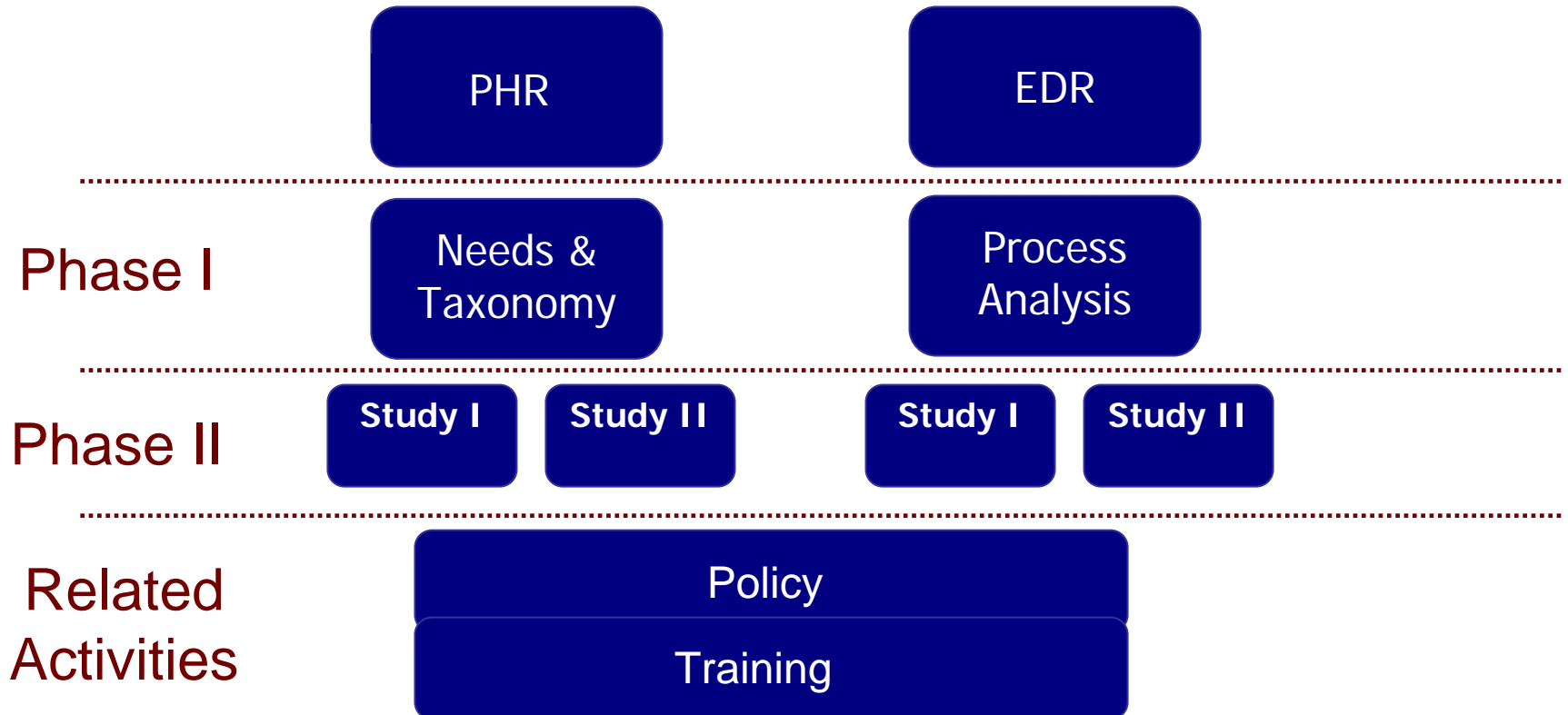




Kay Center Research Overview

User-Centered Approach:
Reaching out to the Broader Community





Phase I – Research Directions

User-Centered Approach:
Reaching out to the Broader Community

PHR

EDR

Phase I

Needs &
Taxonomy

Process
Analysis

Phase II

Use Case
I

Use Case
II

Use Case
I

Use Case
II

Phase III

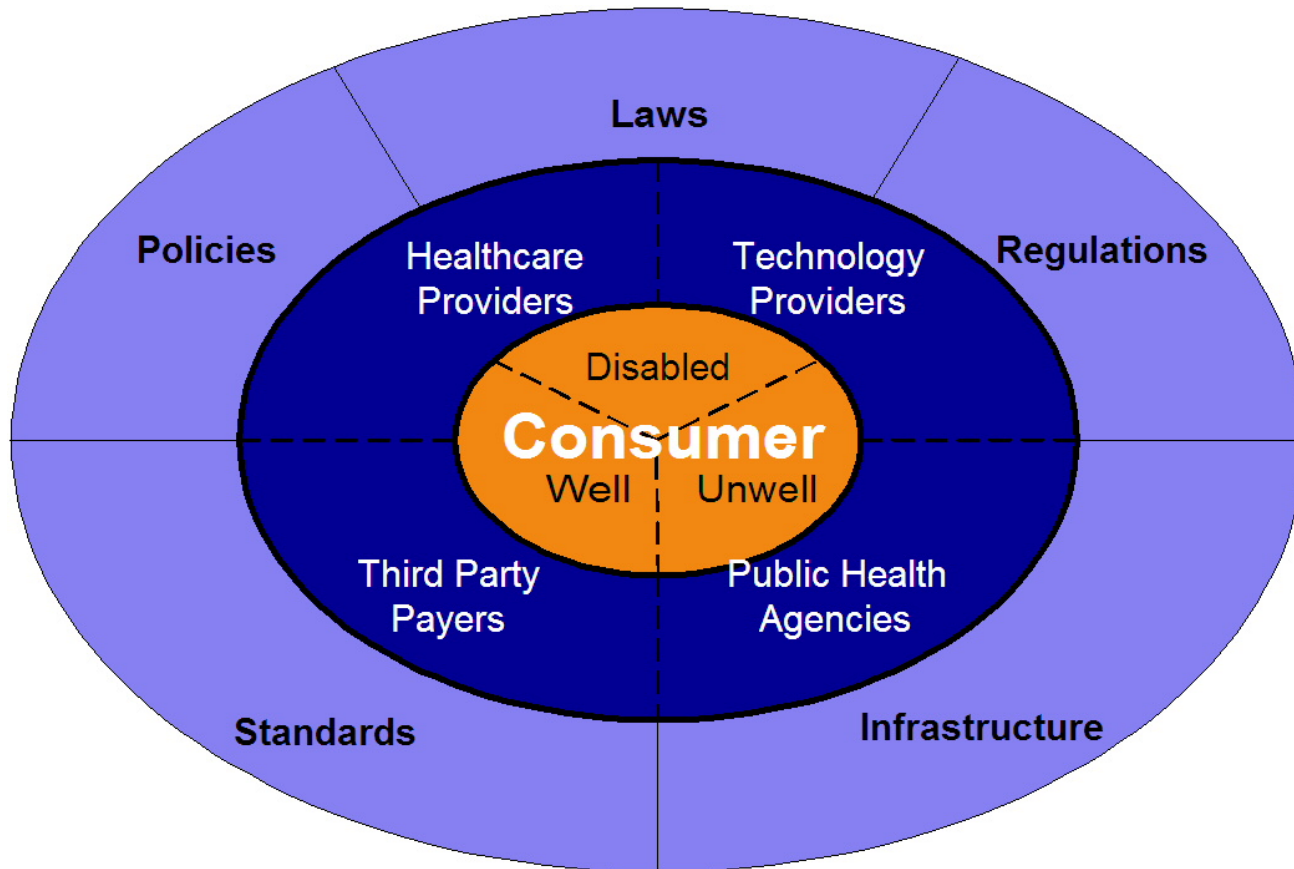
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Phase I - PHR Domain Research

Diverse User Needs & Taxonomy





PHR Taxonomy Research

Tang and Lansky highlighted the need: “a research agenda should be developed and funded to guide the evolution of PHR technology, including the development of a taxonomy” [1].

1. Tang, PC, Lansky D. *The Missing Link: Bridging the Patient-Provider Health Information Gap*. Health Affairs, 2005



PHR Taxonomy Research

Why a taxonomy of PHR users?

- Who are potential PHR users?
- What do PHR users have in common?
- How are they different?
- How do they relate to one another?
- How do user characteristics affect PHR system design?



Current Research: Triangulation Study

Phase 1: Qualitative

- Individual interviews
- 3 groups
 - Well (working adults)
 - Unwell (retirement community residents)
 - Disabled (members of health care management plan)



Methods

Qualitative interviews

- Semi-structured
- One-on-one (not focus groups)
- Lay the foundation for Phase 2
 - Quantitative survey
- Well (working adult) and Unwell (retiree) groups' interviews are complete
- Disabled group scheduled Dec. 14-15



Findings to Date

5 main parameters

- Receptivity to PHR systems
- Health care information privacy
- Health care information security
- Interoperability
- Portability



Preliminary Findings

Receptivity to PHR systems

- General participant support for the concept.
 - “I think it’s a fantastic idea. I would use it even though I don’t use a computer right now.”



