Telehealth Readiness Alliance for Building Capacity

Instrument Development in Telehealth Readiness

Presented by: **Andora TK Jackson**
Health Telematics Unit (HTU), University of Calgary

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Alliance for Building Capacity: Research Team

Dr. Penny Jennett:
Professor and Head, Health Telematics Unit (HTU), University of Calgary

Dr. Theresa Healy: *Director of Research, Northern Secretariat, B.C. Centre of Excellence for Women's Health, University of Northern British Columbia*

Dr. Arminée Kazanjian: *A/ Director, Centre for Health Services & Policy Research, University of British Columbia*

Andora Jackson: *Ph.D. Student (Telehealth), Health Telematics Unit, Univ. of Calgary*

Dr. Kendall Ho: *Associate Dean Continuing Medical Education, University of British Columbia*

Dr. Robert Woollard: *Royal Canadian Legion Professor and Head, Family Practice, Faculty of Medicine, University of British Columbia.*

Dr. Joanna Bates: *Associate Dean Admissions, Professor Family Medicine, Faculty of Medicine, University of British Columbia*

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Supporting Partners

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Alliance for Building Capacity: Mandate

The ABC is focused on helping to bridge the health gaps often associated with geography, culture, and distance.

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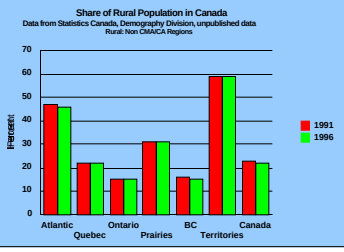
Motivation and Need

Substantial rural and remote Canadian population
15% in BC and Ontario, to 46% in the Atlantic region, and 59% in the territories



(from Health Canada - Report on Rural Health Research Summit 1999)

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Motivation and Need

The Canada Health Act
Universality,
Accessibility,
Portability,
Comprehensiveness,
Public Administration.

Rural Canadians experience a lower level of health than their urban counterparts. *(Report on the Rural Health Summit, 2000; Health Canada - Second Report on Health, 1999)*

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Motivation and Need

Importance of "human factors"—system success significantly depends on the user's willingness to use the system *(Leonard-Barton, 1988)*

Significant failure rates (30% and higher) of large-scale IT project *(More, 1990)*

In hospitals, staff resistance and interference may be responsible for more than half of all information system failings *(Dowling, 1980; Lyytien & Hirschheim, 1987)*

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Motivation and Need

Economics - Huge investment in telehealth technologies

- Local, provincial, territorial and federal governments
- CHIPP, etc
- Professional organizations
- Telehealth industry

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Telehealth as an Innovation

Telehealth: the use of information and communications technology to deliver health care, health education and health information over large and small distances.

Innovation: an "idea, practice, or objective perceived as new by an individual, a group, or an organization." *(Rogers, 1983).*

Telehealth is innovation is change.

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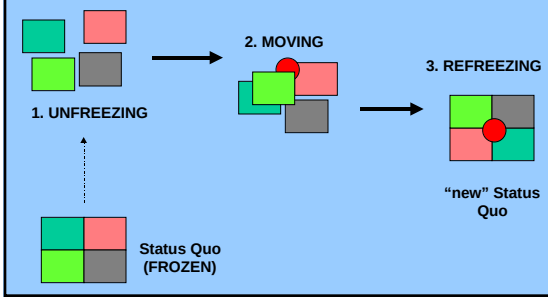
Change—Lewin



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Diffusion of Innovation—Change in Motion

The process by which an innovation is adopted and gains acceptance by members of a certain community

Principal elements in diffusion of new ideas:
An innovation
Communicated through social channels
Communicated over time
Communicated among members of social system

(Rogers, Diffusion of Innovations, 1962, 1983, 1995)

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Diffusion of Innovation Characteristics of Innovation

- Relative Advantage
- Compatibility
- Complexity
- Trialability
- Observability

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Readiness to Change

Individuals, organizations, and social communities are often at different levels of readiness to change.

Five stages of change:
* precontemplation
* contemplation
* decision/determination
* action
* maintenance

(Prochaska and DiClemente)

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Social Change

Consists of any modification in the social organization of a society in any of its social institutions or social roles.

Social Structure
Attitudes and Beliefs
Individual Perception and Motivation

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Resistance to Change

- Power and Power Struggles
- Misunderstanding & Awareness Failure
- Lack of Trust
- Fear

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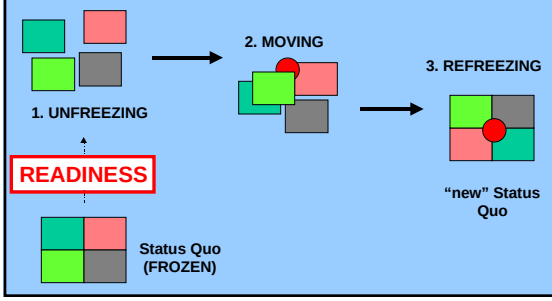
Change—Lewin



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Readiness: Preparing for Unfreezing

Readiness is "the cognitive precursor to the behaviors of either resistance to, or support for, a change effort."
(Arm enakis ,et al. 1993)

Factors for creating readiness found in:
Cognitive,organizational, individual change theory
Diffusion of Innovation
Social-information processing
Mass communications, and more...

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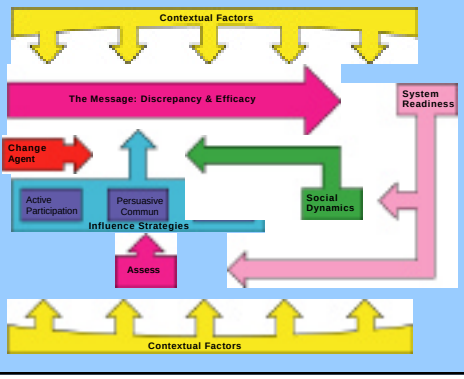

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What is Telehealth Readiness?

