Context and Dissemination Channels for Disease Prevention and Control

Brownson, Dearing & Gustafson

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Panel questions

- What are the challenges of moving evidence to practice?
  - Which channels best engage the audience? Which data-collection methods are best for learning about channel preference and use?
- How do contextual factors affect choice of channel for dissemination?
- What sorts of channels are new media?
- Which principles should guide channel selection for dissemination?

What is a channel?

- A communication channel is a means by which messages get from one individual to another
  - One to one channels (face-to-face, mediated) transmitting verbal, nonverbal, text, & image messages
  - Group channels (face-to-face, mediated)
  - One to many channels (social networking sites, discussion forums, websites, traditional media

Differences: Face-to-face & mediated channels

- Push media, pull media
- Contextual understanding
- Range of message cues
- Synchronicity
  - i.e., effectiveness in communication
- Resource cost
  - i.e., efficiency in communication

What does "channels for *dissemination*" imply?

- That in the trade-off calculus of figuring out how to reach a given audience, efficiency trumps effectiveness
- *but it's efficiency with yield!*
- That contextual sensitivity, felt ownership, and supports to help with effectiveness are vital

Organizational and contextual challenges in public health settings

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15 March 2010

“Public health workers… deserve to get somewhere by design, not just by perseverance.”

McKinlay and Marceau

“Laws are like sausages. You should never watch them being made.”

Honoré Mirabeau, 1918

Questions

1. What are some of the organizational and contextual challenges in public health and policy settings?
2. How might we bridge the gap more fully?

A simple definition of evidence-based public health

- "Evidence-based public health is the process of integrating science-based interventions with community preferences to improve the health of populations."

Kohatsu, et al. Am J Prev Med 2004.

D&I influences in public health settings

- Macro-level
  - Political landscape
  - Crises
- Organizational level
  - Culture
  - Readiness to change
- Micro-level
  - Skills of individuals
  - Individual priorities

Evidence uses and availability in public health practice

Study of EB dissemination (PA) in state & local health departments (2003-05)

- Built on *Community Guide* recommendations
- Baseline data
  - 49 state health departments
  - 105 local health departments
    - Jurisdictions >100,000 persons
- State and local differences

State health department baseline survey

- Heard of the Guide
  - 90%
- Read or has seen Guide materials
  - 86%
- Visited Guide website
  - 67%

Local health department baseline survey

- Heard of the Guide
  - 30%
- Read or has seen Guide materials
  - 21%
- Visited Guide website
  - 18%

Study of EB dissemination in state health departments (2008)

- Nationwide, web-based survey
- National Association of Chronic Disease Directors
- June – August, 2008
- Participants contacted via email, phone

Barrier	N	Mean (95% CI)
Overall Personal Barriers	*438*	*3.6 (3.5 – 3.7)*
Feels need to be expert on many issues	440	**6.5 (6.3 – 6.7)**
Lacks skills to effectively communicate E-B information to policymakers	440	2.9 (2.8 – 3.1)
Lacks skills to develop E-B chronic disease programs	440	2.7 (2.5 – 2.9)
Fears about job security	438	2.1 (1.9 – 2.3)
Overall Organizational Barriers	*335*	*5.6 (5.5 – 5.8)*
No incentives/rewards for using E-B Interventions	300	**7.6 (7.4 – 7.9)**
Inadequate funding for E-B Interventions	429	**7.2 (7.0 – 7.5)**
State legislators unsupportive of E-B Interventions	366	**6.4 (6.2 – 6.7)**
Culture does not support creative thinking and new ideas	429	4.5 (4.2 – 4.7)
Chronic disease prevention not a high organizational priority	431	2.3 (2.1 – 2.6)

Jacobs J, et al. Public Health Rep (in press).

A few implications

- Organizational barriers appear to be much larger than personal barriers
- Need to understand how to operationalize these findings in health departments
- The size and type of health department is likely to be important

Evidence dissemination in policy settings

Domains of Evidence-Based Public Health Policy

Domain	*Objective*
Process	To understand approaches to enhance the likelihood of policy adoption
Content	To identify specific policy elements that are likely to be effective
Outcome	To document the potential impact of policy

Three Fundamental Questions

1. Is there a problem (what fuels it)?
2. Do we know how to fix it (intervention)?
3. How much will it cost (financially, politically)?

- What do all of these questions mean in the context of where we live and work (and get elected)?

Preliminary findings from NCI D&I grant

Evaluate effectiveness of **data** and **narrative** approaches

- **Data:** typically used by health experts who are trained to summarize scientific information using empirical statistics and facts
- **Narrative:** turns scientific data into compelling stories showing how evidence-based interventions can affect the daily lives of people

Overview: Conveying information via policy briefs

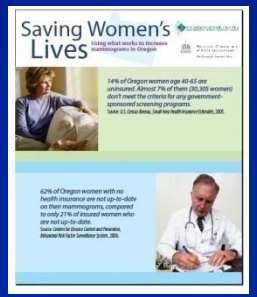
Phase 1: Audience Research

- Most policy briefs are text heavy and not “brief”
- Randomized experiment
  - Compare data *vs.* narrative
  - Three key groups of policy makers:
    - **legislators**
    - **legislative staff members**
    - **executive branch administrative leaders**
  - Read a brief then responded to a short questionnaire

Phase 1: Audience Selection

Legislators	Legislative Staff Members	Executive Branch Administrative Leaders
• Legislator • Legislative staff • Administrative Assistant/Office staff	• Legislative Staff • Administrative Assistant/Office staff • Other	• Program manager/ administrator/ coordinator • Health educator • Epidemiologist • Statistician • Program planner • Division or bureau head/deputy director • Department head • Community health nurse/social worker/dietician/ nutritionist

