

Introducing Internet Information into the Clinical Encounter: Trends Over Time and Effects on Quality of Care

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September 24, 2009



HEALTH

Acknowledgements



- Neeraj K. Arora, PhD (NCI)
- Lila J. Finney Rutten, PhD, MPH (SAIC/NCI)
- Richard P. Moser, PhD (NCI)
- Bradford W. Hesse, PhD (NCI)
- William R. Waldron, MS (IMS)

Internet and Health Care Providers

- Consumers desire a **partnership** between their online searches and their health care providers (HCPs) (Kivits, 2006; McMullan, 2006; Stevenson et al., 2007)
 - Consumers are on-line looking for health information, but they prefer their HCPs as an information source (Hesse et al., 2005)
 - An important question is how we can promote this partnership between the most trusted and most accessible sources of health information (Hesse, 2009)
- The **clinical encounter** provides a social context for this partnership (Ackerson & Viswanath, 2009)
- This partnership may be operationalized through **patient-provider communication (PPC) about Internet information**

Internet and Patient-Provider Communication (PPC)

- Potential **benefits** of introducing Internet information into the clinical encounter:
 - Promotes shared decision making
 - May increase efficiency of PPC
 - *“I think it’s great that patients are educating themselves.”* (Laing et al., 2004)
- Potential **drawbacks**:
 - May challenge HCP authority
 - May decrease efficiency of PPC (correcting misinformation) (McMullan, 2006, Wald et al., 2007)
 - *“I gathered up all my research and brought it in to my doctor. He was annoyed and would not even give it a glance.”* (Laing et al., 2004)



Internet and PPC, continued

- **Critical questions:**

1. Who takes Internet information to the clinical encounter and how often does this occur?
2. What are HCP reactions and what is the impact of Internet information on PPC?
 - Pew Internet and American Life Project (2001)
 - Research agenda (Gerber & Eiser, 2001)
 - HINTS (2005, 2008)



Internet and PPC, continued

- Sociodemographic characteristics have **not been reliably associated** with taking Internet information to a HCP (e.g., Diaz et al., 2002)
- **HCP responses are varied:**
 - 15% are interested; 15% are dismissive (Bylund et al., 2007)
- Consumer satisfaction goes up when HCPs **validate** their efforts, even if they disagree with the Internet information (Bylund et al., 2007)

Current Study



- Previous work has largely been based on reviews and qualitative studies
- Need for a population-based investigation of:
 1. **Prevalence** of introducing Internet information into the clinical encounter
 2. **HCP reactions** to Internet information
 - Changes over time (2005-2008)
 3. **Who** takes Internet information to their HCP
 4. How HCP reactions to Internet information are associated with ratings of **quality of care** (QoC)

Methods

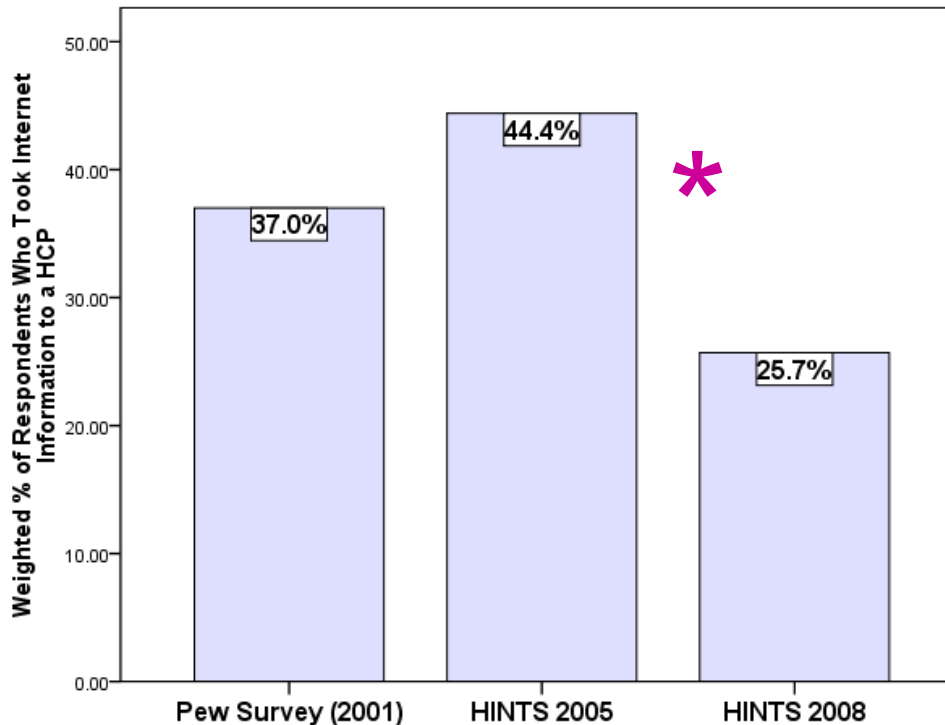
- Data are from HINTS 2005 and 2008
 - Subpopulation: Internet users who had been to a HCP in the past 12 months (n=2396, HINTS 2005; n=4534, HINTS 2008)
- *In the past 12 months, have you talked to a doctor, nurse, or other health professional about any kind of health information you have gotten from the Internet? (yes/no)*
- *When you talked with a health care professional, how interested were they in hearing about the information you found on-line? (very, somewhat, a little, not at all)*
- *Overall, how would you rate the quality of health care you received in the last 12 months? (excellent, very good, good, fair, poor)*
 - **HINTS 2008 only**
- Additional variables: age, gender, education, income, race/ethnicity, health insurance, health status, cancer history, have regular HCP, # HCP visits

