Practice-Based Research Network Research & Development

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Overview

- Practice-Based Research Networks PBRNs
 - Rationale / approach
 - Brief history

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- The process of developing new knowledge
 - Examples of PBRN research
- PBRN Organization & Development
 - Features
 - Principles
- Opportunities (what are you going to do?)

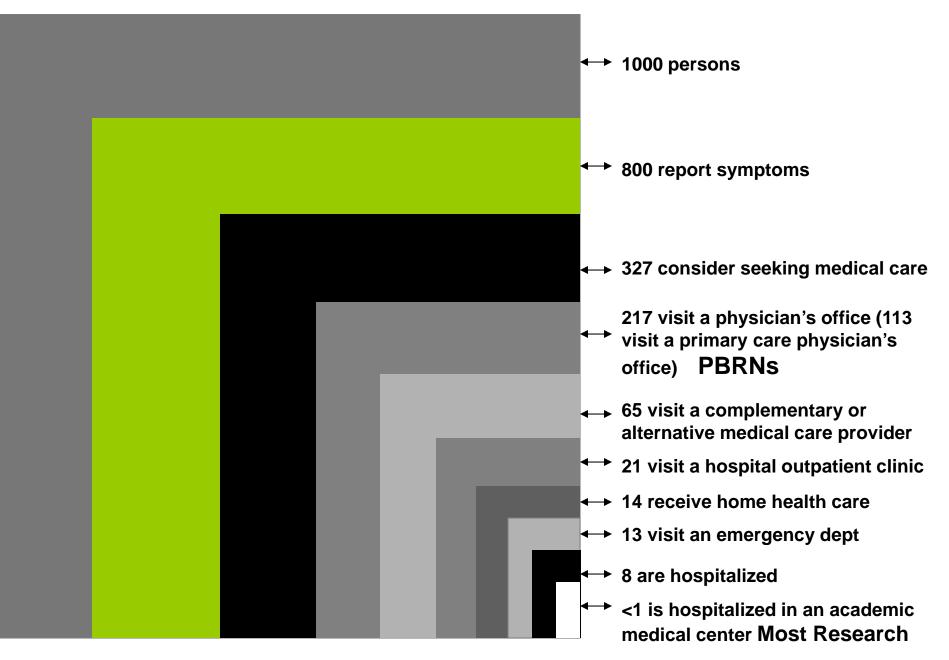


Fig. Results of a reanalysis of the monthly prevalence of illness in the community and the roles of various sources of health care. (Green LA et al., *N Engl J Med* 2001, 344:2021-2024)

PBRN Definition

- A group of practices devoted principally to the primary care of patients,
- Affiliated in their mission to
 - Investigate questions related to community-based practice
 - To improve the quality of primary care
- With an ongoing commitment to network activities
- A structure that transcends a single research project
- Often linking practicing clinicians with investigators
- Working to enhance the skills of network members

PBRN Approach

- Engage clinicians on the frontlines of patient care
 - Develop or frame research questions
 - Gather data
 - Interpret findings
 - Implement findings
- Top down and bottom up leadership
- Translation of research into practice and practice into research, on the problems that most people have most of the time.
- Produce findings that are generalizable, transportable & readily translated into practice
- Nutting P, Beasley J, Werner J. Practice-based research networks answer primary care questions. JAMA. 1999;281:686-688.
- Thomas P, Griffiths F, Kai J, O'Dwyer A. Networks for research in primary health care. *BMJ.* 2001;322:588-590.

Growth In U.S. PBRNs

- 1994: 28 active PBRNs in North America
- 2008: 111 active PBRNs
- 2015: 176

AHRQ. Practice-Based Research Networks - Research in Everyday Practice. <u>https://pbrn.ahrq.gov/</u>

Hickner J, Green LA. Practice-based Research Networks (PBRNs) in the United States: Growing and Still Going After All These Years. J Am Board Fam Med. 2015Sep-Oct;28(5):541-5.