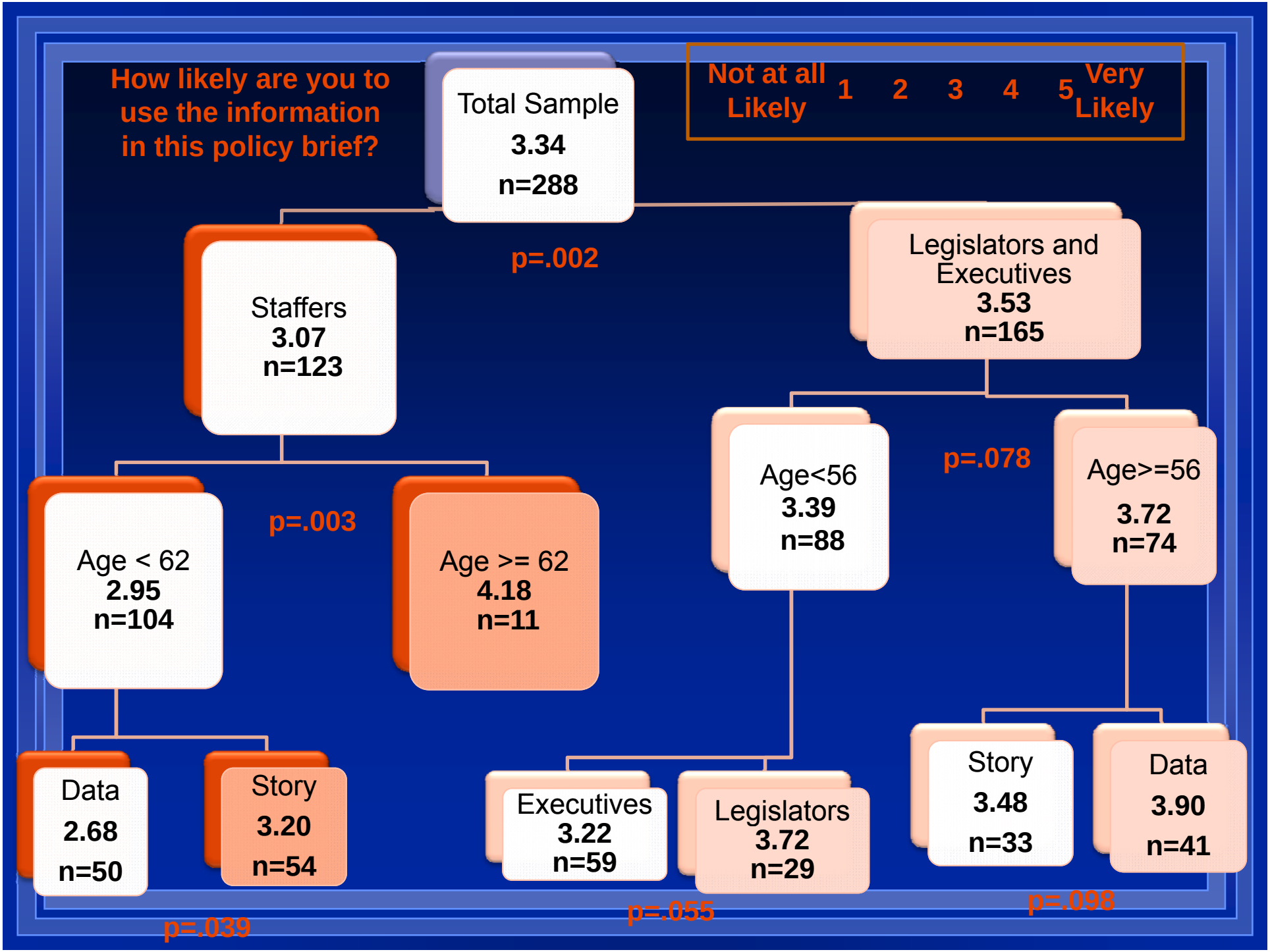
Phase 1: Policy Brief Design

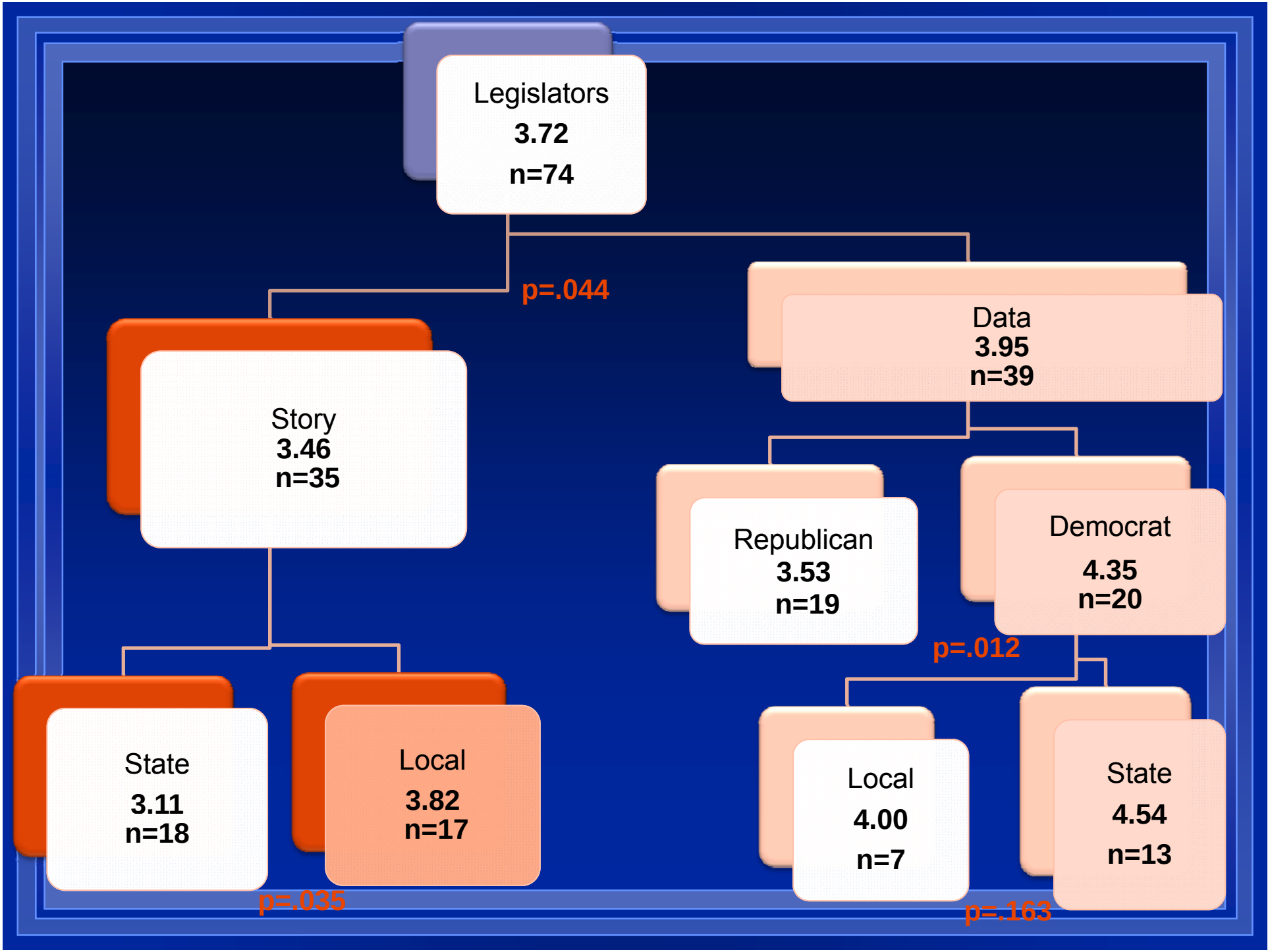
	Data	Narrative
Local		
State		

Selected results

- Responses from 286 individuals in
  - Mississippi, Missouri, Oregon, New Jersey, Pennsylvania, South Carolina
- Overall, 35% response rate

Data trees on brief *usefulness*


How likely are you to use the information in this policy brief?
Not at all Likely 1 2 3 4 5 Very Likely
Total Sample
3.34
n=288
p=.002
Staffers
3.07
n=123
Legislators and Executives
3.53
n=165
p=.003
Age < 62
2.95
n=104
Age >= 62
4.18
n=11
p=.078
Age<56
3.39
n=88
Age>=56
3.72
n=74
Data
2.68
n=50
Story
3.20
n=54
p=.039
Executives
3.22
n=59
Legislators
3.72
n=29
p=.055
Story
3.48
n=33
Data
3.90
n=41
p=.098


Legislators
3.72
n=74
p=.044
Story
3.46
n=35
Data
3.95
n=39
Republican
3.53
n=19
Democrat
4.35
n=20
p=.012
State
3.11
n=18
Local
3.82
n=17
p=.035
Local
4.00
n=7
State
4.54
n=13
p=.163

Bridging the gap: A few implications

- Differences by type of policy maker
  - Not a “one-size-fits-all” in channel selection
- Need to identify those factors that can be altered and/or where data collection is straightforward
- Digging deeper with qualitative methods may be useful
- Plan to employ findings from this early work in the next phases of the project

In public health…

- Diverse set of issues/evidence base
  - Tobacco
  - Cancer prevention & control
  - Genomics
  - Obesity prevention
  - Poverty, social inequities, war
- Funds/infrastructure are limited in every program, country
- Timing, media attention, delivery of messages are likely to be important

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Uncovering and Accessing Existing but Hidden Dissemination Channels