Analytic Strategy



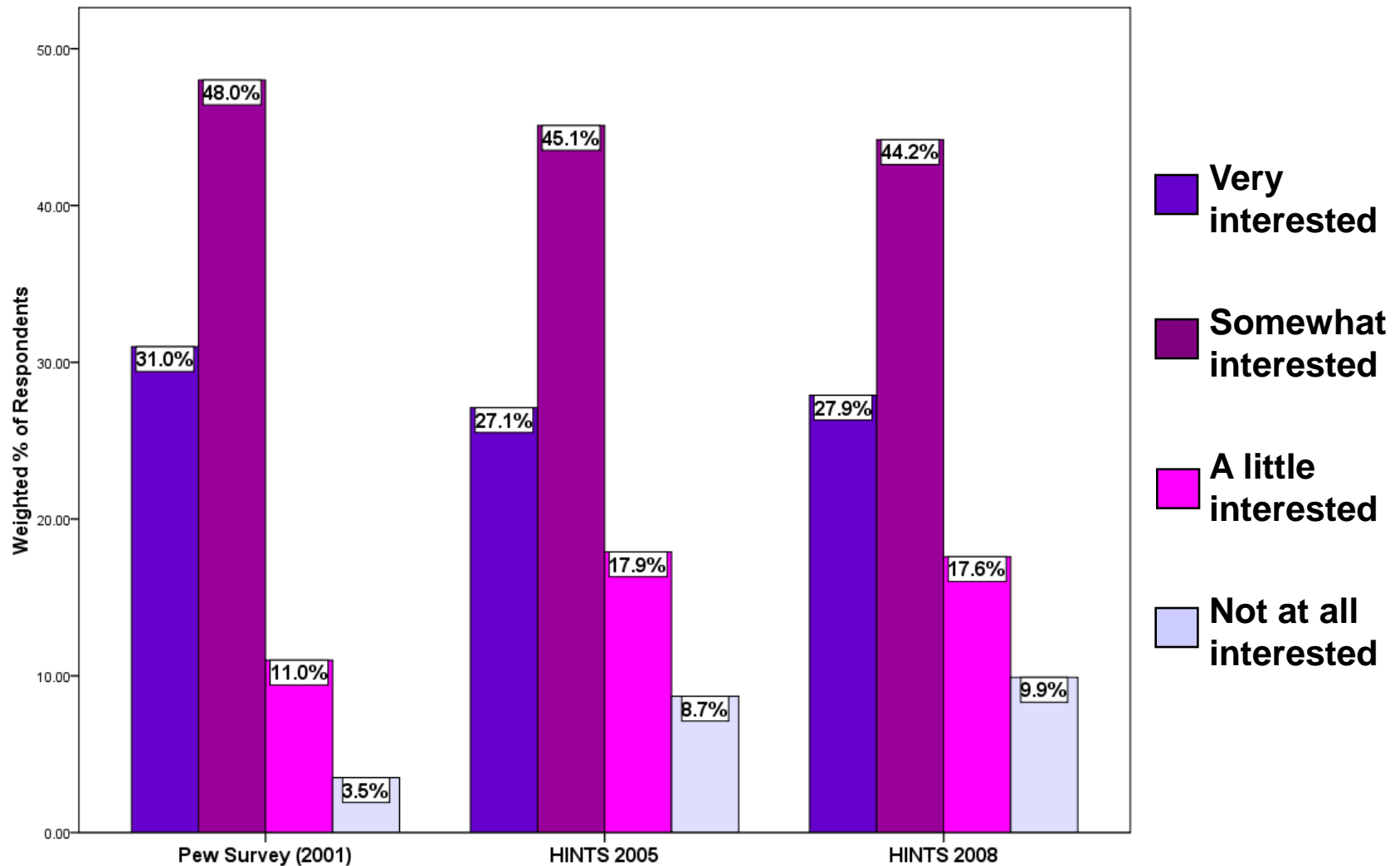
- Multivariate trends analyses for
 - Taking Internet information to a HCP (2005-2008)
 - HCP reaction to Internet information (2005-2008)
- Multivariate logistic regressions for
 - Taking Internet information to a HCP (2008)
 - HCP reaction to Internet information (2008)
- Multivariate linear regression for
 - Respondent ratings of QoC (2008)

