



Information and Communication Needs Related to Interdisciplinary Research Competency Development

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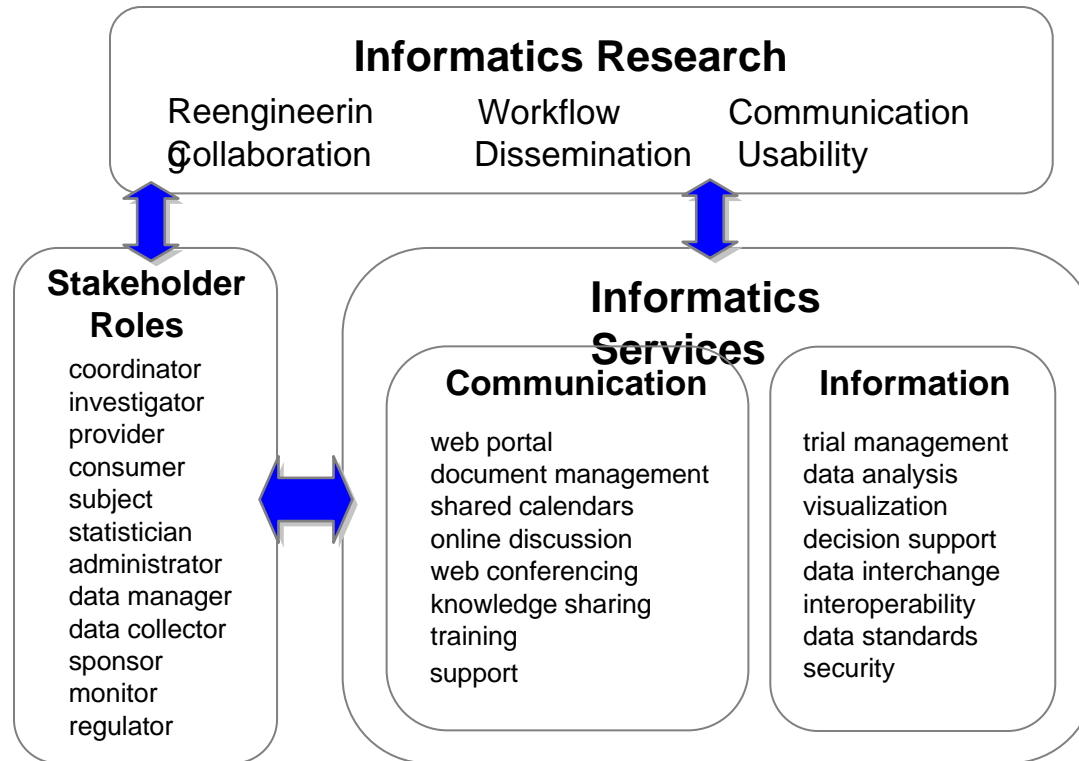
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Introduction

- Interdisciplinary competency development is a learning process
- Information and communication needs occur
- Information and communication technologies have the potential to address needs

Context: Irving Institute for Clinical and Translational Research



WorkWeb Portal



Study Purpose

- To identify the information and communication needs associated with the development of interdisciplinary competency development



Study Methods

- Sample – purposive sample of CTSA trainees: T32, K12/POR, Irving Fellows invited via email
- Quantitative – Self-assessment of interdisciplinary research competencies – descriptive statistics (Gebbie et al.)
- Qualitative – Focus groups – 9 groups segregated by level of trainee – tape recorded – thematic analysis



Sample

- N=20 (T32=4, K12/POR=12, Irving Fellows=4)
- 60% female
- Age range 25-49



Results: Self-Assessment of Interdisciplinary Research Competencies

○ Most confident

- M=4.30 - Express respect for other disciplines
- M=4.05 – Collaborate respectfully
...interdisciplinary frameworks
- M=3.98 – Communicate regularly with scholars from other disciplines
- M=3.70 – Engage colleagues from other disciplines...; Investigate hypotheses through interdisciplinary research; Modify research agenda as a result of interactions...

