



Practice-Based Research Networks in the VHA: Supporting Collaboration to Accelerate Improvement

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We'll cover:

- What is a PBRN.
- Why do we do it?
- Examples of research done in PBRNs
- The South Texas VA Primary Care Research Network
- Dental Practice-based Research in the VA



What is a Practice-based Research Network?

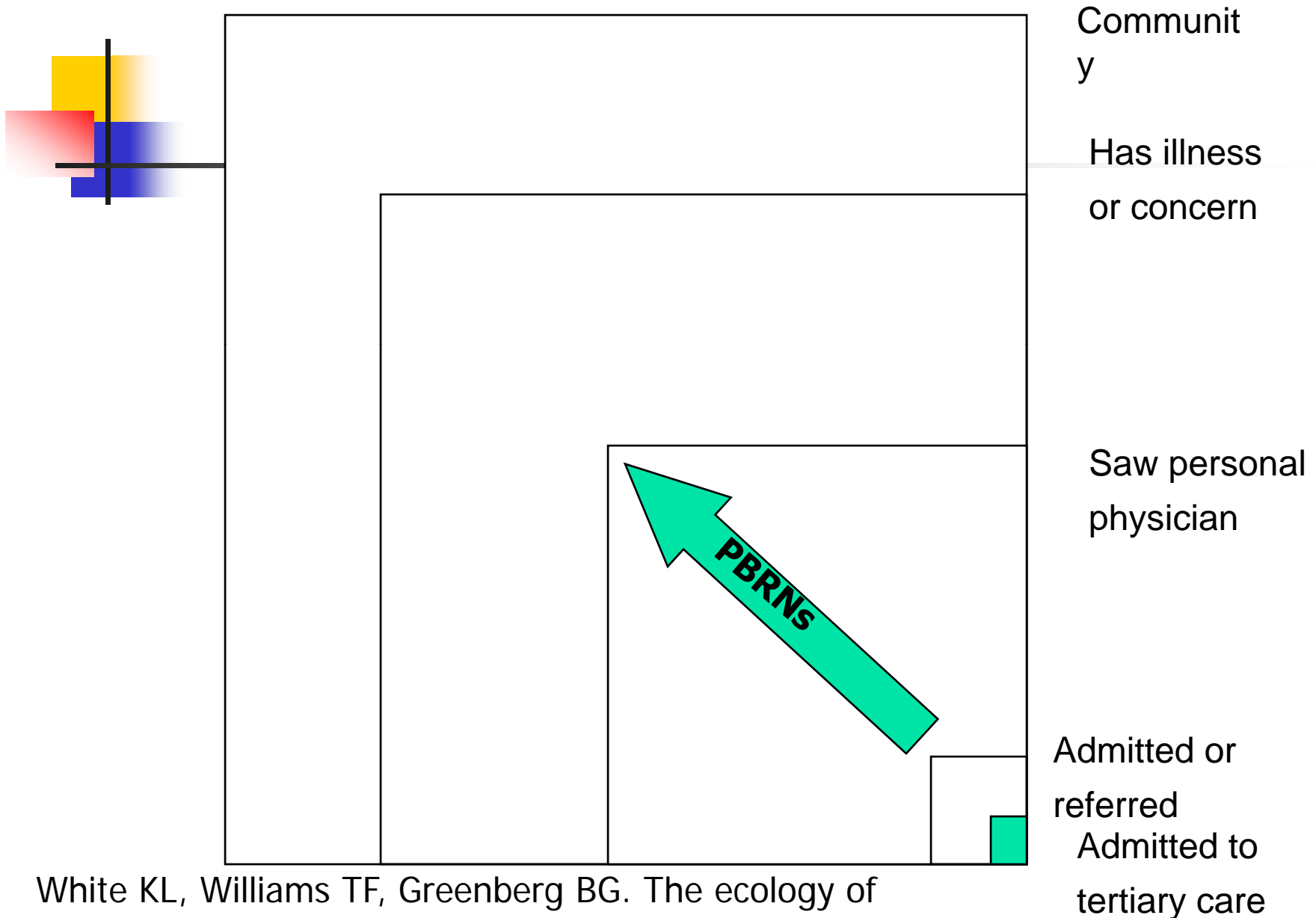
- An organization of clinicians and researchers, **united by a shared commitment to expand the science base of primary care** practice through systematic inquiry to better understand the health and health care events that unfold daily in their practice setting.



Why do Practice-Based Research?