Results: The prevalence of taking Internet information to a HCP significantly **decreased** over time



- Respondents had only half the odds of taking Internet information to a HCP in 2008 compared to 2005 (OR=0.54 (0.45, 0.64); $p<0.01$)

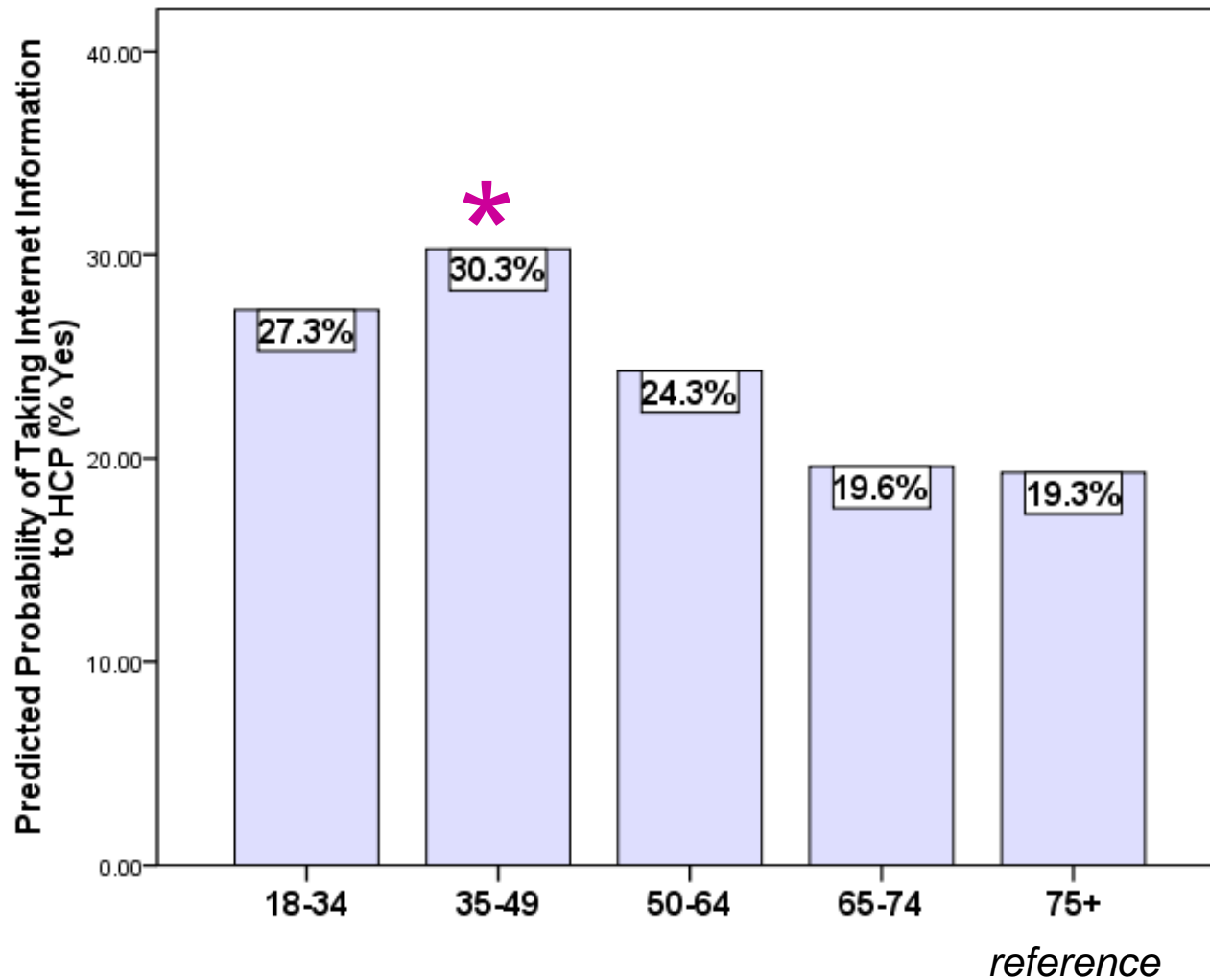
Results: HCP reactions to Internet information remained constant over time