Early PBRNs

- Sentinel Networks in the UK and Netherlands
- Ambulatory Sentinel Practice Network (ASPN)
- Dartmouth Cooperative Information Project (COOP)
- Pediatric Research in Office Settings (PROS)
- Wisconsin Research Network (WReN)

Universe of Primary Care PBRNs

- 176 active in US
 - Diversity in size, location and focus
 - Estimated access to >10% of patients
- Federations of PBRNs*
- AHRQ-funded PBRN Resource Center**
- Funding by AHRQ, RWJF, NIH, PCORI, CTSA, CCSGs

https://pbrn.ahrq.gov/pbrn-registry

- * https://pbrn.ahrq.gov/pbrn-registry/international-federation-primary-care-research-networks
- ** https://pbrn.ahrq.gov/

PBRNs Unite

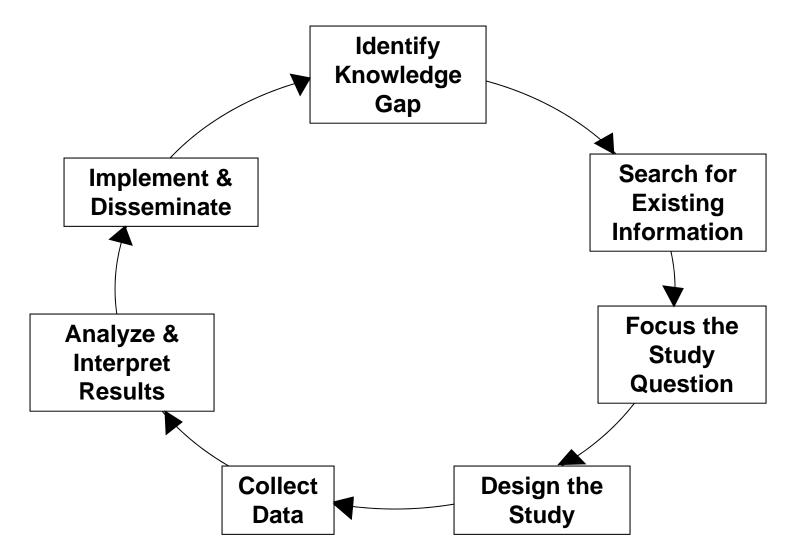
- Research and quality improvement*
- Researcher and participant**
- Practice & community**
 - Mold JW, Peterson KA. Primary care practice-based research networks: working at the interface between research and quality improvement. *Ann Fam Med.* 3 Suppl 1: S12-S20.
 5/2005. <u>www.annfammed.org/cgi/content/full/3/suppl_1/s12</u>
 - ** Westfall JM, VanVorts RF, Main DS, Herbert C. Community-based participatory research in practice-based research networks. Ann Fam Med 2006;4(1):8-14. <u>www.annfammed.org/cgi/content/full/4/1/8</u>
 - ** Macaulay AC, Nutting PA. Moving the frontiers forward: incorporating community-based participatory research into practice based research networks. Ann Fam Med 2006;4(1):4-7.