Preliminary Findings

Health care information privacy

– Some, but not all participants prioritize personal health information privacy.

- “I have nothing to hide.”
- “I want my medical information available to my family, but not my employer.”



Preliminary Findings

Health care information security

- Two responses: (1) Skeptical of current security protocols; (2) Not informed on security.
 - “Anyone who really wants to can find out my personal information.”



Findings to Date

Interoperability

- Absolutely essential, even to members of captive health care systems (e.g. Kaiser)
 - “I want each of my doctors to be able to get records from my other doctors when I get care.”



Findings to Date

Portability

– Priority depends on life situation

- “I wish we’d had portable records when my practice group went bankrupt and I couldn’t access my information.”
- “Getting any kind of records in a developing country is more important than making them portable.”



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Study I

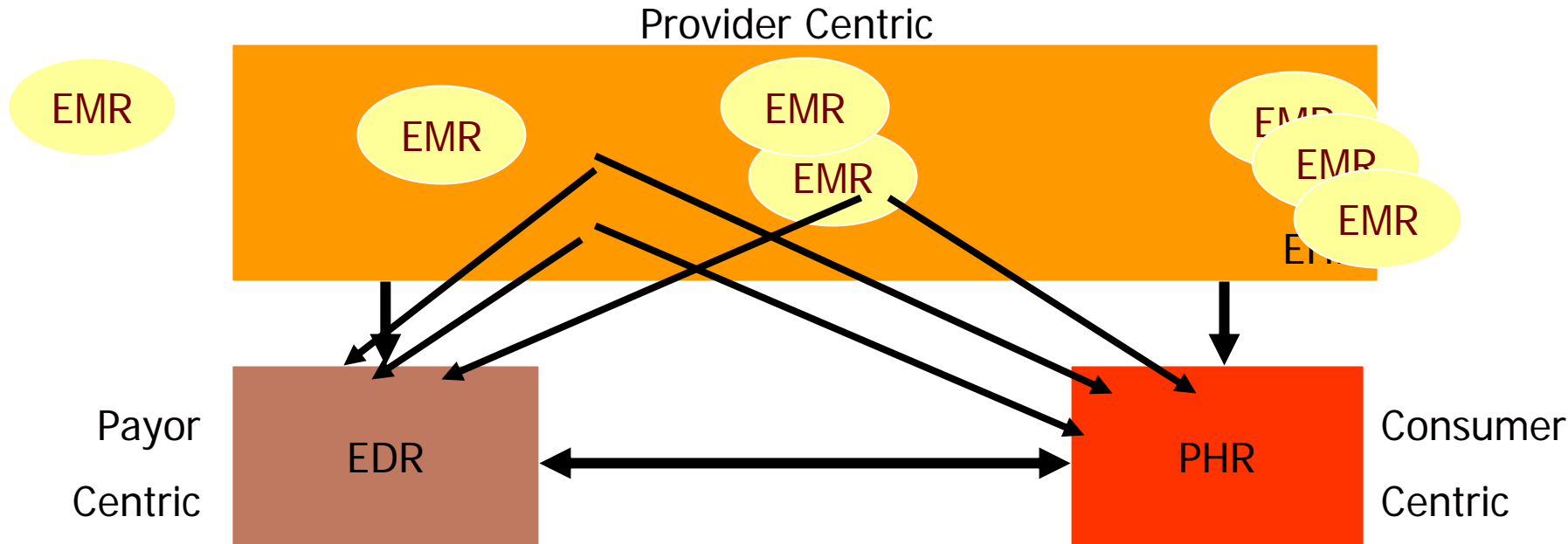
Study II

Study I

Study II



EDR Use Cases: Analysis and Policy



Disability Determination

- Have read-only access to EMRs
- Store demographic information about the claimant
- Store financial information about the claimant
- Store benefit information about the claimant