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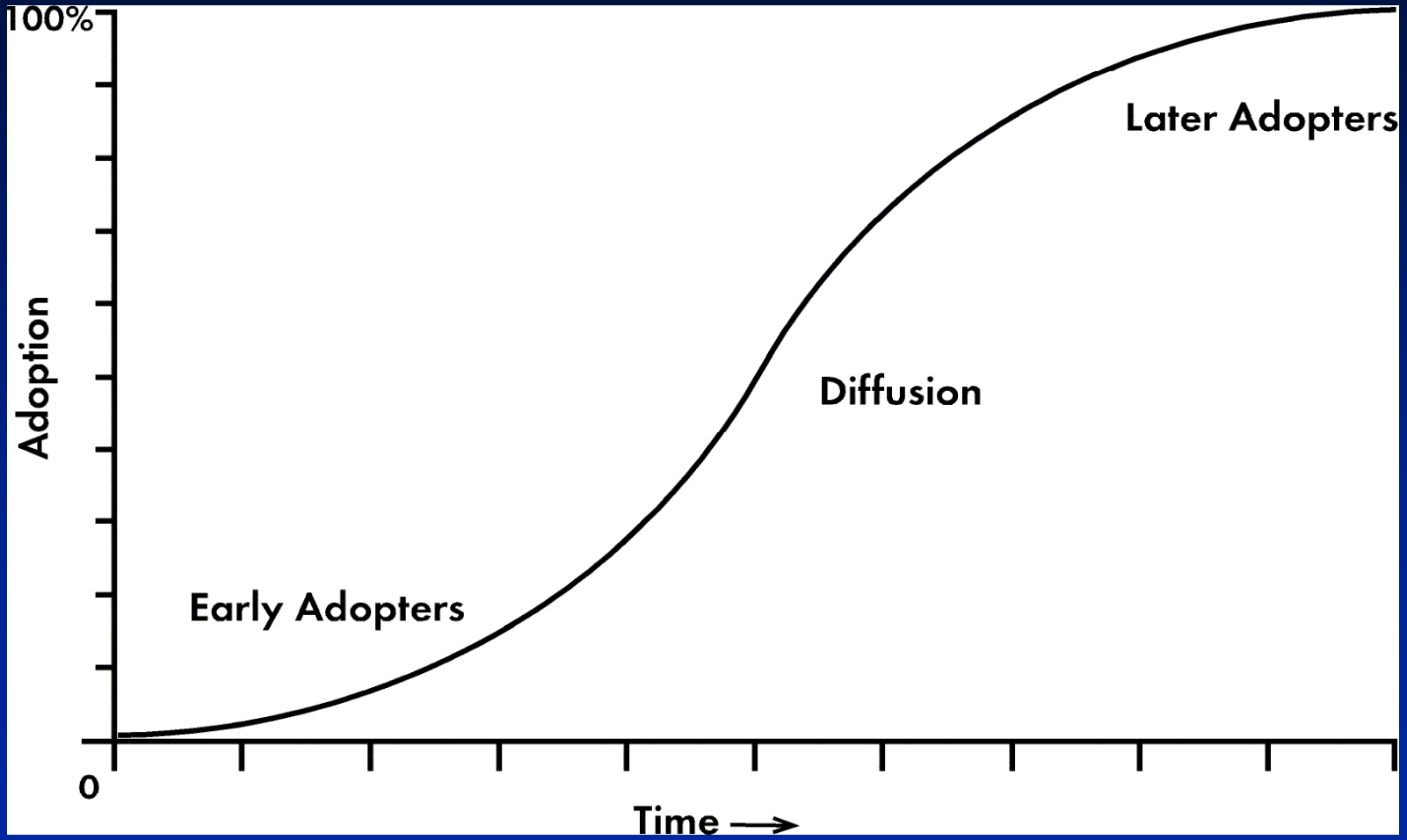
15 March 2010

Background

- Diffusion of innovation perspective
- 3 factors primarily account for the diffusion of voluntary-decision innovations
  - attributes of the innovation;
  - **influence from credible colleagues**;
  - timing & framing

Do one-to-one channels serve to communicate influence?

Diffusion is a social process



Does intervention through influence channels speed adoption?

- Yes; generally efficacious*
- The recruitment appeal should be normative
- Ask them to do what they normally do
- Personal evaluation must be positive

* Althabe F, et al *The New England Journal of Medicine* 358(18) 1929-1940.

Data-Collection in KP Colorado

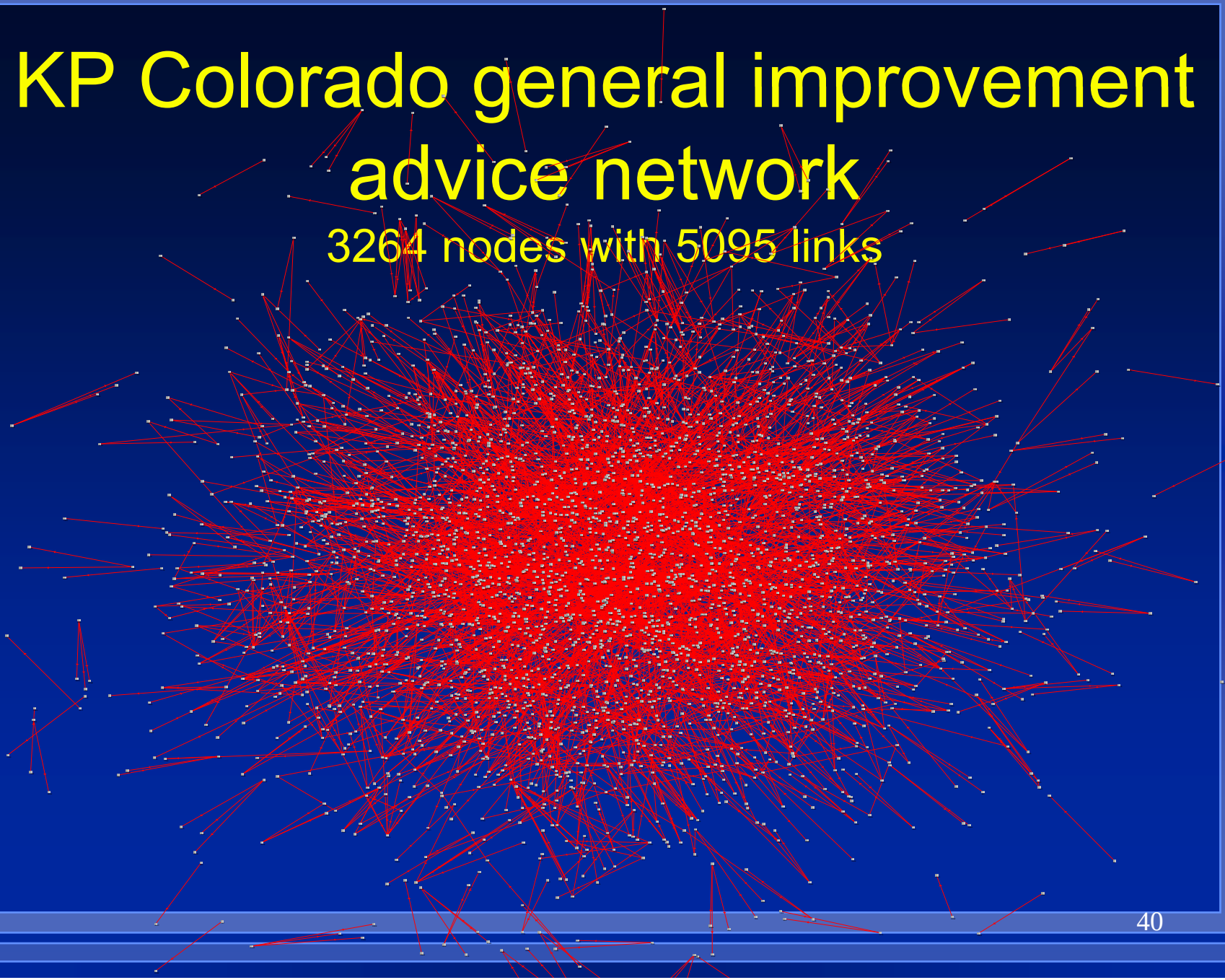
- Basic question: "*Whose advice do you most value about new ways of doing things better in KP Colorado*?" with two repeats
- QI project with IRB approval of confidentiality
- Email invitation, brief online questionnaire sent to all KP Colorado employees September 2009 (N = 6,446)
- Overall response rate 40% (2586/6446)

