Center for Health Dissemination and Implementation Research

Applying and Building the Science of Dissemination and Implementation: Kaiser Permanente's Center for Health Dissemination and Implementation Research

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Vision

- to advance the field of dissemination and implementation research and to offer concrete assistance to narrow the gap between health research, practice and policy, especially as they apply to reducing health disparities
- We pursue this vision by partnering with organizations and on projects targeting disparities in health and health care among racial, ethnic, socioeconomic, health literacy, and geopolitical populations and offering tools and technical assistance at the planning, implementation, evaluation, and reporting stages for interventions.

Kaiser Permanente

- Nation's largest private nonprofit, integrated healthcare system
- Serving 9 states and the District of Columbia
  - As of 12/07, 8.7 million members
  - 32 medical centers, 421 medical offices
  - 159,700 employees, 13,000 physicians
  - $37.8 billion operating revenues

Research at KP

- 8 research centers nationwide
- 45 years experience with EMRs
- In 2006, 2,800 open research projects
- In 2009, founding a national CER center
- Partnerships with extra-organizational networks (such as the HMO Research Network)
- Research about translational processes is partly vested in the KP Colorado Region's Institute for Health Research, home of the Center for Health Dissemination and Implementation Research (CHDIR)

CHDIR description

- We are new & small
- Our target audiences are both inside & outside the Kaiser system
- We emphasize a practice-based type of research
- We pursue generalization of theories, frameworks, tools, and approaches
- Our expertise is in external validity and diffusion research
- Our key challenge is aligning with funding streams and applied settings that are both typically organized in disease or condition-specific silos

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Center for Dissemination and Implementation Research

Welcome

The *Center for Dissemination and Implementation Research* is dedicated to exploring, testing, and applying ideas for strengthening the bonds between translational research and translational practice.

Over the years, we have noted many cases in which the science of health care and health promotion is not put to use. We have seen many organizations "go it alone" by recreating that which already has been tested and validated elsewhere. We see programs and initiatives designed only for one local test and not for replication. We have worked in communities where volunteers and public health staff are convinced that their needs and circumstances are unique and that the evidence available does not apply to their situation at all.

We have noted even more cases where experts in diverse disciplines and fields do not see the relevance of what researchers in other specialties are doing. And we are in constant contact with colleagues who fail to see the importance of practice-based learning – *learning from the field* – to what they do as researchers. For every researcher with something to teach a practitioner, there are as many or more practitioners with useful knowledge that could improve the design of research-based interventions and their integration into practice.

The *Center for Dissemination and Implementation Research* is dedicated to such sharing and learning from each other. We are researchers, but researchers who focus on the identification, development, evaluation and dissemination of tools. The tools on this website – an ever-expanding list – are offered to

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Our focus

- The Center, while focused at multiple levels, including regional, national and international, also has a research and technical assistance role with the national Kaiser Permanente system. This role helps to improve the quality, equity and efficiency of healthcare delivery through the provision and study of:
  - Formative evaluation, including social network analysis and health literacy issues;
  - Research-based translation strategies;
  - Tools to enhance implementation and dissemination success; and
  - Organizational processes.

Research tracks

- One research track concerns tests of the purposive spread of evidence-based practices among diverse settings and populations. Another track concerns tests of the factors responsible for the generalizability and replication of program effectiveness. In both cases, a third CHDIR research emphasis of economic and cost-effectiveness analyses is being integrated with other measures, such as:
  - Rate and feasibility of adoption;
  - Program reach, especially among hard to reach populations;
  - Organizational adaptation;
  - Theoretic fidelity (implementation of theory-based principles); and
  - Program re-invention or modification, and maintenance.