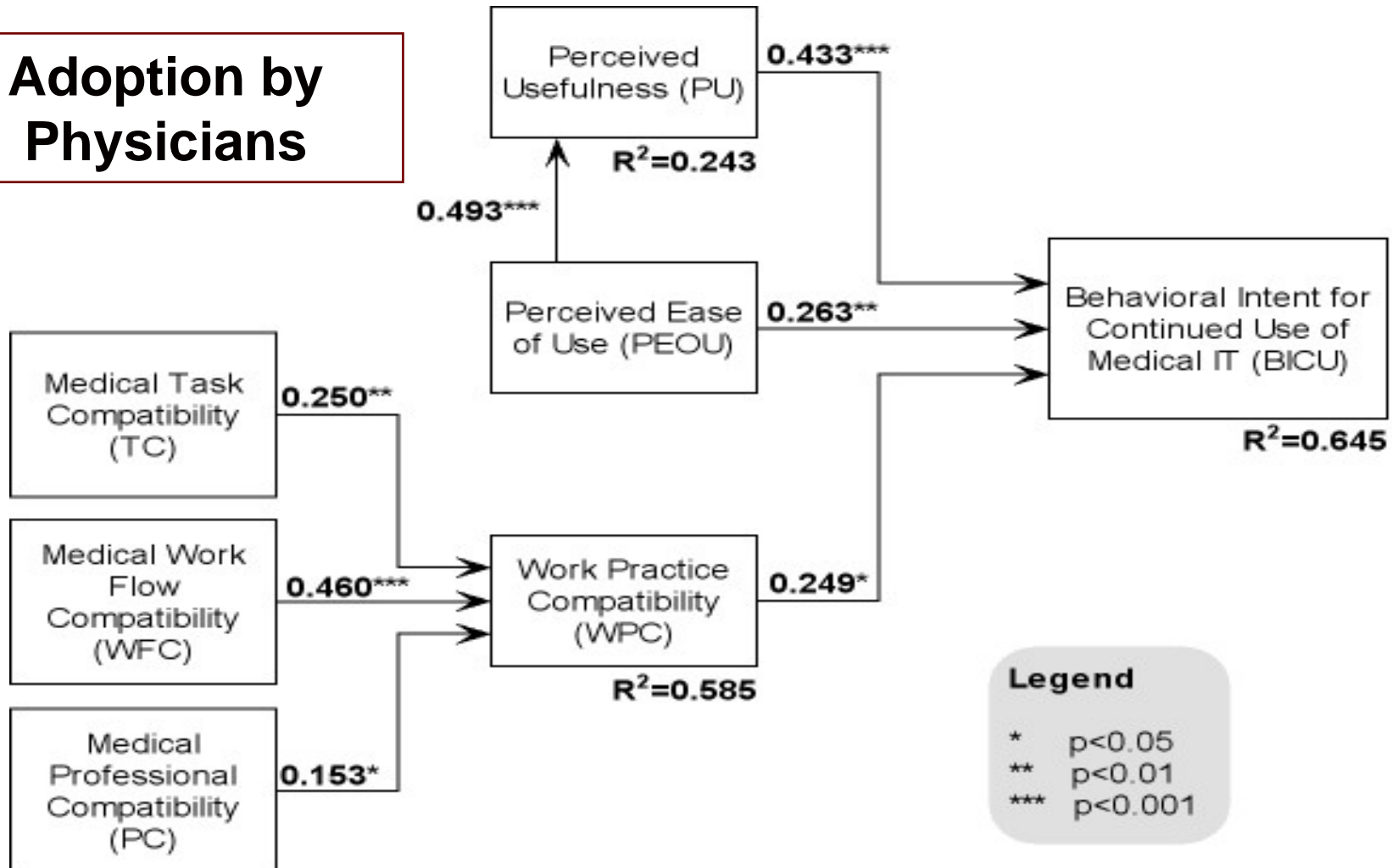
Health management

- Have read-only access to EMRs
- Store personal demographic information
- Store personal health information daily
- Share health information with other parties
- Manage health related activities



Phase I - EDR Process Research

Adoption by Physicians





Publication- Communications of AIS, Volume 18, Article 18

Findings:

- Perceived Ease of Use and Perceived Usefulness has a significant impact on physicians intent to continue using online EDR system.
- Work Practice Compatibility also has a significant impact on physicians intent to continue using online EDR system.
- EDR systems should be developed in a way that is compatible with physicians work practices to achieve continuous adoption.