Results

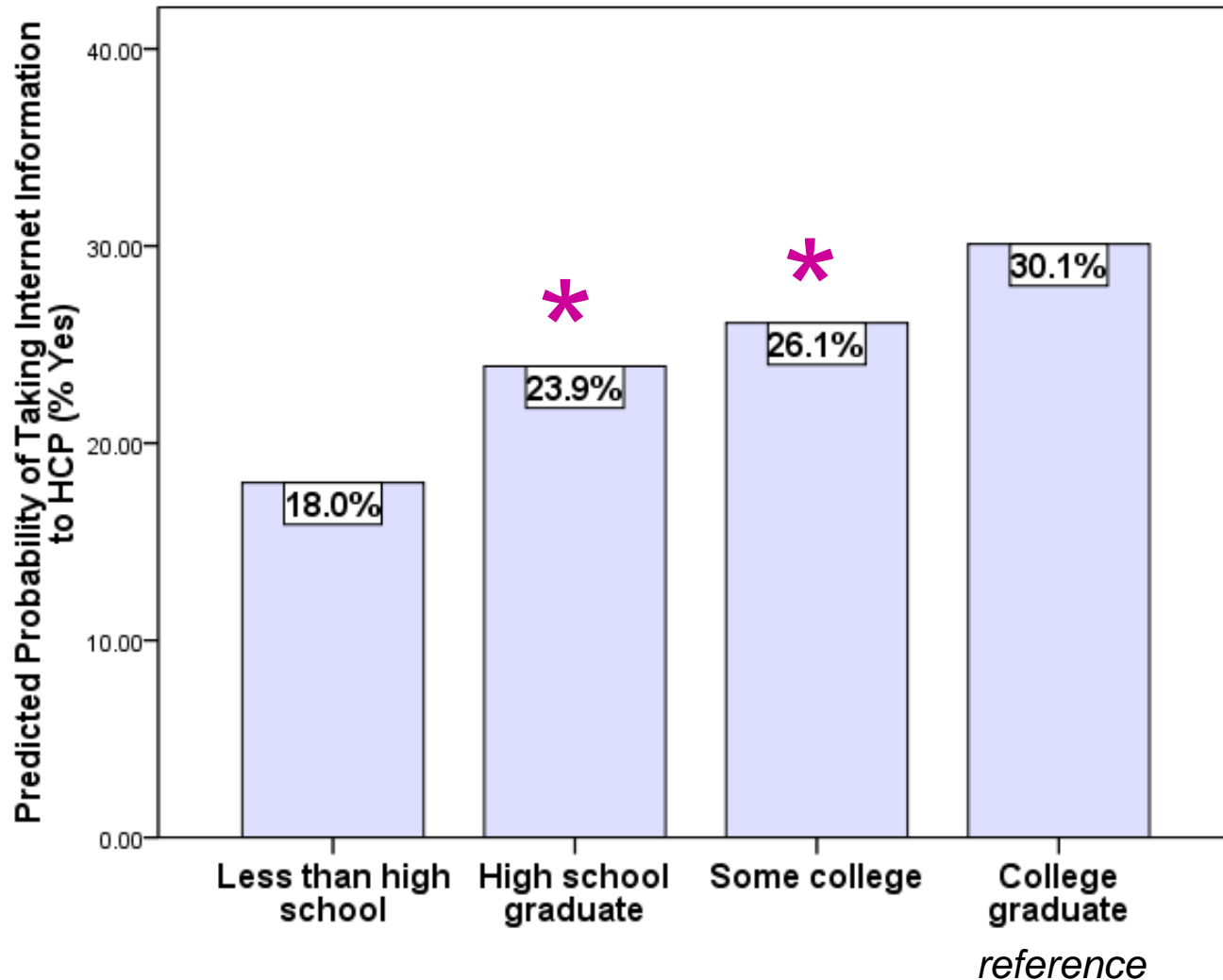
- Taking Internet information to a HCP was associated with
 - Younger age
 - More education
 - More visits to a HCP
 - Having a regular HCP
- HCP reactions to Internet information were associated with
 - Having a regular HCP

