

Collaborating to Innovate and Improve Patient Care at Hamilton Health Sciences using Knowledge Building Epistemology, Technology and Methodology (Project 004)

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Project Overview

This collaborative project between the Patient Centred Care (PCCP) Task Force at Hamilton Health Sciences and the Institute for Knowledge Innovation and Technology at OISE/University of Toronto sought to foster interprofessional team-work, e-learning and knowledge building (Bereiter & Scardamalia, 1993) using online technologies. The intention of knowledge building communities is the creation of new knowledge of value to the community. This project succeeded at generating a new philosophy of patient centred care for one of Canada's largest teaching hospitals by integrating patient and family discourse and communication (N=600) in an active online e-learning environment created by an interprofessional team of health care professionals and researchers. The barrier this project addressed was shifting interprofessional communication and collaboration from exclusive reliance on face-to-face meetings and one-way communication technologies (e.g., e-mail, voice-mail) to collaborative problem solving in a communal database technology (Knowledge Forum®). The main innovations realized in this project were successful design of a productive e-learning environment that generated a new philosophy of patient centred care based on what patients and families reported "mattered most". The social impact of this project is improved service delivery to over 2,000,000 patients and families in south-western Ontario. Interprofessional collaboration and innovation at the workplace promises to solve many problems facing health care today (Romanow, 2002; Russell, 2002; Rachlis, 2004).

Design Goals

- To create a new philosophy of patient centred care for Hamilton Health Sciences using knowledge building epistemology, technology and methodology.
- To design strategies to integrate patient-family feedback in the e-learning environment of the Patient Centred Care Task Force at Hamilton Health Sciences.
- To design innovative methods to support of e-learning and interprofessional team-work in a hospital setting.

Participants

Hamilton Health Sciences (HHS) is among Canada's largest teaching hospitals and provides a comprehensive range of health services in the province of Ontario.

- Patients and Families' focus groups and surveys (N=600)
- Steering Committee (N=4)
- Patient Centred Care (PCCP) Task Force at Hamilton Health Sciences (N=19)

Institute for Knowledge Innovation and Technology (IKIT) conducts research, develops technology, and helps build communities aimed at advancing beyond "best practice" in education, knowledge work, and knowledge creation.

- Research Team from the Institute for Knowledge Innovation and Technology, OISE/University of Toronto (N=10)

Duration January 2003 through March 2004 (18 months)

References

- Bereiter, C., & Scardamalia, M. (1993). *Surpassing ourselves: An inquiry into the nature and implications of expertise*. Chicago, IL: Open Court
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- Russell, A. (2002). The role of epistemic agency and knowledge building discourse to foster interprofessional practice in a Canadian hospital. In B. Hall & (Chair) (Eds.), *The value and validity of knowledge building pedagogy and technology to foster professional development: Symposium conducted at the American Educational Research Association Annual Conference, New Orleans*. New Orleans: Russell, A., Campbell, C., Scardamalia, M., & Bereiter, C. (2002). *Fostering interprofessional collaboration and virtual learning in rehabilitation and complex continuing care*. Final Report. Toronto: Office of Learning Technologies, Human Resources Development Canada
- Scardamalia, M. (2002). *Collective cognitive responsibility for the advancement of knowledge*. In B. Smith (Ed.) *Liberal education in a knowledge society* (pp. 67-98). Chicago: Open Court.

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Iterative Design Methodology