Continuing Use of Medical Information Systems by Medical Professionals: Empirical Evaluation of a Work System Model by B. Tulu, R. J. Burkhard and T. A. Horan



Phase II - Research Directions

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Study I

Study II



Phase II Research Objectives

■ Targeted Empirical & Feasibility Studies

- PHR I: Iterative usability testing and evaluation of PHR among diverse and underserved populations
- PHR II: Use of PHR in Times of Need (Crisis Conditions)
- EDR I: Use of EDR for SSA Applications, Workers' Compensation, etc.
- EDR II: Survey of disability users and testing of PHR for health management



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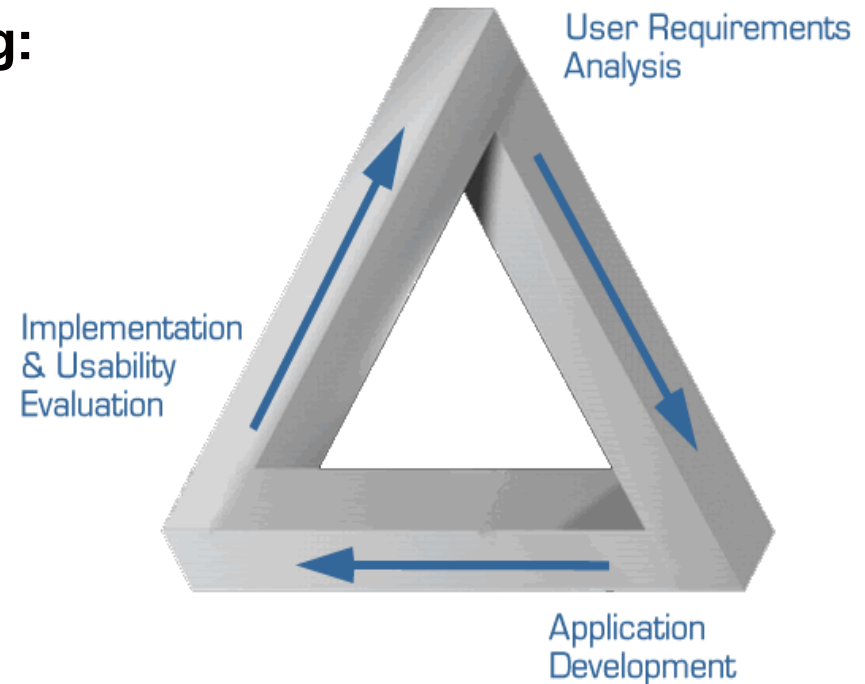
Study II



PHR I – Development of PHR User Assessment Methodology

Emphasis on Iterative User-Driven Approach to requirements building:

- Phase I - Emphasis on assessment of user needs and system requirements
- Phase II - Focus on development and prototyping
- Phase III - Evaluation of implementation, dissemination and usability.





PHR II: Use in Emergency Crisis Situations

PHR in Times of Need

- What planning is needed to ensure the availability of PHR during times of crises?
- What education is necessary to generate greater awareness of the societal, organizational and individual value of emergency preparedness plans?
- How knowledgeable are practitioners at accessing and utilizing an electronic personal health record in order to streamline care and service of victims?
- What data standards (unique identifiers) should be established to support efficient product tracking and help identify and facilitate communication among stakeholders in times of interrupted access?



Phase II - Research Directions

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Study II



Study 1: EDR for Benefit Determination of Disabled Persons

- Disability assessment and rehabilitation involves a diverse group of assessors, providers and insurers, who have varying levels of electronic health records integrated in their practices. This can result in significant delays in benefit determination.
- The use of an EDR promises efficiencies in assembling relevant records and could lead to better disability determination as well as coordinated care throughout the duration of the disability.
- Examining possibilities for development and application of PHR for EDR that can assist in disability determination submittal and process, such as worker's compensation in CA.