Example response rates

Allergy	17/32	(53%)
Ancillary systems	49/162	(30%)
Business operations	160/355	(45%)
Plastic surgery	7/15	(47%)
Prevention services	92/131	(70%)
Primary care	153/436	(35%)

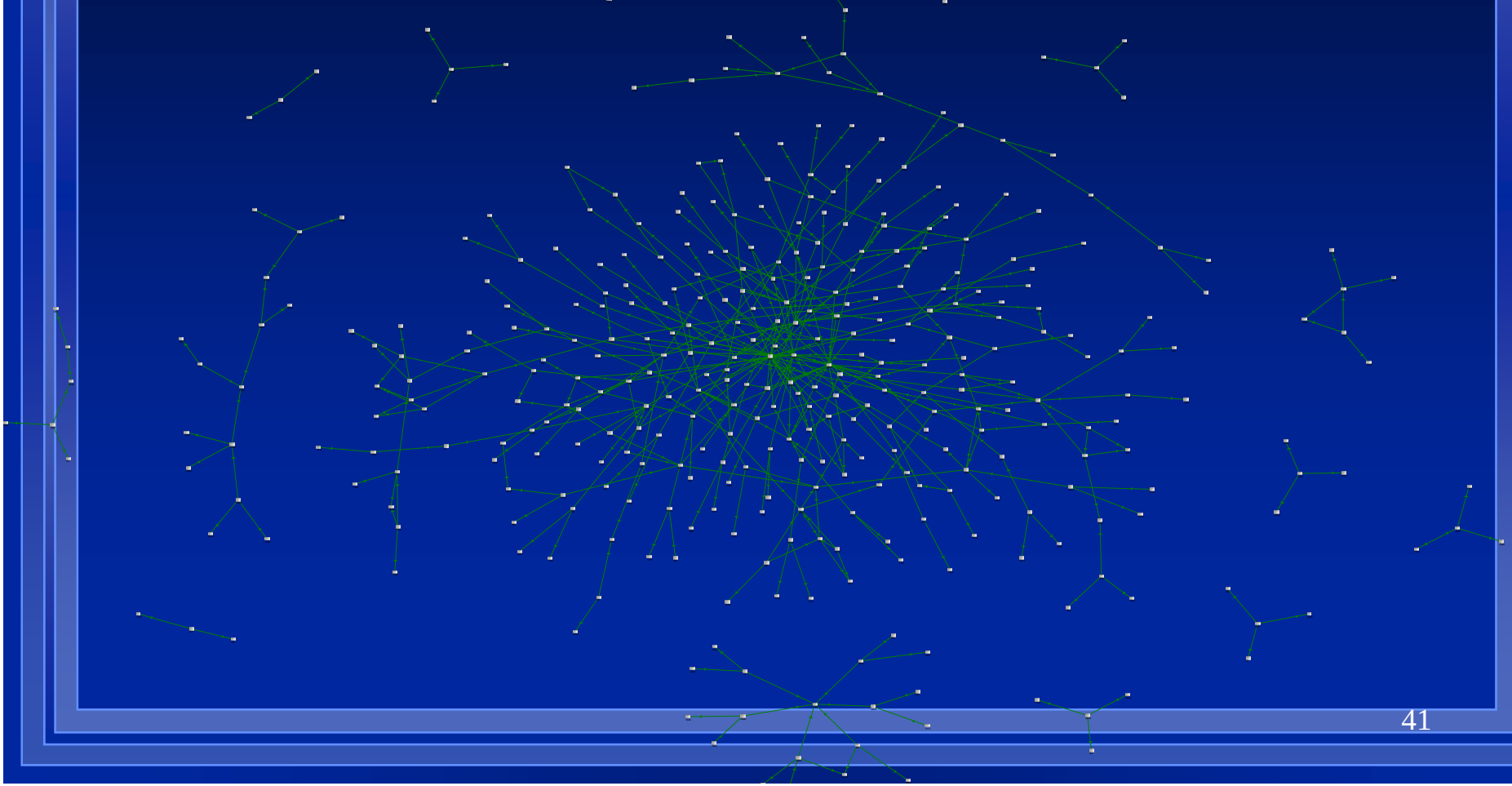
KP Colorado general improvement advice network