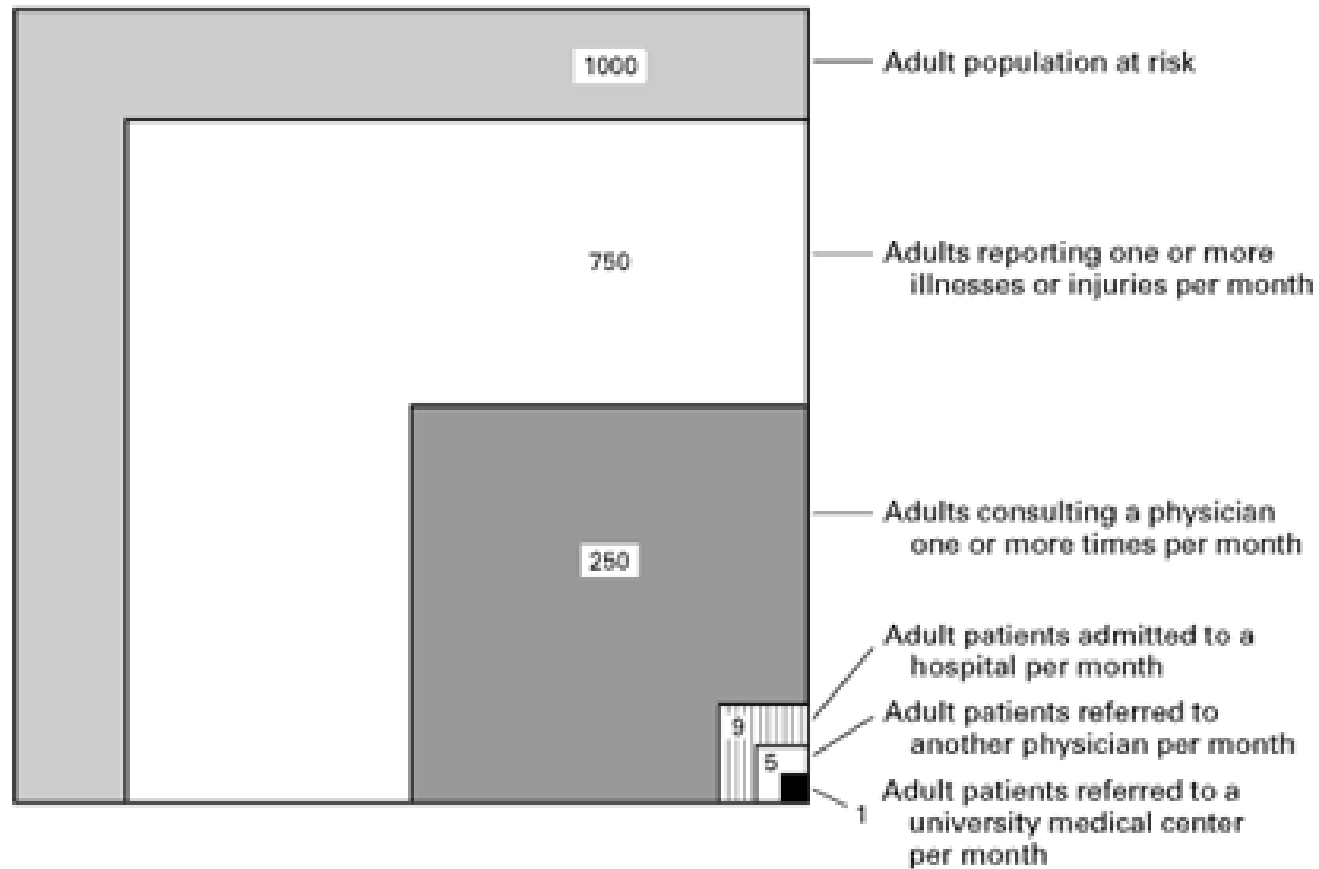
- Practice-based research informs the care that most people receive most of the time.

Kerr White and the Ecology of Medical Care



White KL, Williams TF, Greenberg BG. The ecology of medical care. N Engl J Med 1961;265:885-92

Ecology of Medical Care Revisited



Green LA et al. NEJM 2001;344:2021-2025



Why Do Practice-based Research?

- Examine health and health care phenomena in typical patients in typical primary care settings
- Answer questions of great relevance to practicing clinicians
- Capture the wisdom, insight, and experience of practicing clinicians
- Reunite practice and research
- It's fun and energizing*

*Nityamo Sinclair-Lian, Robert L. Rhyne, Shirley H. Alexander, and Robert L. Williams
Practice-based Research Network Membership is Associated with Retention of Clinicians in Underserved Communities: A Research Involving Outpatient Settings Network (RIOS Net) Study. J Am Board Fam Med, July-August 2008; 21: 353 - 355

Why do Practice-Based Research?

- “If we want more evidence-based practice we need more practice-based evidence.”

Lawrence Green, MD



Green LW. Public health asks of systems science: to advance our evidence-based practice, can you help us get more practice-based evidence? Am J Public Health 2006; 96: 406–9



Why do Practice-Based Research?