Readiness is the degree to which a community is prepared to **participate** and **succeed** in the Telehealth.

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Where to Start

- Change / Diffusion / Organizational / Resistance Theories
- Social Information Processing Models
- Organizational Readiness Modelling
- Readiness for a Networked World
  *(Harvard University-Center for International Development:**www.readinessguide.org**)*
- Telehealth Interoperability Report
- Rural Health Reports

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Characteristics of Readiness: ICT

- ICT Infrastructure
- Availability
- Affordability
- Hardware and Software
- Service and Support

Harvard University -- Center for International Development, Information Technology Group

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Characteristics of Readiness: Practitioner / Workforce

- Access to facilities
- Human Resources/Training
- Workflow practices

An employee's perception of readiness for change reflects the organization's ability to make the desired changes successfully *(Eby, et al. 2000).*

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Characteristics of Readiness: Patient / Public

- Access to technology
- Integration of ICT into community (work, school, home)
- Availability of culturally relevant content
- Availability of medically relevant content
- Role understanding

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Characteristics of Readiness: Policy

- Telecommunication policy
- Licensure
- Reimbursement
- Accreditation
- Privacy/Confidentiality

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Research Process - Scale Development

STEP 1: Determine Clearly What You Want to Measure
STEP 2: Generate an Item Pool
STEP 3: Determine the Format for Measurement
STEP 4: Have Initial Item Pool Reviewed By Experts
STEP 5: Consider Inclusion of Validation Items
STEP 6: Administer Items to a Development Sample
STEP 7: Evaluate the Items
STEP 8: Optimize the Scale Length

(DeVillis,1991)

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Research Process - Scale Development

STEP 1: Determine Clearly What You Want to Measure

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The Telehealth Community

Community includes:

1) rural/remote geographical communities

2) communities of "like" health providers and organisations

3) communities of patients who share a common problem

4) communities of multidisciplinary health team providers caring together for a patient group

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Methodology: Target Population and Sample

Target Population and Sample

Public, Patient, Practitioner - Organizational

Rural British Columbia (2 communities)

Patient (Cardiac Rehabilitation),
Public (Eating Disorder Support),
Practitioner (CME, clinical).

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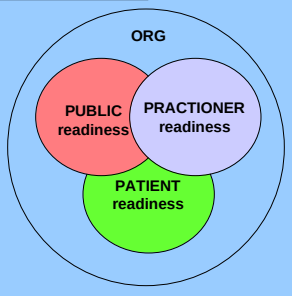
Telehealth Readiness Modelling



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Research Process - Scale Development

Key Informants: member of the social setting; expert sources

Public: public health services, community representatives

Patient: patients, online clinical care experts

Practitioner: patients, online clinical care experts

Organization: project administrators/managers, health authorities

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Talking to the Experts and Leaders

Experts have important roles in the Innovation Process:

Opinion leaders: informal influence over the behavior of others

Change agents: positively influence innovation decisions, by mediating between the change agency and the relevant social system

Change aides: complement the change agent, having more intensive contacts with clients, have less competence credibility but more safety or trustworthiness credibility

(Roger Clarke, 1999)

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Research Process - Scale Development

Focus Groups: Public, Private, Practitioner, Organization

Allow for an exploratory examinations of the nodes and items

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Research Process - Scale Development

STEP 2: Generate an Item Pool

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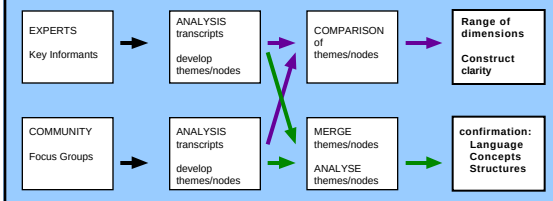
Research Process - Scale Development



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Finding the Latent Variable

Dr. Arminée Kazanjian, BC Office of Health Technology Assessment, University of British Columbia

- Comparators – finding comparison groups
- Achieving coordination
- Impact of concurrent system restructuring
- Increasingly complex options

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Research Process - Scale Development

STEP 3: Determine the Format for Measurement

Thurstone scaling
Guttman Scaling
Likert Scale
and more…

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Research Process - Scale Development

STEP 4: Have Initial Item Pool Reviewed By Experts

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The Experts

Dr. Joanna Bates, University of British Columbia
Tele-Cardiac Rehabilitation

Dr. Theresa Healy, University of Northern British Columbia
Eating Disorder Support via the Web

Dr. Kendall Ho, Dr. Bob Wollard, UBC;
Practitioner — clinical and CPD

Dr. Penny Jennett, UC
Organizations

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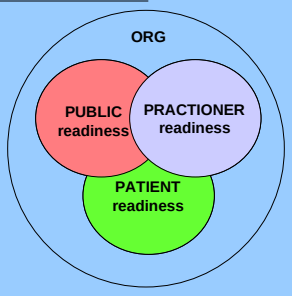
Core Readiness ?



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Andora Jackson
ajacks@andora.org

Health Telematics Unit:
Telehealth/Telelearning Scholarship and Training Program
At the University of Calgary

www.ucalgary.ca/md/TELEHEALTH

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Research Questions: General

What are existing existing models/approaches to measuring community readiness?

What are the parameters/indicators of community-based readiness as applied to rural/remote areas?

What roles do communities and partners (i.e. public, private, professional sectors) play in developing successful models and strategies for building capacity and community readiness to adopt telehealth solutions?

*How **generalizable** and **scalable** are readiness models/approaches across rural/remote communities and applications?*

What is the impact of different levels of community readiness on the implementation and uptake of telehealth initiatives?