3264 nodes with 5095 links

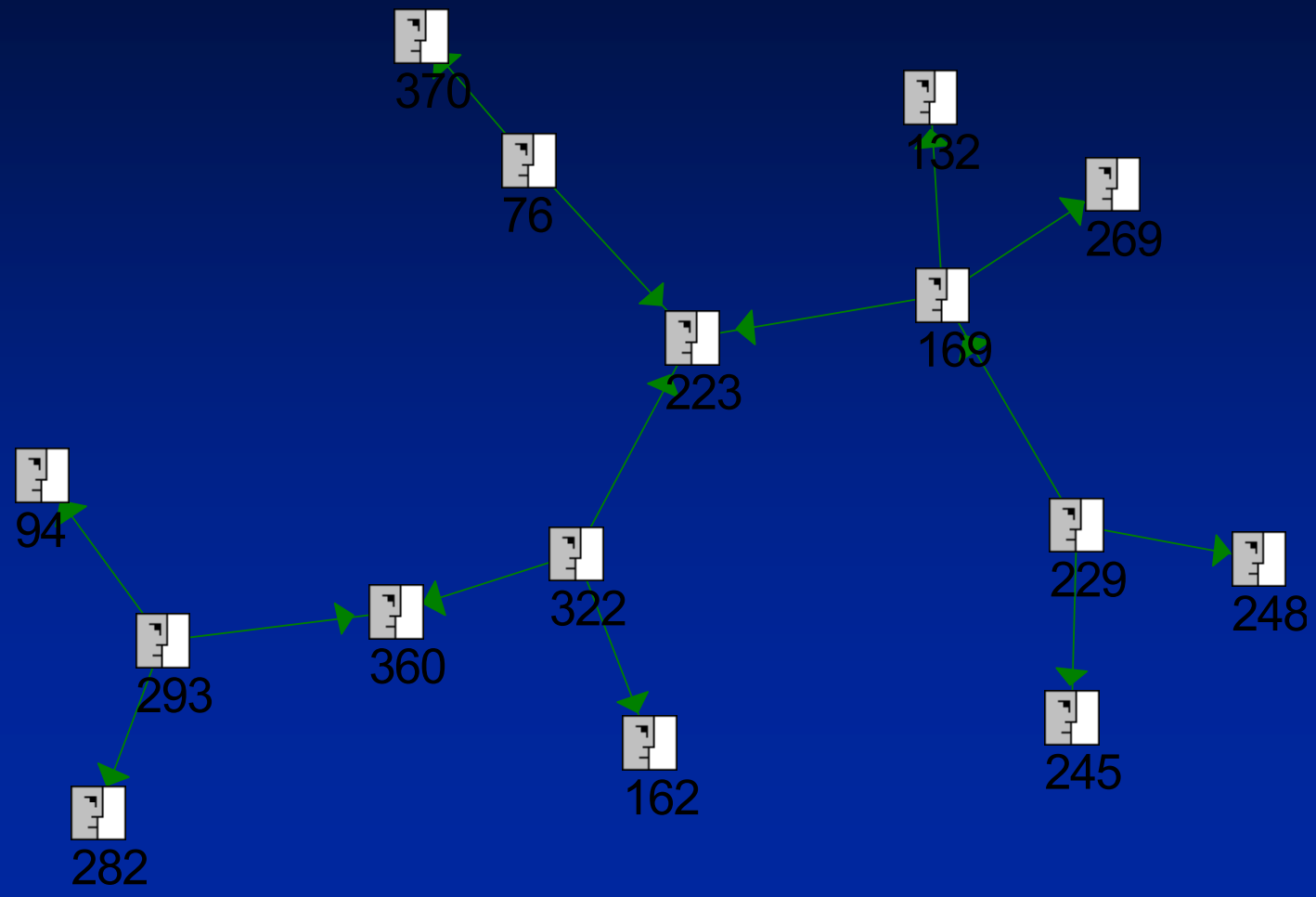


Physician general improvement advice network

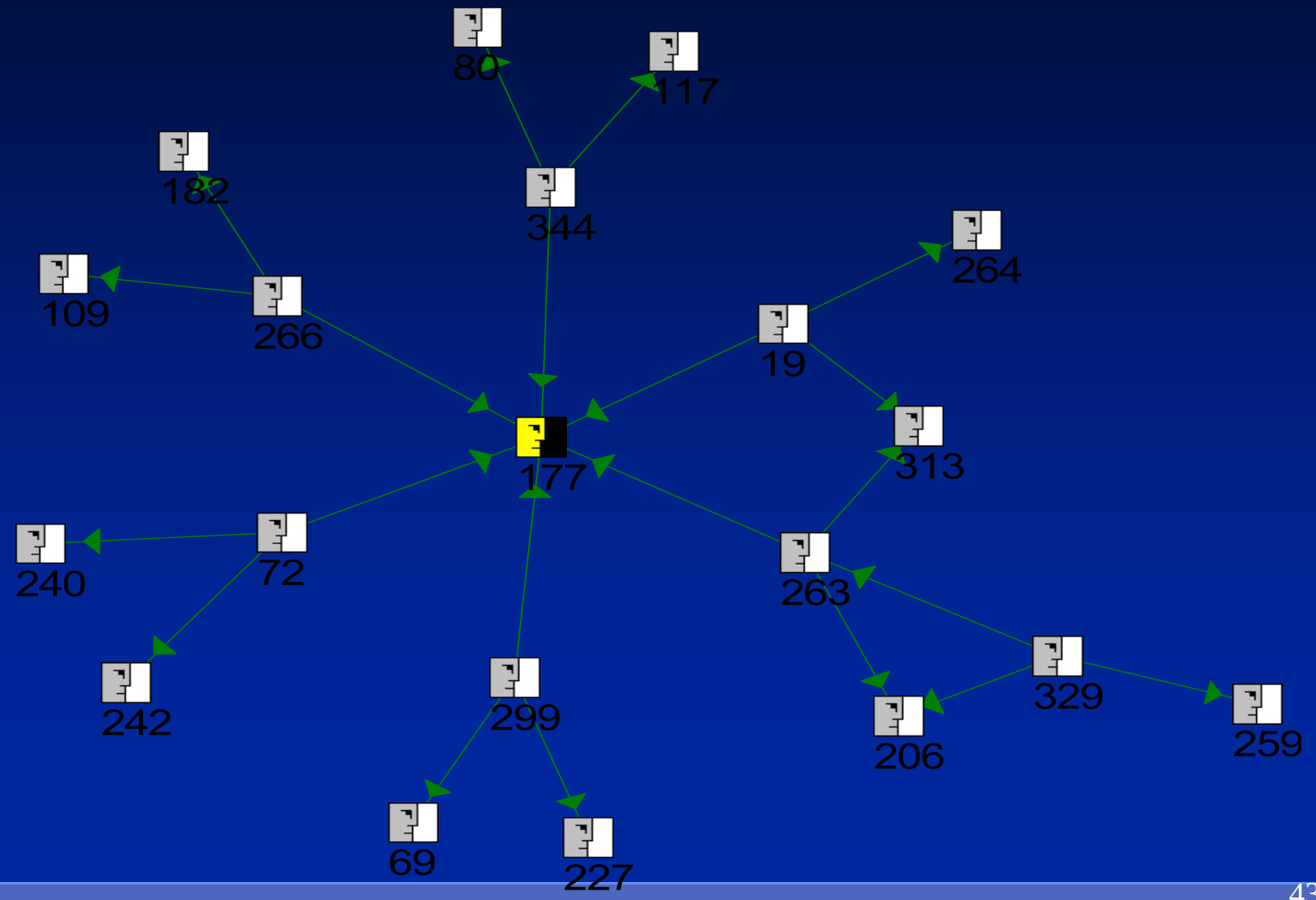
391 nodes, 486 links



One surgery department



Palliative care



Cancer care advice network

General surgery, Oncology, OBGYN, Radiology, Radiation therapy, Palliative care; 435 nodes, 544 links

General tentative conclusions

1. The organization is interconnected through existing one-to-one channels of advice-seeking behavior
2. In terms of advice-seeking about improvement, the organization is insular
3. For information, other channels predominate
4. Formal leaders share the organization with informal opinion leaders and bridging individuals
5. Advice groupings are department-based
6. Some formal leaders play one of these two key informal roles, some do not

Deriving the set of informal opinion leaders and bridging individuals