Example 2009 achievements

- Continued application of the RE-AIM model across a number of nonprofit, healthcare system, and university-based organizations and projects. Noteworthy among these activities in 2009 were
  - a subcontract from Project LAUNCH, a national multi-site study to enhance child and family health; and
  - a subcontract with the University of Pittsburgh to evaluate a diabetes quality improvement program throughout the state that is being considered as a national model program.
- Social network data-collection, analysis, and technical assistance to the KP Colorado Senior Leadership Group in the establishment of a Regionwide Sociometric Database. Use of this database will support future improvement efforts.
  - A new dissemination channel;
  - CHDIR as process intermediary.

Objectives for 2010

- 1. To establish relationships with selected, key organizational partners interested in or conducting research with underserved populations.
- 2. To investigate and publish results on the reach and impact of programs on different population subgroups including especially Latino and low health literacy groups.
- 3. To secure core funding for Center infrastructure (or switch to categorical funding approach)
- 4. To continue as a resource for social network analyses and for organizational performance improvement more generally.

Any questions at this time about…

- KP or KP Colorado?
- our new dissemination & implementation research center (the CHDIR)?
- …or observations on similarities or differences with the VA or other systems?

What do we do in terms of diffusion and dissemination?

Dissemination is a purposive attempt to spread evidence-based innovations (practices, programs, policies, processes, technologies) through a population of potential adopters.

Dissemination is *applied* diffusion.

In the dissemination of EBPs, then, much of our approach is to "trip" existing levers in the social system in question so that dissemination occurs like diffusion.

More *pull* than *push*.

100%

Adoption

Later Adopters

Diffusion

Early Adopters

0

Time ⟶

Dissemination is premised in

- Validated concepts from the diffusion of innovation paradigm
- The achievement of efficiency more so than efficacy or effectiveness
- Centralized coordination and decentralized wisdom
- A combined understanding of micro, meso and macro level factors that affect unit and system change

Beck A, Bergman DA, Rahm AK, Dearing JW & Glasgow RE (2009), *Permanente Journal* 13(3):10-17.

In terms of dissemination strategy, we conduct research and help stakeholders with…

- Timing and framing of the introduction of innovations
- Attributes of innovations
- Understanding of social structure

What's the status quo in KP?[1]

- Bottom up
  - Intra-region via grassroots innovation, local demonstrations, word-of-mouth, committees
  - Inter-region via formal recognition such as Vohs, Lawrence, and via conferences and committees

- Top down
  - Inter-region via CMI, CEC, KPAN, DSLs, nationally-funded pilots and demonstrations
  - Authority adoption decisions by leaders, chiefs

[1]Wallace P. IOM presentation, May 25, 2007

Dissemination Factor 1: Timing & framing

- Carrying capacity and the absorption of innovations
- Battling against context is a losing fight
- Encouraging stakeholders to *time* the introductions of innovations
- Encouraging stakeholders to *frame* innovations so that adoption promises the achievement of other, complementary goals

Dissemination Factor 2: Innovation attributes as perceived pros & cons

- Key attributes
  - Cost ****
  - Simplicity ****
  - Compatibility ****
  - Evidence **
  - Trialability *
  - Observability *

Dissemination Factor 3: Identification and use of advice networks

- When conceptualized for dissemination intervention, potential adopters comprise a *social system*
  - They know one another
  - They can comprise a patterned network structure
  - They attend to mediated information sources
  - They attend to interpersonal influence sources

Advice Network among Teachers in a Public Middle School

"At your school, whose advice do you most value for new ideas or better ways of doing things in the curriculum related to health education?"

School nurse: centrality = 0.596; 28 links

Principal: centrality = 0.085; 4 links

Response rate 90%; N=54 individuals; thicker lines mean more frequent general communication

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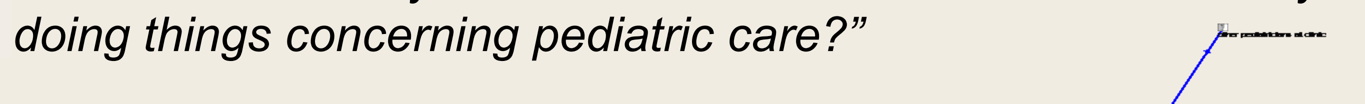
Advice Network among Healthcare Providers in a Pediatric Clinic

“Whose advice do you most value for new ideas or better ways of doing things concerning pediatric care?”