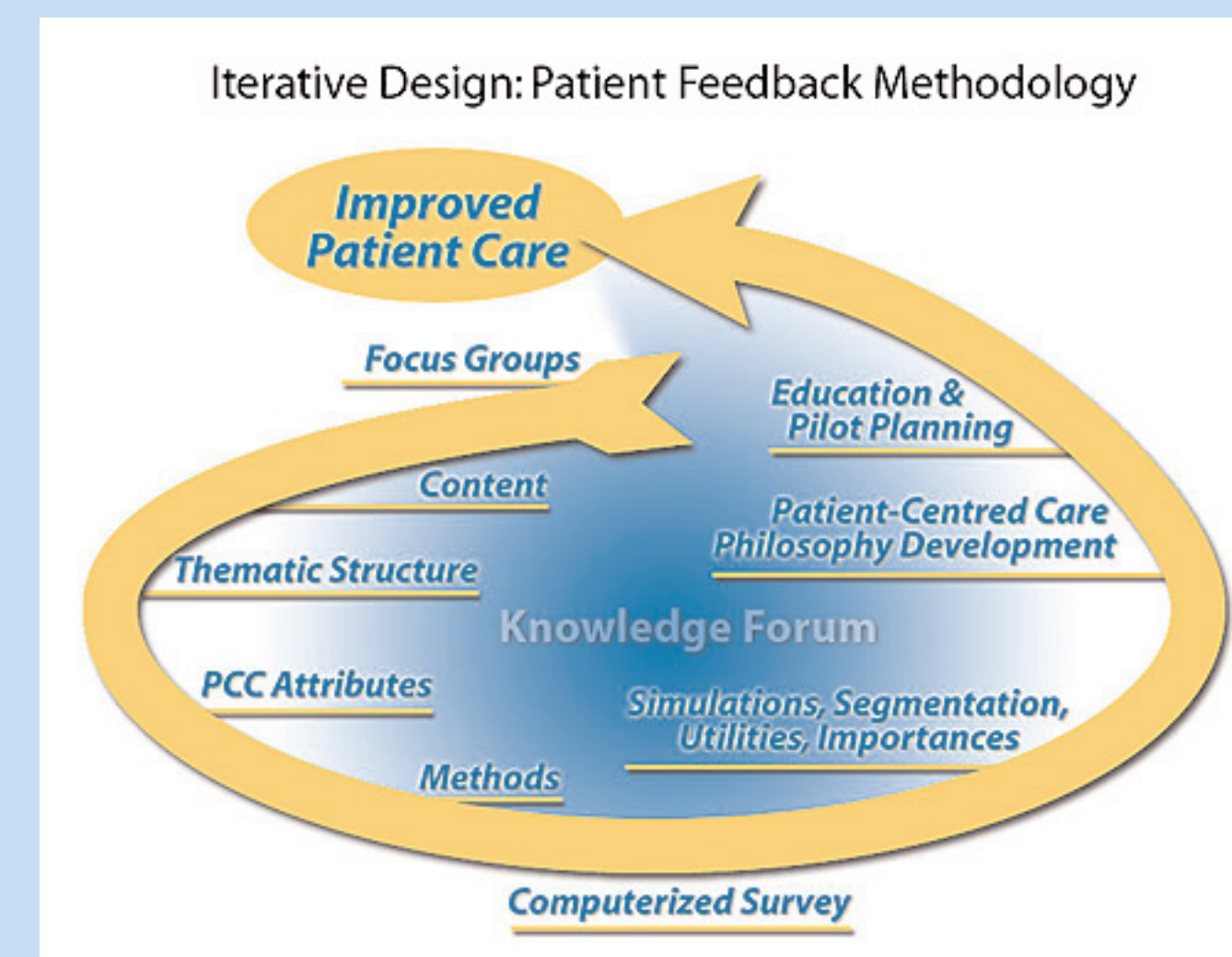


Figure 1: Patients and families at HHS were asked "what mattered most" to them via focus groups and surveys. Patient discourse was entered directly into the communal e-learning environment created by health care professionals and researchers. An iterative design methodology developed by Dr. C. Cunningham, Laidlaw Chair, Patient Centred Care informed design and re-design of the collaborative knowledge building process to create a new philosophy of patient centred care for HHS.

E-learning outcomes and innovations

1. Development of effective and productive e-learning environment in Knowledge Forum®, a second generation computer supported intentional learning environment. The content of the e-learning environment was entirely the construction of participants and related to stages in the iterative design process described above. Fifty-nine views or communal workspaces and 902 notes related to creation of a new philosophy of care were created.