Results: **Age**

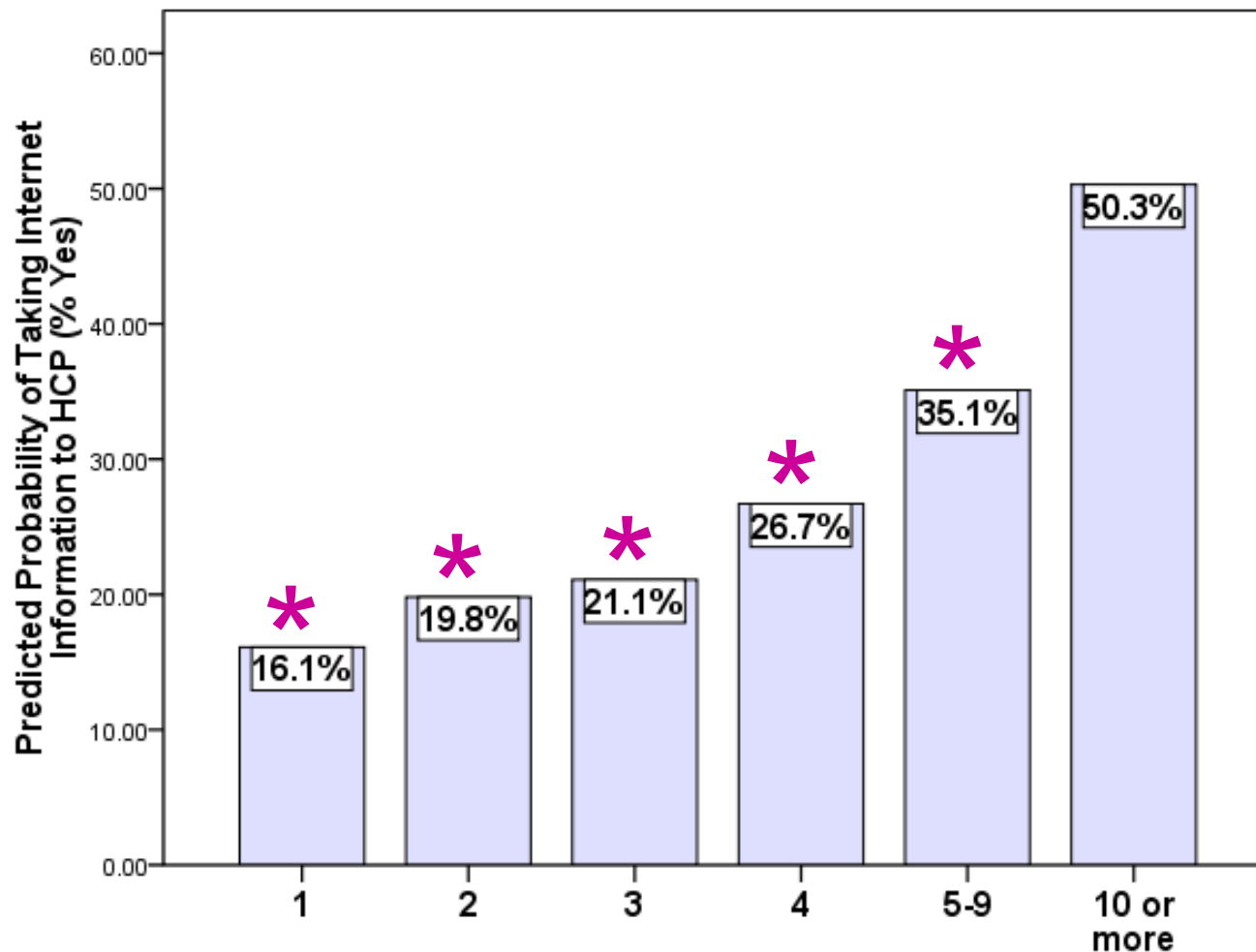


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