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Any questions at this time about…

- diffusion theory concepts that we test and apply?
- projects outside or inside KP?
- QI efforts using some of these same concepts?
- …or?

What do we do in terms of implementation research and helping stakeholders?

- Making research relevant
- Help make KP a leading rapid learning healthcare organization (ala Etheridge)
- Provide leadership and coordination around practical research

Etheridge LM. *Health Affairs, Web Exclusive Collection*, 2007;w107-w118.

Definition

- IMPLEMENTATION = Use of strategies to adopt and integrate evidence-based interventions and changes in practice patterns within specific settings (NIH).

(Success in Particular Settings)

What can the CHDIR do for KP?

- Conceptual models and frameworks
- Practical trials expertise
- Tools
- Measures
- TBD (You tell us)

Simplified Systems Model for Translational Research

Estabrooks PA, Glasgow RE. *Am J Prev Med* 2006;31(4S):S45-S56

RE-AIM framework for focusing on key issues in integrating research into practice

History/Background for RE-AIM

Late 1990s: Increasingly clear that major problems moving research into practice.

Helpful models for understanding (e.g., Rogers) and planning (e.g., Green & Kreuter) health care programs but no systematic models for translation.

Almost total focus on efficacy. Assumed that linear "automatic" process of efficacy → effectiveness → dissemination.

RE-AIM can help in planning, evaluating, and reporting studies

R	→	Increase	Reach
E	→	Increase	Effectiveness
A	→	Increase	Adoption
I	→	Increase	Implementation
M	→	Increase	Maintenance

Glasgow, et al. ***Ann Behav Med 2004;27(1):3-12***

Purposes of RE-AIM

- To broaden the criteria used to evaluate programs to include external validity and context.
- To evaluate setting issues relevant to program adoption, implementation, and sustainability.
- To help close the gap between research studies and practice by:
    - Informing design of interventions
    - Providing guides for adoptees
    - Suggesting standard reporting criteria to increase transparent reporting

RE-AIM BUILDING BLOCKS THAT TOGETHER PRODUCE PUBLIC HEALTH IMPACT

Adoption

Building Programs and Policies with a Large Public Health Impact

Efficacy
Effectiveness

Implementation

Reach

Maintenance

PERMANENTE

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RE-AIM PROFILE

100
80
60
40
20
0

Reach	Effectiveness	Adoption	Implementation	Maintenance

SCORES: <u>36</u> <u>70</u> <u>50</u> <u>40</u> <u>30</u>

Proposed translational research measurement package

1) **Contextual factors**
2) **Implementation**
3) **Generalization (*Settings, Staff, Patients*)**

4) **Behavior change (multiple levels?)**
5) **Economic outcomes**
6) **Quality of life**

Glasgow, et al. *Diabetes Care* 2003;26(8):2451-2456

Behavior change measures

- Brief, practical measures.*
- Often triangulate when no “gold standard”.
- Focus on sensitivity to change.
- Measures of patient, staff, change agents (e.g., family), system and policy changes.

* Glasgow, et al. *Ann Fam Med* 2005;3:73-81

Economic outcomes using standardized methods

- Assess cost of intervention delivered.*
- Estimate replication costs.**
- Optional, more sophisticated analyses of cost-effectiveness, cost-utility, cost-benefit, return on investment.
- "Costs are not costs are not costs".

* Gold, et al. *Cost-effectiveness in health and medicine*. New York: Oxford Univ. Press, 2003

** Meenan, et al. *Med Care* 1998;36:670-678

Ritzwoller D et al. *Annals Behav Med* 2009 37: 218-227

Any questions at this time about…

- RE-AIM?
- the ways that RE-AIM components are most used?
- actual or potential practice-based research applications of the RE-AIM framework?
- …or?

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