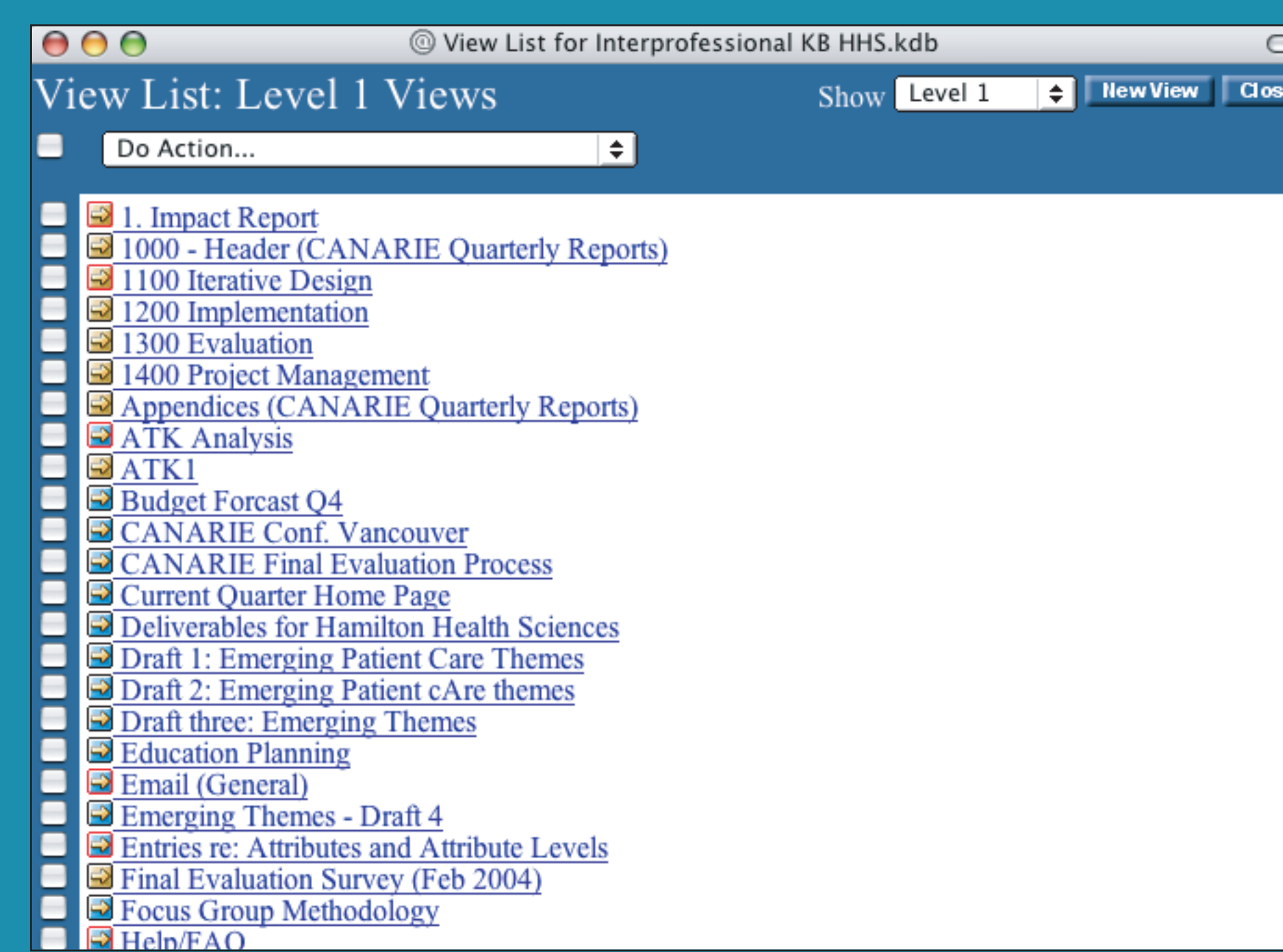


Figure 2: List of View links (communal workspaces) in HHS Knowledge Forum database

2. Effective continuous evaluation methodology to assess knowledge-building indicators and interprofessional collaboration during iterative design phases.