Results: Education



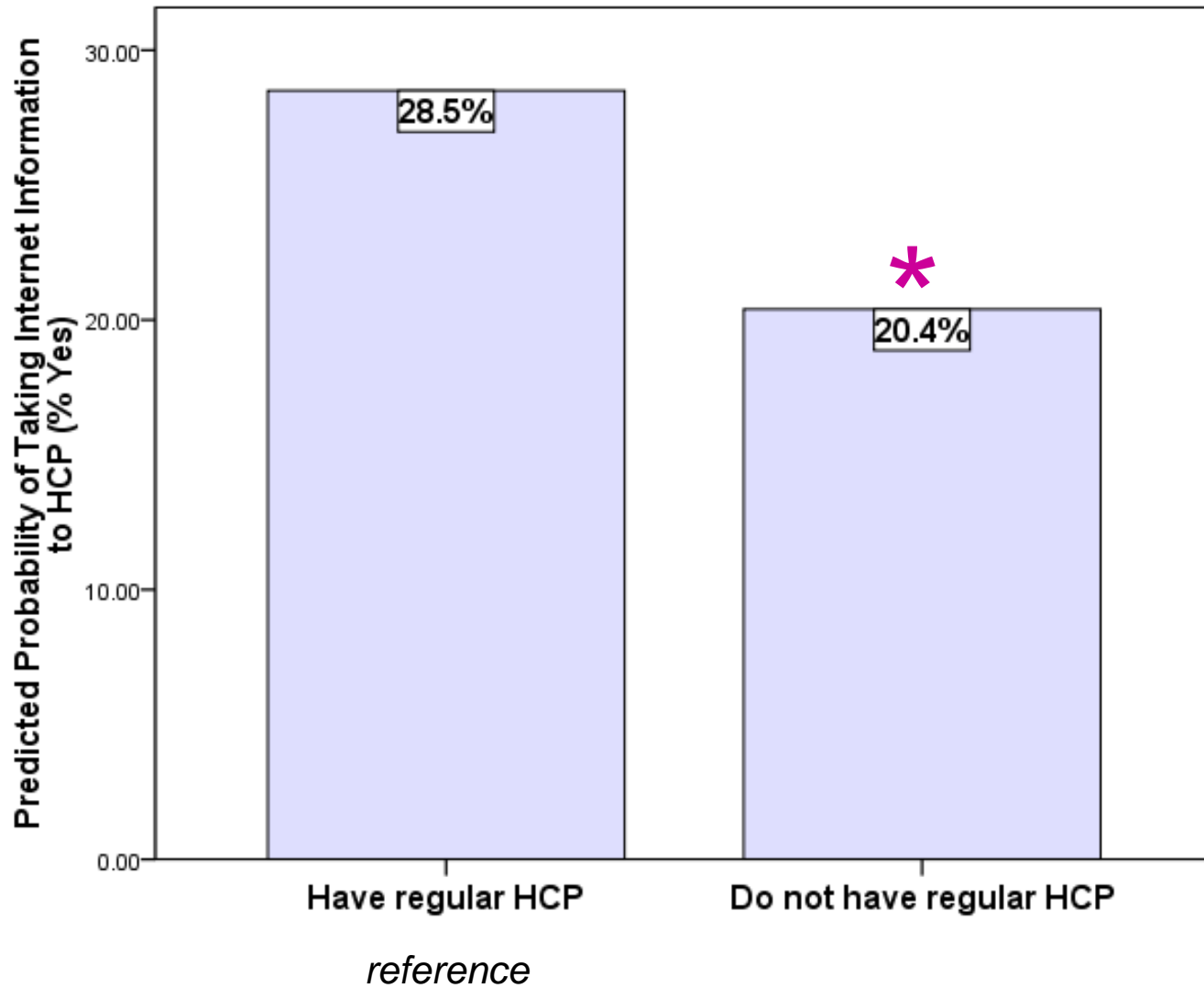
Results: Number of HCP Visits