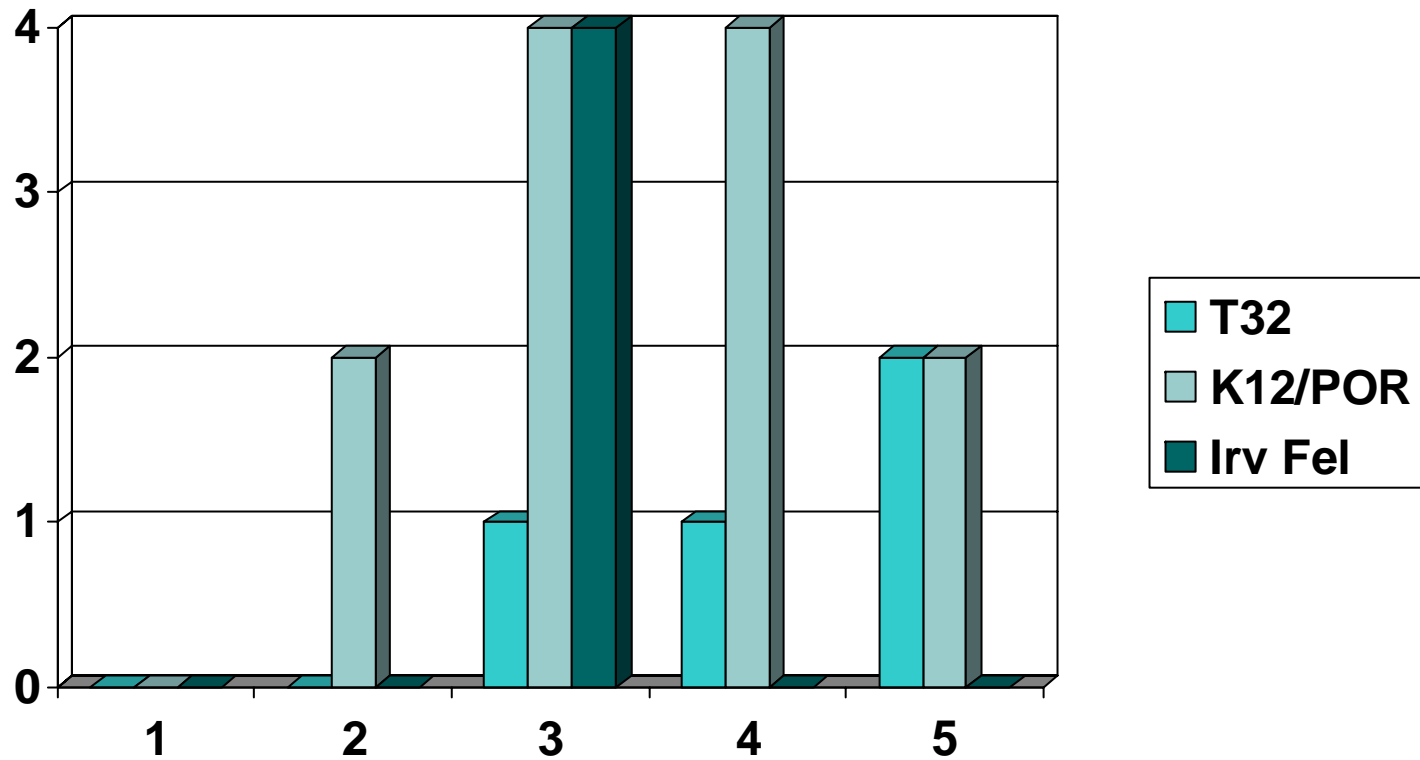


Results: Self-Assessment of Interdisciplinary Research Competencies

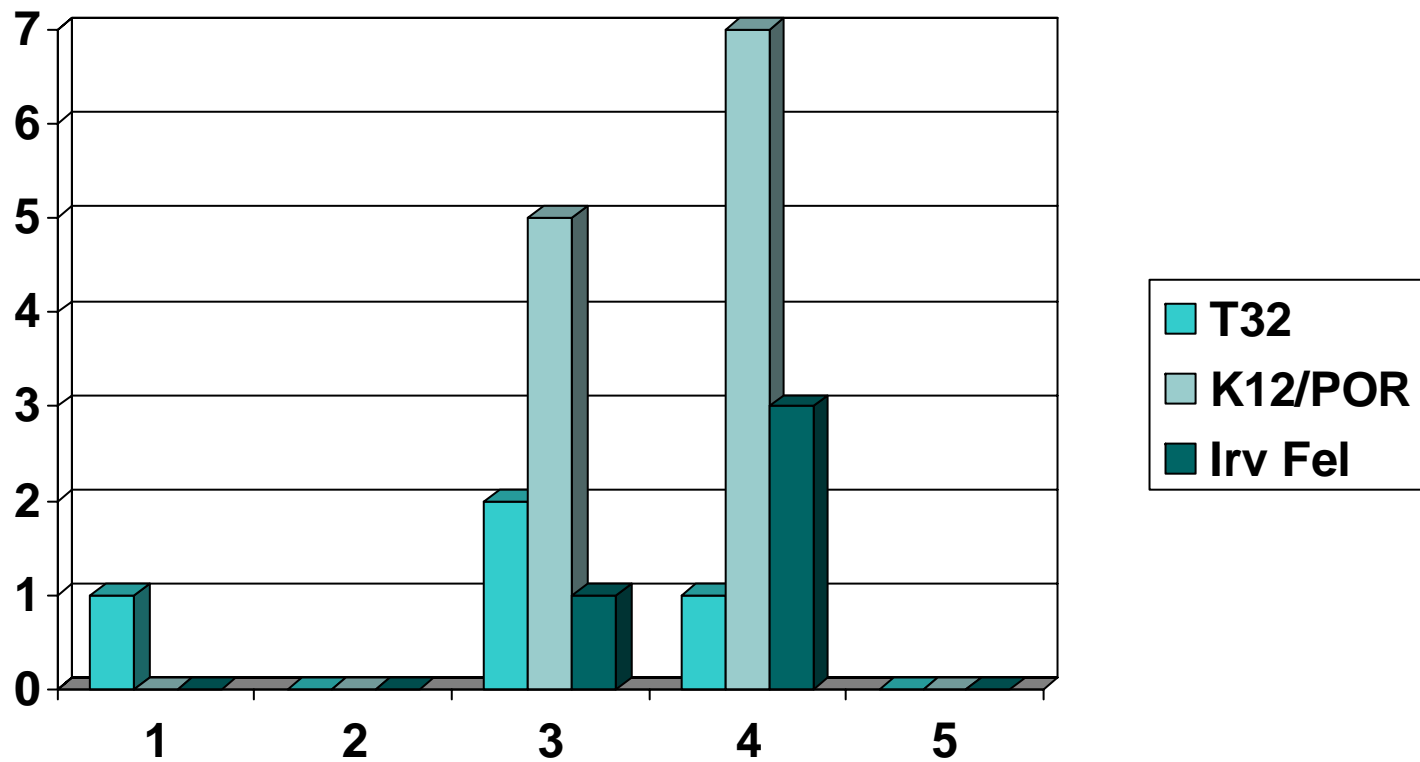
○ Least confident

- M=3.35 – Integrate concepts and methods from multiple disciplines in designing interdisciplinary research protocols
- M=3.30 – Read journals outside of his or her discipline
- M=3.25 – Advocate interdisciplinary research in developing initiatives within a substantive area of study; disseminate interdisciplinary research results both within and outside discipline
- M=3.05 – Use theories and methods of multiple disciplines in developing integrated theoretical and research frameworks

Results: Interact in training exercises with scholars from other disciplines



Results: Share disciplinary research in language meaningful to interdisciplinary team





Focus Group Questions

1. **What do you see as the main learning tasks associated with interdisciplinary research competency development as opposed to disciplinary research competency development?**
2. What artifacts do you currently collect as evidence of interdisciplinary research competency development?
3. How do you currently organize artifacts that document interdisciplinary research competency development?
4. **How do you think informatics tools can assist in the development of interdisciplinary research competencies?**
5. How do you think informatics tools can assist in documenting interdisciplinary research competency development?



Results: Main learning tasks associated with interdisciplinary competency development

- Find collaborators
- Engage collaborators
- Communicate - Understand language of other discipline
- Retrieving and organization of literature



Find Collaborators

- Difficult, time consuming
- Word of mouth
- Accidental
- The more information available about the person, the better
- Even the ability to get factual information would be useful
- Find in literature then contact
- Senior people provide contact
- Want to know history of collaborations



Engage Collaborators

- Finding a collaborator is not the issue – getting them engaged is the issue – not having them dump it on their fellow who is less experience
- Collaboration may not produce quickly enough – more difficult for proposal submission than after funded
- My mentor's collaborator may not be best collaboration for me, e.g., too many commitments...May be better for me to seek collaboration with someone of my generation even though track record won't be as good



Understand Language

- Expert in my field, but need to communicate with someone in another field so they can help me with my goals – different vocabularies and literatures
- Translating what I know to another person so that we can communicate
- Understanding how to formulate the questions in such a way so that I can get the answer I need
- Need introduction to other discipline specifically for people in my discipline so that commonalities can be identified