Life isn't only seeing sick kids, old people with many medical problems in nursing homes, and patients set on a path of self destruction. It is being able to ask a question about a medical problem, and arriving at a conclusion by doing a study with our peers. It's avoiding "burn out" while expanding our horizons and helping patients.

**Catherine Kroll
Gwinn, Michigan**



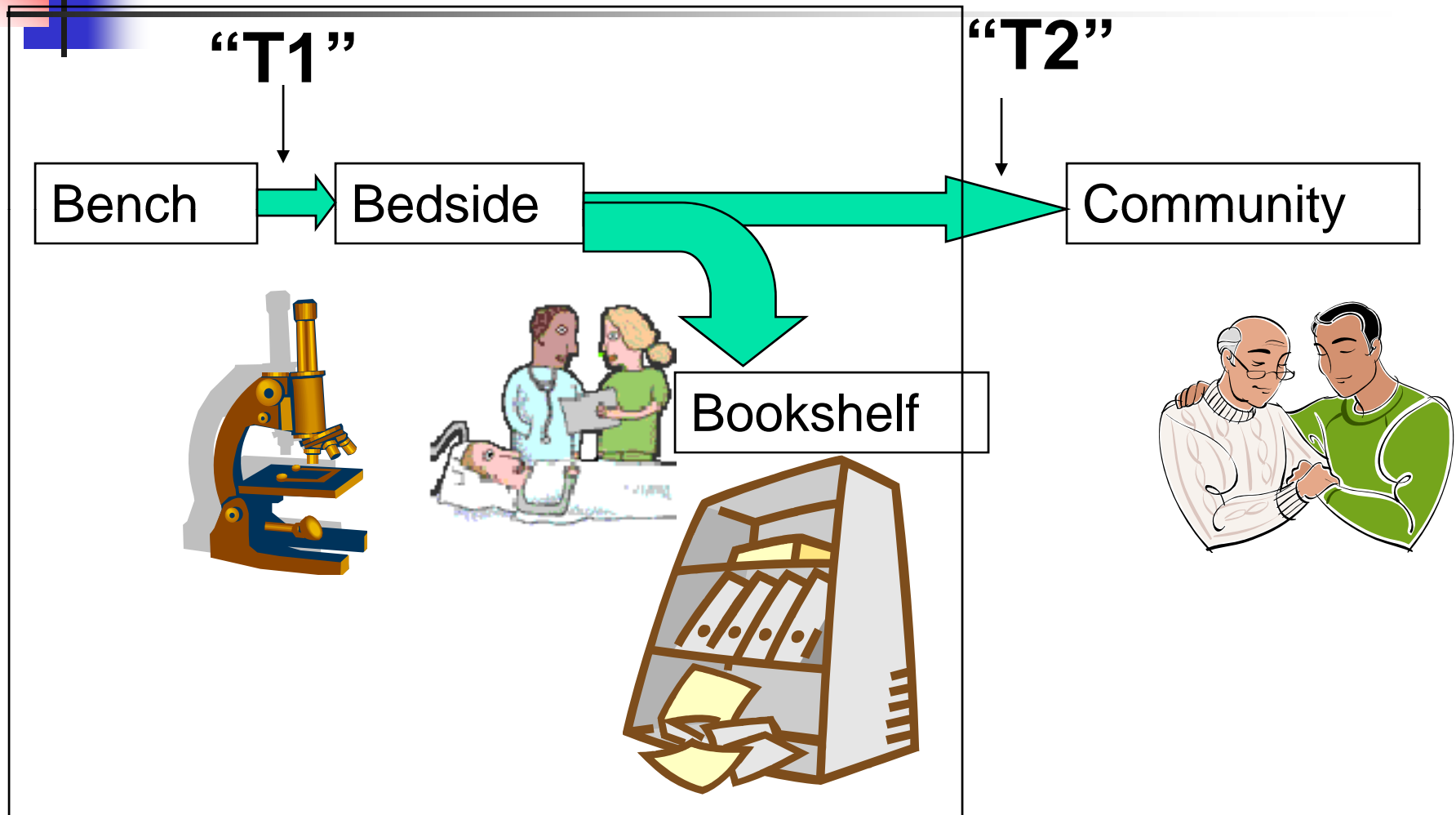
Why do Practice-Based Research?

There is a sense that what we are doing is not only right, but is particularly important in these times of turmoil in medicine. As we try to solve our health care problems, it is becoming increasingly apparent that the answers lie in primary care and cost effective medicine, the understanding of which depends on practice based research.