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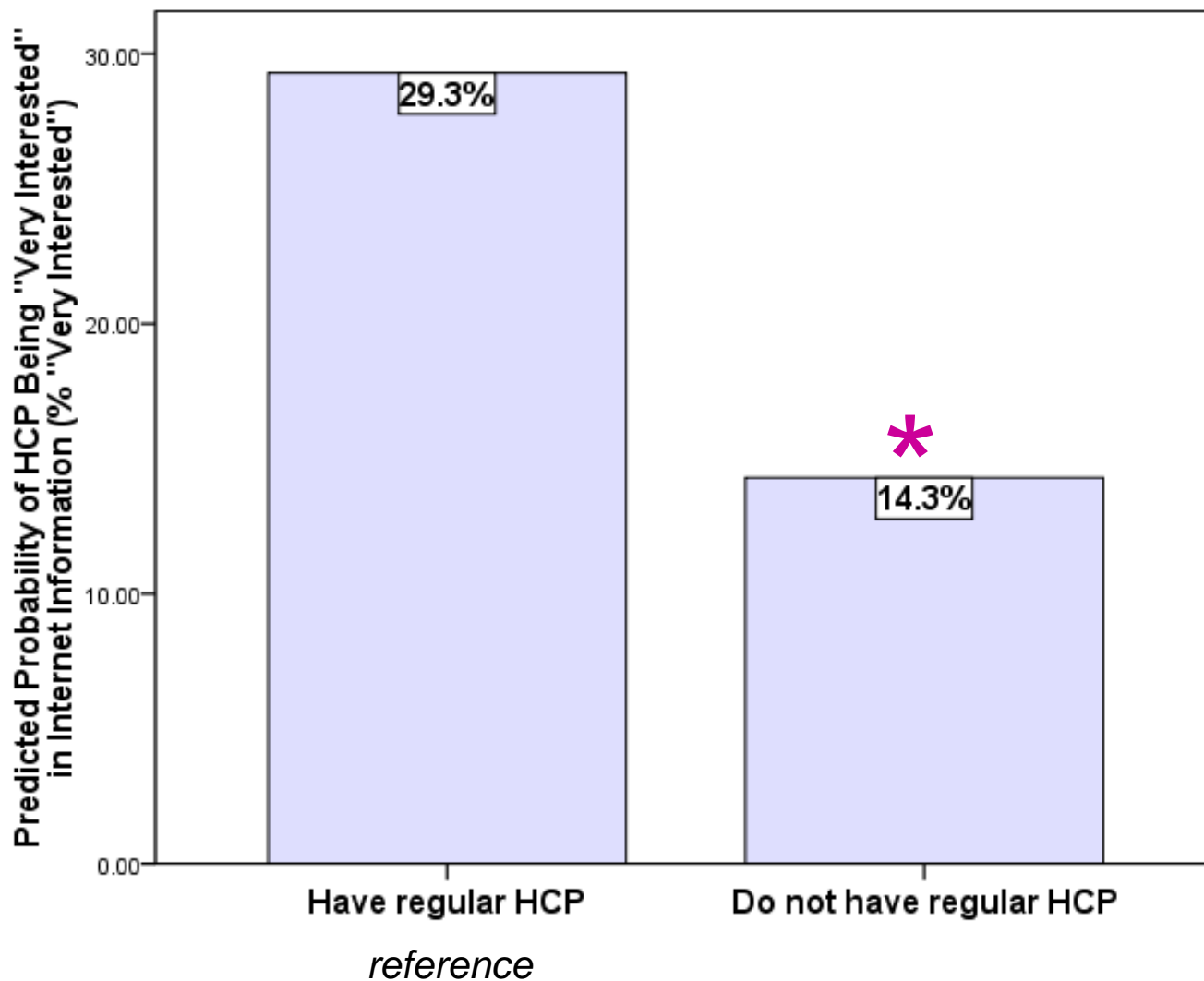
reference

