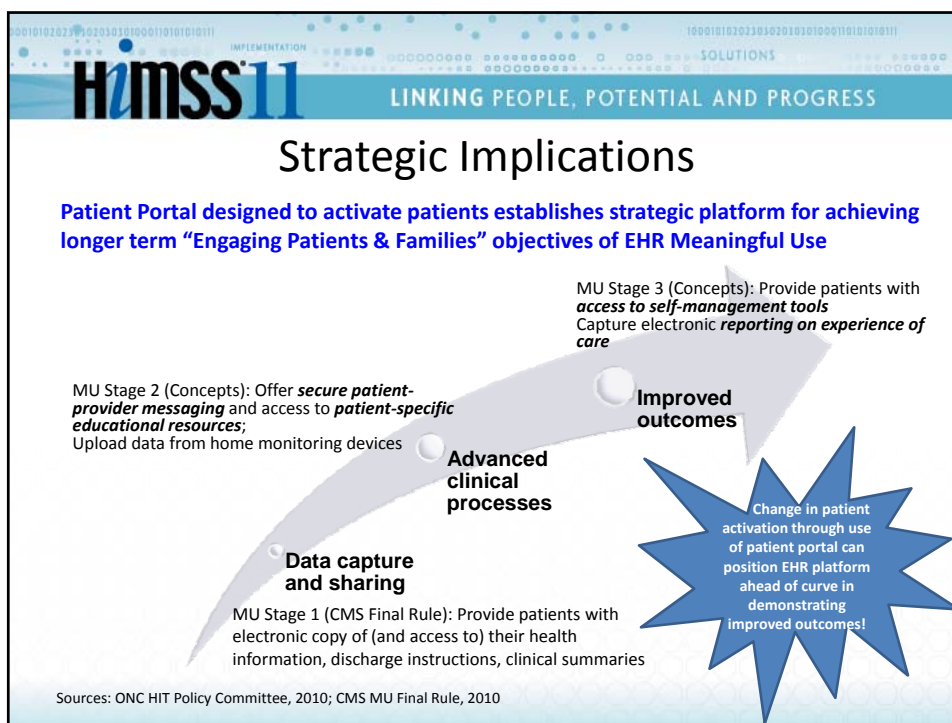
- Patient Portal with MyHealth Online's features most effective in helping people at early stages of patient activation
- Results strongly suggest a targeted approach to application design and patient outreach
- As a component of a broader self-management program, a patient portal with the right set of features enables physicians and physician extenders to reach more patients and devote time to interventions where their skills are most needed



**Patient-Centered Medical Home**  
© 2010 American Academy of Family Physicians

Patient Portal designed to activate patients can serve a vital role in the Population Health and Self-management Support functions of Patient-Centered Medical Homes and organizations implementing the Chronic Care Model





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## Patient Portal:

### Key Features to Engage Patients

- ✓ General design for use by patients with a variety of chronic diseases, but health education modules are configured to an individual's particular health interests
- ✓ Multi-media interactive sessions tailored to specific chronic condition and guided real-time by user's desired level of difficulty
- ✓ Problem-solving orientation to development of self-management skills (e.g. adhering to prescription regimens) presented in the context of the patient's disease (e.g. anti-hypertension medications)
- ✓ Personalized messages sent on a regular basis are based on patient's activities and preferences

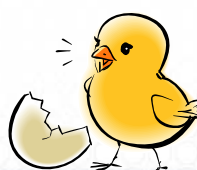
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## Patient portals can help scale self-management programs to care for more people but...

- This and several other studies show minority populations and people without a college education are less inclined to participate in Web-based self-management programs
  - These segments of the population are also the least activated and in need of the most help with self-management of their chronic conditions

**What to do to solve this “chicken and egg” problem of attracting the difficult to reach, least activated patients who would benefit the most?....**




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## ...Community Outreach is Critical

<u>Where</u>	<u>How</u>
<ul style="list-style-type: none"> <li>• Physicians' offices</li> <li>• Community organizations (“Y”, Health clinics, social services)</li> </ul>	<ul style="list-style-type: none"> <li>• Wellness advocates promoting self-management tools               <ul style="list-style-type: none"> <li>– Presentations, demonstrations</li> </ul> </li> <li>• Engage people in health risk assessments               <ul style="list-style-type: none"> <li>– Heightens awareness of the need to take charge</li> </ul> </li> <li>• Kiosks with access to the patient portal               <ul style="list-style-type: none"> <li>– Make access easy</li> </ul> </li> </ul>



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## Recommendations for Action

### Health Care Practice

- Incorporate patient portal applications designed to activate patients into patient-centered medical home self-management programs
- Measure effectiveness of Web-based personal health management systems (e.g., portals, PHRs) in terms of change in patient activation



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## Recommendations for Action

### Research

- Explore cause and effect of patient portal use → patient activation → health outcomes (e.g., adherence, functional status)
- In-depth analysis of specific patient portal features: usage, perceived benefit, change in patient activation



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## Questions?

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