Retrieval and Organization of Literature

- What are the “go to” journals in the other field?
- Keeping up-to-date in related areas
- Need to pull together information on 5 sets of topics, I know about neuro, but not women’s health



Results: Informatics tools to assist with competency development

- Find collaborators with skill set I need
- Communicate with collaborators in secure manner
- Find services
- Share ideas
- Share materials
- Find out what others are doing
- Retrieving and organization of literature



Find collaborators

- Smarter search engines – I have to Google to find people at Columbia



Communicate with collaborators in a secure manner

- E-mail inadequate for sharing documents – documents too large, firewall issues. Need secure site for document sharing
- Videoconferencing – easier to have a large meeting



Find services

- Don't know who does what
 - Who signs certificate of confidentiality
 - Don't know who to ask and where to go



Find Out What Others are Doing

- Post an idea. Don't always know what is going on around medical center, e.g., you might apply for a grant and find out that someone else has also applied



Share materials

- Way for sharing materials that I've collected for others in a way other than email, e.g., pdfs of articles, I'd rather just point them to a site with my collection

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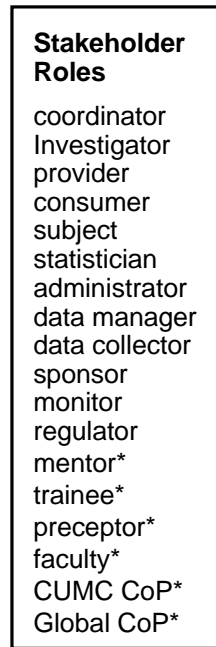
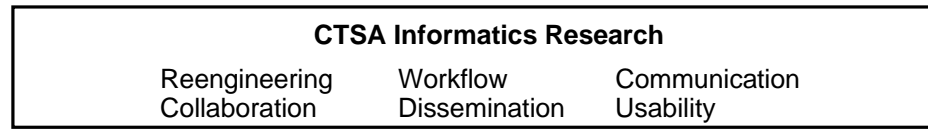
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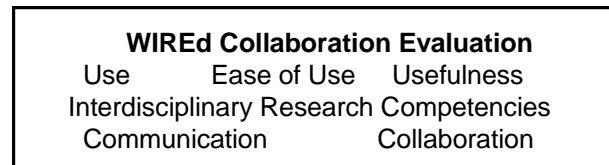
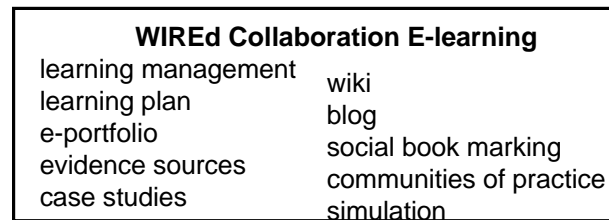
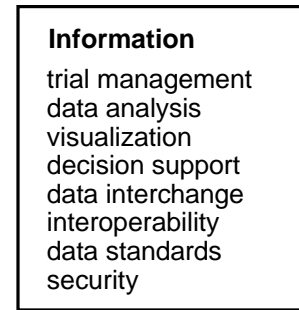
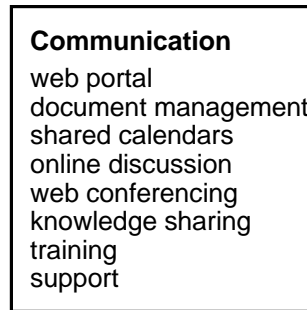
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Projects

- [Action to Control Cardiovascular Risk in Diabetes](#) PI
- [Re-Engineering the Clinical Research Enterprise](#) Investigator
- [Clinical and Translational Science Award](#) Investigator
- [Network for Cardiothoracic Surgical Investigations In Cardiovascular Medicine](#) Investigator
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- [Prognostic Significance of T Wave Alternans](#) PI
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- [Adapting the RAO Model to Four Types of Community-based Providers](#) Project Director
- [Facilitating Interdisciplinary Research via Methodological and Technological innovation in the Behavioral Sciences](#) Investigator



Informatics Services



* = WIRED Collaboration stakeholder roles
CoP=Community of Practice



Conclusions

- Identified information and communication needs associated with interdisciplinary competency development
- Information and communication technologies can facilitate meeting some of these needs; others require organizational changes
- ICTR Biomedical Informatics Resource (BMIR) is building and evaluating tools to meet some of these needs