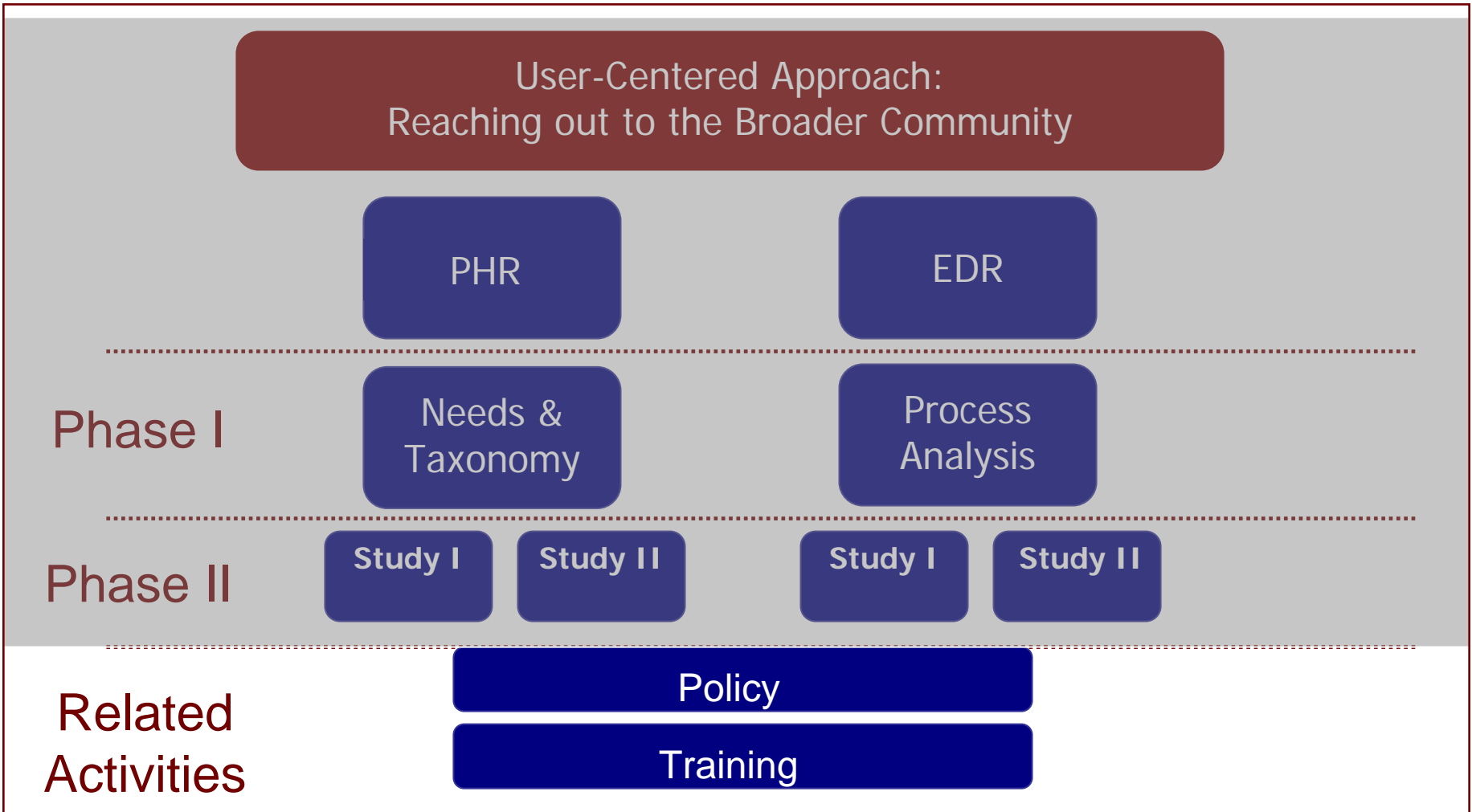


Study 2: EDR/PHR for Health Management of Disabled Users

- PHRs can be used to help coordinate services (rehabilitation, transportation, etc.) provided as part of disability benefits.
- Use of PHRs by disabled consumers promotes continuous personal care management by integrating medical assessment and treatment records in a manner that allows for active involvement by user.
- Exploring test case opportunity for pilot-use of PHR for disability health management and care coordination.



Kay Center Research Overview





Related Activities

■ Policy

- Policy Changes and Opportunities for Enhancing EDR and PHR Use, Nationally and in CA.
- Sample Questions: How can electronic information be incorporated into disability services and payments? What is every Medicare/ Medicaid provider was required/incentivized to provide a PHR to patient?

■ Training

- Need and opportunity to provide training relating to consumer/user approaches to PHR and EDR assessment, refinement, and system management (including crisis preparation).
- Masters and doctoral level professional and research training in PHR and EDR dimensions.



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- Horan, T., Tulu, B., Hilton, B., (2005)** "Understanding Physician Use of Online Systems: An Empirical Assessment of an Electronic Disability Evaluation System", in E-Health Systems Diffusion and Use: The Innovation, the User and the USE IT Model, Ed. Schuring, R.W. and Spil, T.A.M., by Idea Group Inc. in press.
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- Horan, T., Tulu, B., Hilton, B., Burton, J. (2004)** "Use of Online Systems in Clinical Medical Assessments: An Analysis of Physician Acceptance of Online Disability Evaluation Systems", Proceedings of 37th Hawaii International Conference on System Sciences (HICSS- 37), January 5-8, 2004, Hawaii, USA (best paper nominee).
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