The Evolving Field of PBRNs

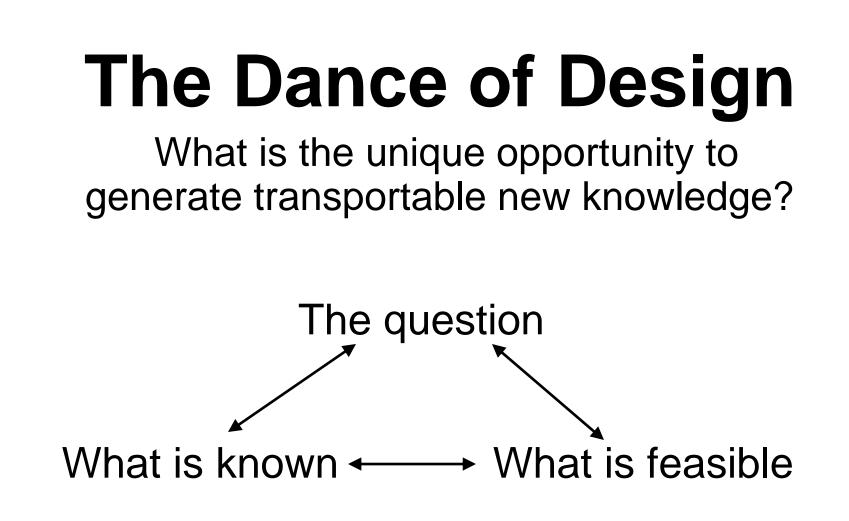
- More system driven / supported
- More disciplines involved
- Emerging new models that
 - Recognize lack of 'slack' in current practice and organizations
 - Use existing (big) data
 - Build on organizations & relationships that meet other goals
 - Link with public health, patient groups...

Werner JJ, Stange KC. Praxis-based research networks: An emerging paradigm for research that is rigorous, relevant, and inclusive. *J. Am. Board Fam. Med.* 2014;27:730-735.

Generating Transportable New Knowledge



Adapted from: Nutting, PA, Stange, KC. Practice-based research: The opportunity to create a learning discipline. In: The Textbook of Family Practice, 6th Edition. Rakel RE (ed.), W. B. Saunders Company, 2001.



Does the project develop network capacity? Is it a deposit or a withdrawal from the relationship accounts?

7 Questions to Get Started

- 1. What is your research question?
- 2. What already is known, and how can this help you to refine your question?
- 3. Who would be the participants for the study (for example, patients in your practice) ?
- 4. What would the study measure?
- 5. How would you collect data?
- 6. How can feasibility considerations (money, effort, time, skills, potential collaborators, etc.) help you to refine your question and research plan?
- 7. Why is the study worth doing?

Findings from PBRNs that change practice

Women with a spontaneous abortion rarely need a D&C.

- Ambulatory Sentinel Practice Network (ASPN)
- Green LA, Becker LA, Freeman WL, Elliott E, Iverson DC, Reed FM. Spontaneous abortion in primary care: a report from ASPN, part 1. J Am Board Fam Pract. 1988; 1:15-23.

Antibiotics are not needed for all children with otitis media

- ASPN & International Collaborative Network
- Froom J, Culpepper L, Jacobs M, DeMelker R, Green L, vanBuchem L, Grob P, Heeren T. Antimicrobials for acute otitis media? A review from the International Primary Care Network. *BMJ*. 1997;315:98-102.
- Green LA, Fryer GE Jr, Froom P, Culpepper L, Froom J. Opportunities, challenges, and lessons of international research in practice-based research networks: the case of an international study of acute otitis media. Ann Fam Med. 2004 2(5):429-33.

Tailored QI strategies lead to sustained increases in preventive service delivery

• RAP

- Goodwin MA, Zyzanski SJ, Zronek S, et al. A clinical trial of tailored office systems for preventive service delivery: the Study To Enhance Prevention by Understanding Practice (STEP-UP). *Am J Prev Med.* 2001; 21:20-28.
- Stange KC, Goodwin MA, Zyzanski SJ, Dietrich AJ. Sustainability of a practice-individualized preventive service delivery intervention. *Am J Prev Med*, 2003; 25:296-300.
- Ruhe MC, Weyer SM, Zronek S, Wilkinson A, Wilkinson PS, Stange KC. Facilitating Practice Change: Lessons from the STEP-UP clinical trial. Prev Med, 2005; 40:729-734.

Diabetic patients blame themselves for poor control and change from 'turning points' in family & friends.