- Of the total number of 3,264 individuals who either responded to the survey or were named by respondents, we compiled a purposive sample of the top-listed individuals in each of 8 analyses
- Cut-points in each analysis were decided with an aim to attain a combined percentage of 3-8% of all employees
- After eliminating repeats, we derived N = 275 advice sources (4.2% of all employees)

Subtracting the formal leaders

- The 275 were identified by 1 or more of the 8 analyses
  - Range = 1 (number of people = 100) to 8 (number of people = 1); mean = 2.5; mode = 1; median = 2
- The 275 includes 59/105 (56%) formal leaders (defined as Executives, VPs, Senior Dir, Senior Leader, SLG, JLT, or with titles of Senior Director, Senior Leader, RDCs, or Chief)
  - 21% of informal leaders are also formal leaders

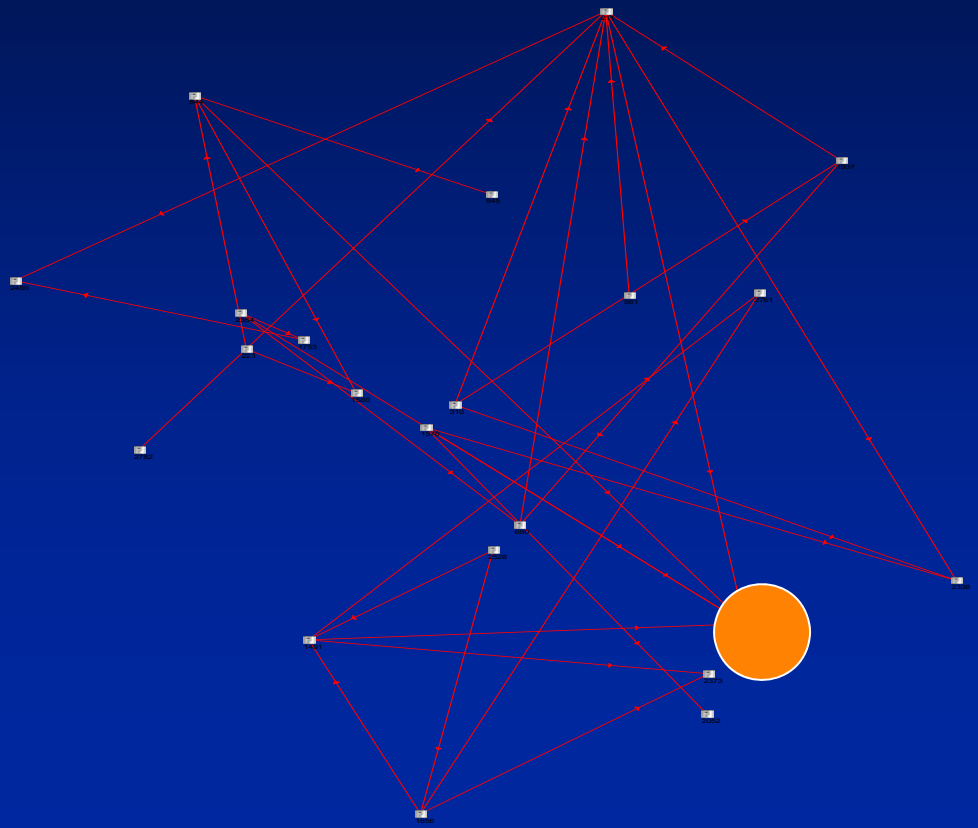
Number of informal opinion leaders/bridges is 216 (275-59)

Where are the KPCO informal opinion leaders?