Results: Have Regular HCP



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Results: Have Regular HCP



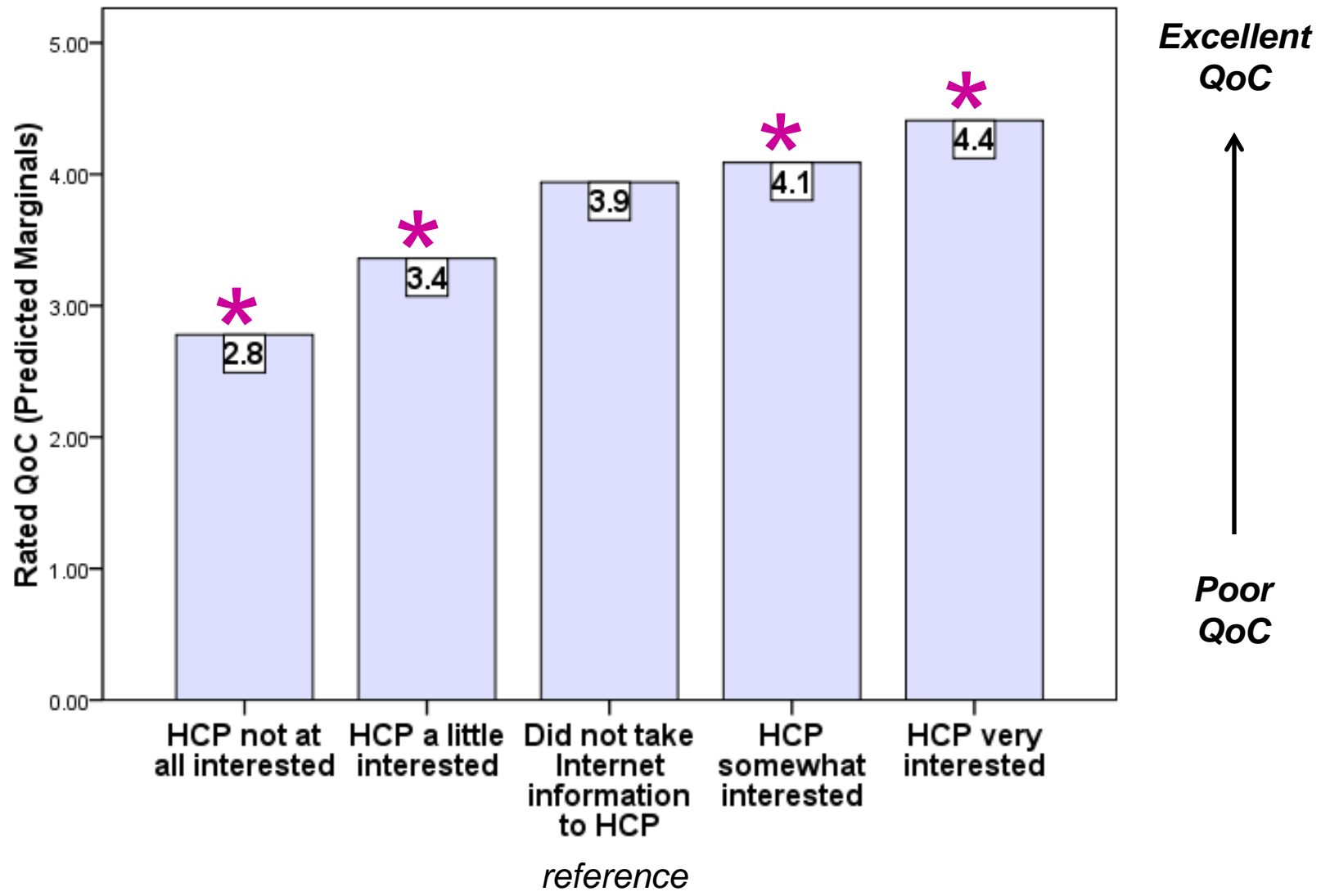
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Results



- Better ratings of QoC were associated with
 - Having health insurance
 - Better self-reported health status
 - Having a regular HCP
 - **Reporting that the HCP was “somewhat” or “very interested” in Internet information**

Results: HCP Reactions



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Summary



- Taking Internet information to a HCP has never been commonplace and has significantly decreased over time
 - Trust in HCPs is up, in Internet, down (Hesse et al., 2009)
 - General population has become more Internet savvy
- Health care consumers who take Internet information to their HCP are relatively young, well educated, and are receiving a lot of health care
- HCP reactions to Internet information have been, and remain, mostly favorable
 - No evidence that HCPs are systematically uninterested in Internet information
 - No association with social factors (e.g., race, education, income) that have been associated with PPC

Self Determination Theory (SDT)

- HCP reactions to Internet information were associated with QoC
- Why would HCP reactions to Internet information affect QoC? **SDT provides a framework** (Ryan & Deci, 2000)
- Wellness is achieved through **autonomy, competency, and relatedness**
 - **Internet searching:** autonomy
 - **Information gathering:** competency
 - **Information sharing:** relatedness (Broom, 2005; Kivits, 2006)
- When HCPs do not respond favorably to consumer attempts at information sharing, relatedness is negatively impacted, and satisfaction with care will be poorer

Personal Health Records: A Way to Bridge the Gap between Internet and HCPs?

- Results do not suggest that a robust Internet-HCP partnership exists
- Internet-based personal health records (PHRs) may provide an infrastructure for this partnership
 - Availability and use of PHRs on the rise
 - Some PHRs specifically link to HCP-approved online information sources (Kronstadt et al., 2009)
- A PHR may represent a **common platform** for patient and provider from which to address Internet information in the clinical encounter