• SNPSA

- Reichsman A, Werner J, Cella P, Bobiak S, Stange KC, SNPSA Diabetes Study Working Group. Opportunities for improved diabetes care among patients of safety net practices: a Safety Net Providers' Strategic Alliance (SNPSA) study. *J. Natl. Med. Assoc.* 2009;101(1):4-11.
- Madden MH, Tomsik P, Terchek J, et al. Keys to successful diabetes self-management for uninsured patients: social support, observational learning, and turning points: a safety net providers' strategic alliance study. *J. Natl. Med. Assoc.* 2011;103(3):257-264.

Findings from PBRNs relevant to policy

Forced discontinuity diminishes quality of primary care

- RAP
- Flocke SA, Stange KC, Zyzanski SJ. The impact of insurance type and forced discontinuity on the delivery of primary care. *J Fam Pract*. 1997;45:129-135.

Care of the "secondary patient" is frequent and well accepted in family practice.

- RAP & ASPN
- Flocke SA, Goodwin MA, Stange KC. The effect of a secondary patient on the family practice visit. *J Fam Pract*. 1998;46:429-434.
- Orzano AJ, Gregory PM, Nutting PA, Werner JJ, Flocke SA, Stange KC. Care of the secondary patient in family practice. A report from ASPN. *J Fam Pract*. 2001; 50:113-118.

Having *both* an FQHC medical home *and* continuous health insurance is critical to optimal chronic disease management

- OCHIN PBRN
- Gold R, DeVoe J, Shah A, Chauvie S. Insurance continuity and receipt of diabetes preventive care in a network of federally qualified health centers. Med Care. 2009 Apr;47(4):431-9.

Facilitation can yield dramatic improvements in quality and help launch an ACO.

- Rainbow Research Network
- Meropol SB, Schiltz NK, Sattar A, et al. Practicetailored facilitation to improve pediatric preventive care delivery: A randomized trial. *Pediatrics.* 2014.

PBRN methodology findings

PBRN weekly return cards are accurate.

• ASPN

- Green LA. The weekly return as a practical instrument for data collection in office-based research: a report from ASPN. *Fam Med*. 1988;20:185-188.
- Green LA, Reed FM, Miller RS, Iverson DC. Verification of data reported by practices for a study of spontaneous abortion. *Fam Med.* 1988;20:189-191.
- Westfall JM, Zittleman L, Staton EW, Parnes B, Smith PC, Niebauer LJ, Fernald DH, Quintela J, Van Vorst RF, Dickinson LM, Pace WD. Ann Fam Med. 2011;9(1):63-8

Patient Engagement Panel

- OCHIN PBRN
- Arkind J, Likumahuwa-Ackman S, Warren N, Dickerson K, Robbins L, Norman K, DeVoe JE. Lessons Learned from Developing a Patient Engagement Panel: An OCHIN Report. J Am Board Fam Med. 2015 Sep-Oct;28(5):632-8.

A study of the card study method can streamline IRB approval by submitting new studies as addenda

- RAP, SNPSA
- Hamilton MD, Cola PA, Terchek JJ, Werner JJ, Stange KC. A novel protocol for streamlined IRB review of Practice-based Research Network (PBRN) card studies. *J. Am. Board Fam. Med.* 2011;24(5):605-609.

A NAMCS Replication Study is a Cool Way to Show the Representativeness of the PBRN and Answer Other Questions at the Same Time

- Several PBRNs
- <u>www.cdc.gov/nchs/ahcd/ahcd_survey_instruments.htm</u>

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Features of PBRNs

Geography & Size

- International International Collaborative Network, IFPBRN
- National / bi-national (ASPN), NatNet, PROS, PPRNet
- State WReN, MAFPRN
- Regional COOP, UPRNet, RAP
- Single health care system PPRG, Rainbow Network
- Common EMR Practice Partners Network
- Consortium of Networks FPBRN

Affiliations

- National Academy
 - PROS, AAFP Research Network
- State Academy – WReN, MAFPRN
- Academic Institution or Entity – RAP, NEON, COOP
- Hospital / Health System
 _ PPRN
- EMR Vendor or Service Organization – PPN, OCHIN PBRN