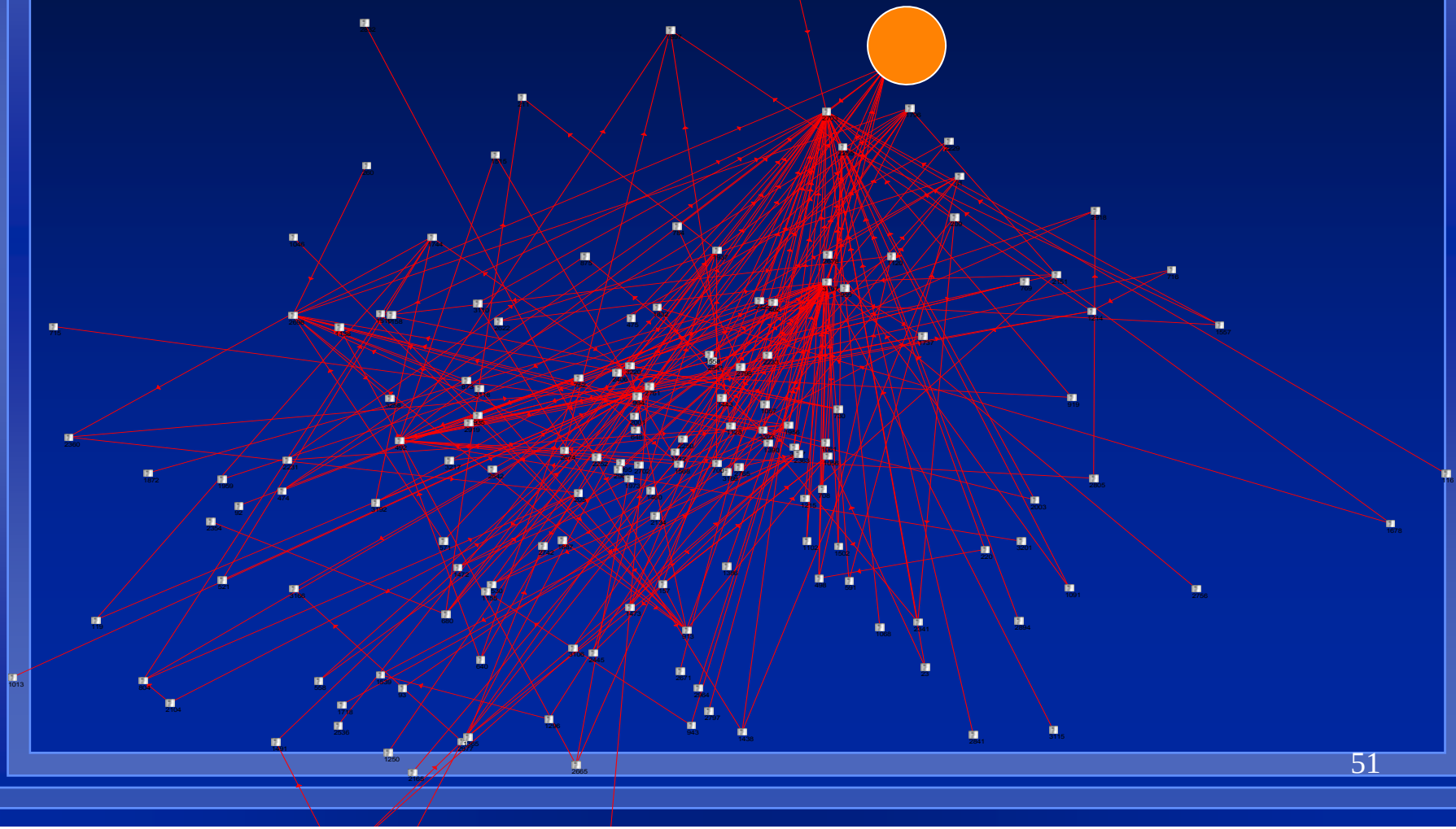
- All over!
- *For example (tentative numbers, not comprehensive):*
  - Call center (3)
  - Allergy (1)
  - Cardiology (3)
  - Chronic care coordination (3)
  - Corporate communication (2)
  - Dermatology (2)
  - Employee relations (5)
  - Family medicine (12)
  - Internal medicine (19)
  - Mental health (9)
  - Neurology (1)
  - Patient accounting (4)
  - OBGYN (9)

A typical KP Colorado employee's 2-step network neighborhood

An established employee's 2-step network neighborhood



A bridging individual's 2-step network neighborhood



Conclusions about channels for dissemination

- Within this complex organization, channels for dissemination exist
- This is a means for deriving a pull-based network in which motivation to participate is high
- These channels are one-to-one (face to face, texting, telephone, email, small group)
- Efficiency in dissemination is possible since individuals have very different degrees of influence through these channels

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Questions?

The Role of Channels in a Multi-Dimensional Effort to Spread EBPs

David H. Gustafson
University of Wisconsin
15 March 2010

Questions?