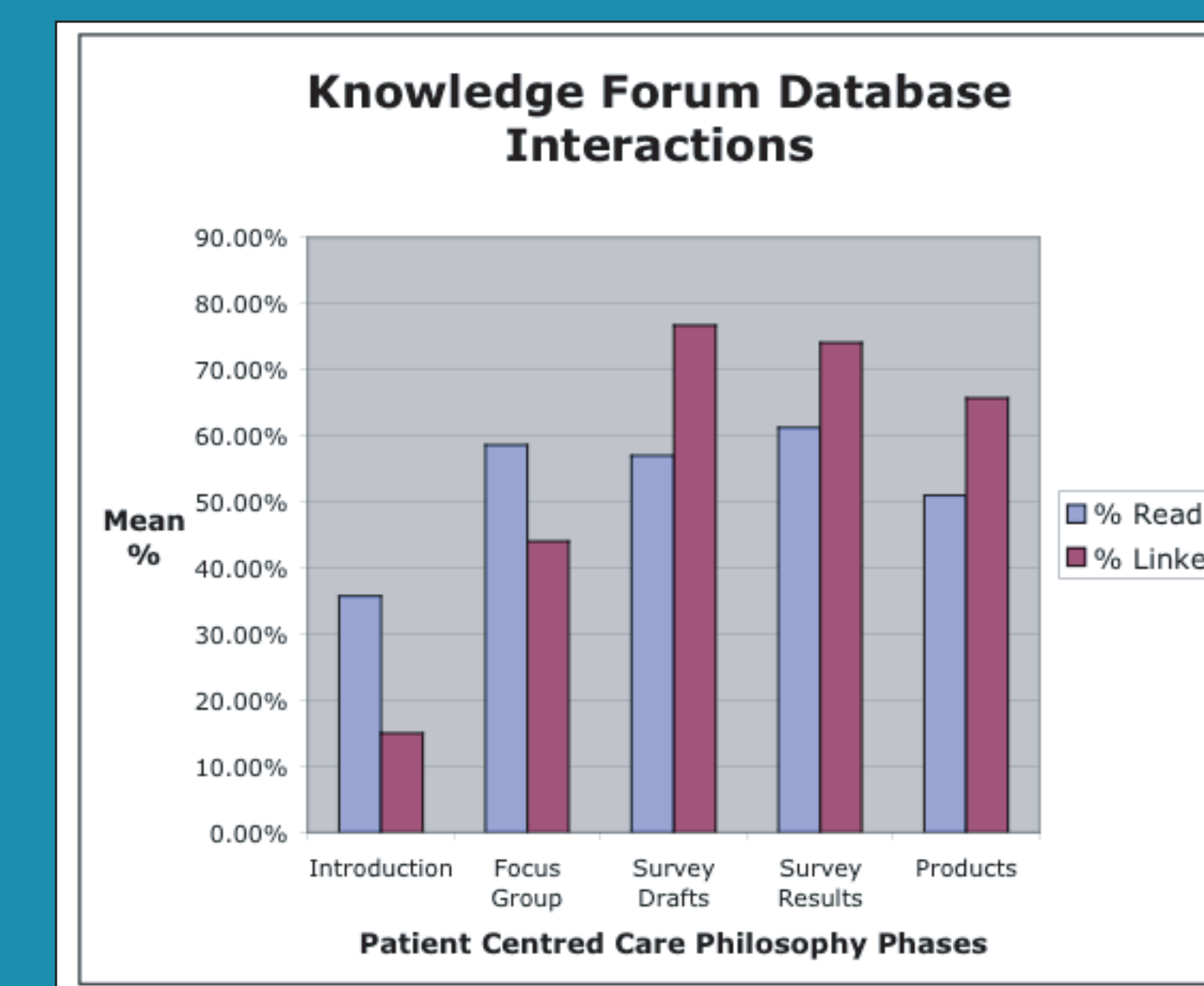


Figure 3: Percentages of Reading and Linking (of notes within views) for each Project Phase for Active Members of the Interprofessional Team.

3. New philosophy of patient centred care based on "what matters most" to patient and families.

Doing What Matters Most
 At Hamilton Health Sciences, the care we provide reflects what matters most to our patients and families.

Based on what patients and families have told us, we will:

- Communicate**
 - Get to know you and treat you with dignity and respect
 - Work together as a competent team
 - Talk with each other and you about your care
 - Give you prompt feedback on your progress
- Collaborate**
 - Ensure you understand your health concerns
 - Involve you in decisions about your care
 - Help you learn skills to take part in your care
 - Work with you to plan the next steps in your care
- Respond**
 - Respond promptly when you need help
 - Include persons who are important to you in your care
 - Provide a convenient, accessible, welcoming environment
 - Seek and respond to your comments about our care

4. Dynamic Quarterly Reporting integrated into e-learning environment facilitated adherence to deliverables schedule and efficient project management. The seamless integration of administrative and knowledge management activities in the active e-learning environment improved turn-around times for collaborative knowledge work.

Discussion and Future Directions

"Doing what matters most to patients and families at HHS"

- Innovation not financial resources will solve Medicare's problems in Canada (Romanow, 2002; Rachlis, 2004).
- E-learning projects and strategies must support interprofessional practice and innovation in health care.
- Communal technologies provide an ideal environment for sharing multiple sources of evidence (e.g., discourse, multi-media) to support learning and knowledge creation in practice settings.
- Online technologies offer a mechanism for capturing and using patient and family feedback in the innovation process.
- Integrated knowledge creation and knowledge management systems are essential for workplace knowledge building.