Initiating Vision or Event

- Mission
- Individual/group with a bee in the bonnet
- Belief in wisdom gained from practice
- EMR system
- Single question or idea
- Funding opportunity
- QI or sharing best practices

Mold JW, Peterson KA. Primary care practice-based research networks: working at the interface between research and quality improvement. *Ann. Fam. Med.* 2005;3 Suppl 1:S12-20. <u>http://annalsfm.highwire.org/cgi/content/abstract/3/suppl_1/s12</u>

Leadership

- Network
 - -Top down
 - -Bottom up
 - -Coalition / whole system leadership
- Specific projects
 - -Network leader(s)
 - -Clinician member(s)
 - -Outside principal investigator

Thomas P, Griffiths F, Kai J, O'Dwyer A. Networks for research in primary health care. *BMJ.* 2001;322(7286):588-590.

Thomas P, Graffy J, Wallace P, Kirby M. How primary care networks can help integrate academic and service initiatives in primary care. Ann. Fam. Med. 2006;4(3):235-239.

Thomas P. Integrating Primary Health Care: Leading, Managing, Facilitating. Oxford, UK: Radcliffe Publishing; 2006.

Idea Generation

- Clinician's practice
- Content experts
- Funders
- Group process

Project Design/Refinement

- Small, transdisciplinary group
- Practitioner perspective
- Methods expertise
- Content expertise
- Access to literature
- Pilot testing

Funding

- Opportunistic, ad hoc
- Grants

 –NIH, AHRQ, HHS, PCORI
 –Foundations
- Academic department underwriting
- CTSAs, other center grants
- Professional organization underwriting
- Endowment

Skill Development

- Nike school
 - Working through specific projects
 - Watching
 - Contributing to different steps in different projects
- Workshops
- Fellowships
- Distance learning

Levels of Involvement

- Leadership
 - Network administration
 - Steering committee
 - Specific project
 - Subnetwork
 - Practice
- Contribute data
- Participate in different stages from idea to implementation
- Varies over time and project

Data Collection

• Data collection by

- Practice
- Research team
- EMR support
- Health care system

Data collection method

- "Weekly return" card
- Computerized data
- Medical record
- Survey / interview
- Direct observation

Data Analysis

- Network staff
- Investigator

What Are The Characteristics Of Successful Networks?

- Clear clinician involvement network governance & operation
- Clear rewards for clinicians participating
- A "network of researchers" who have learned how to work within a network
- Visionary, steadfast or servant leadership
- A huge dose of commitment and voluntarism by all players
- A diversified revenue stream: consistent infrastructure support and a varied stream of project revenue
- A benevolent academic program(s) that does not try to "own" or "use" the network

Scholarly Output

- Academician or clinician
- Clinician academician partnership
- Collaborators
- Writing / editing teams
- Participant reviewers
- Making time
- Write the abstract first

A Few Take-Home Ideas/Principles

- Consider what's in it for (diverse) participants
- Everyone / everything doing what it does best
- Both top-down and bottom-up
- Both research and development
- Natural experiments of the policy environment
- Mix of in-person and asynchronous contact
- Blurring QI and research
- Diversification of funding
- Lean, expandable infrastructure
- Part 4 Maintenance of certification
- Reflection / action cycles (make time for reflection)

What are you going to do?

- Learn by collaborating on a PBRN project?
- Provide 'sweat equity' on a else's project?
- Work on an ongoing PBRN study?
- Propose a new study to a PBRN?
- Start out with a card study?
- Characterize a new PBRN with NAMCS data?
- Work to draw out clinician questions?
- Start a patient advisory committee?
- Link practice, system and public health data?
- Launch a new (kind of) PBRN?
- ???

Presentations available at:

http://blog.case.edu/jjw17/