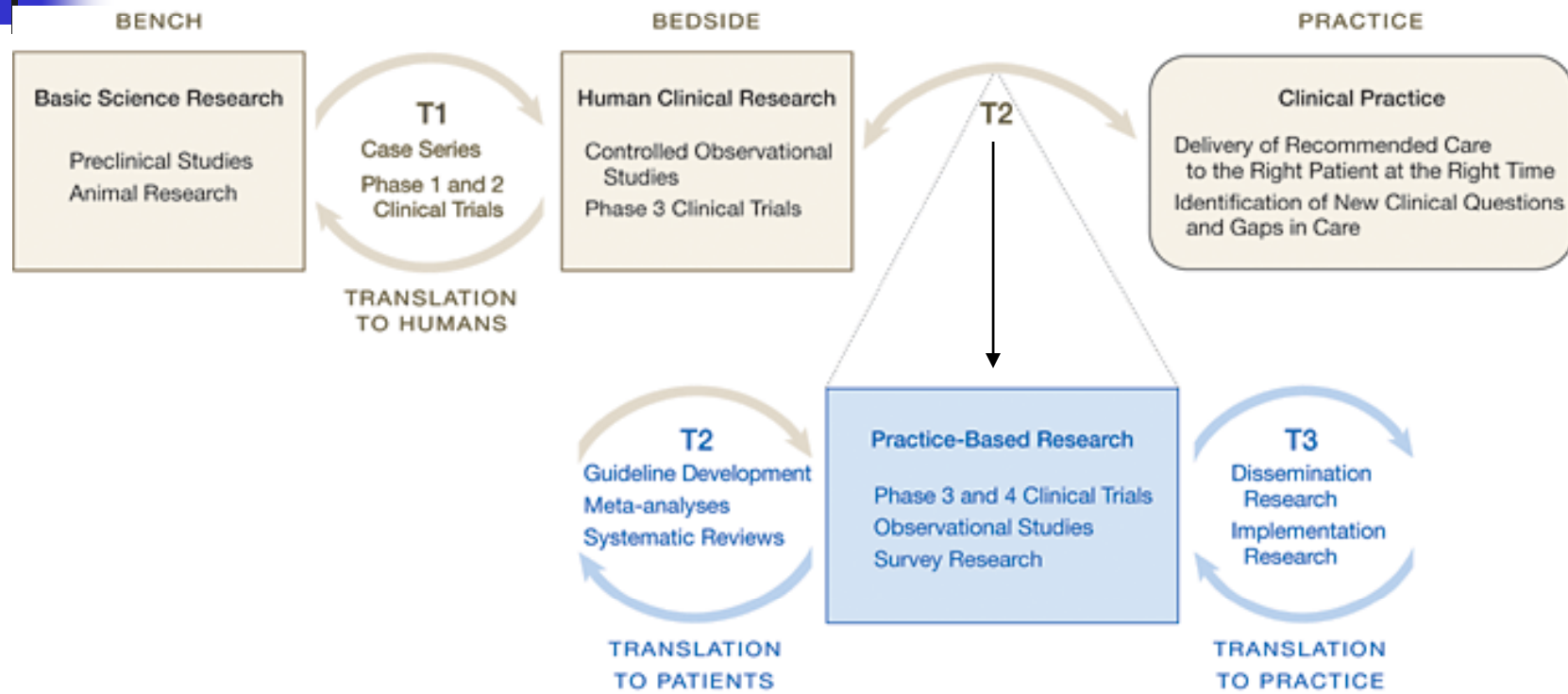
**Tillman Farley
Brighton, Colorado**

Translational Science

The Academic Health Science Center:



"Blue Highways" on the NIH Roadmap



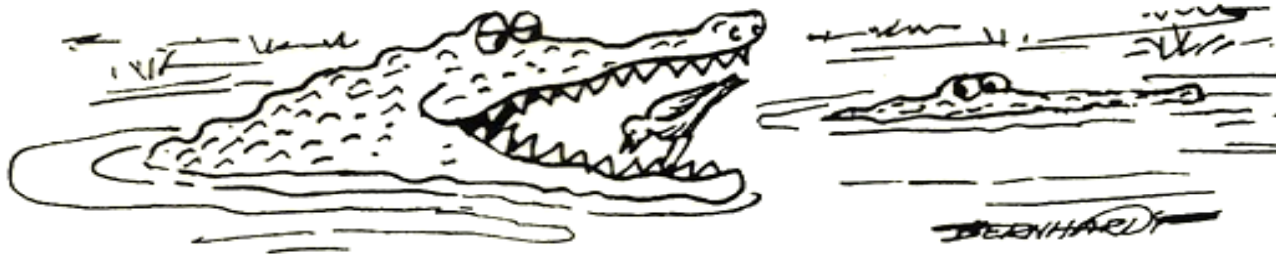
Westfall, J. M. et al. JAMA 2007;297:403-406.



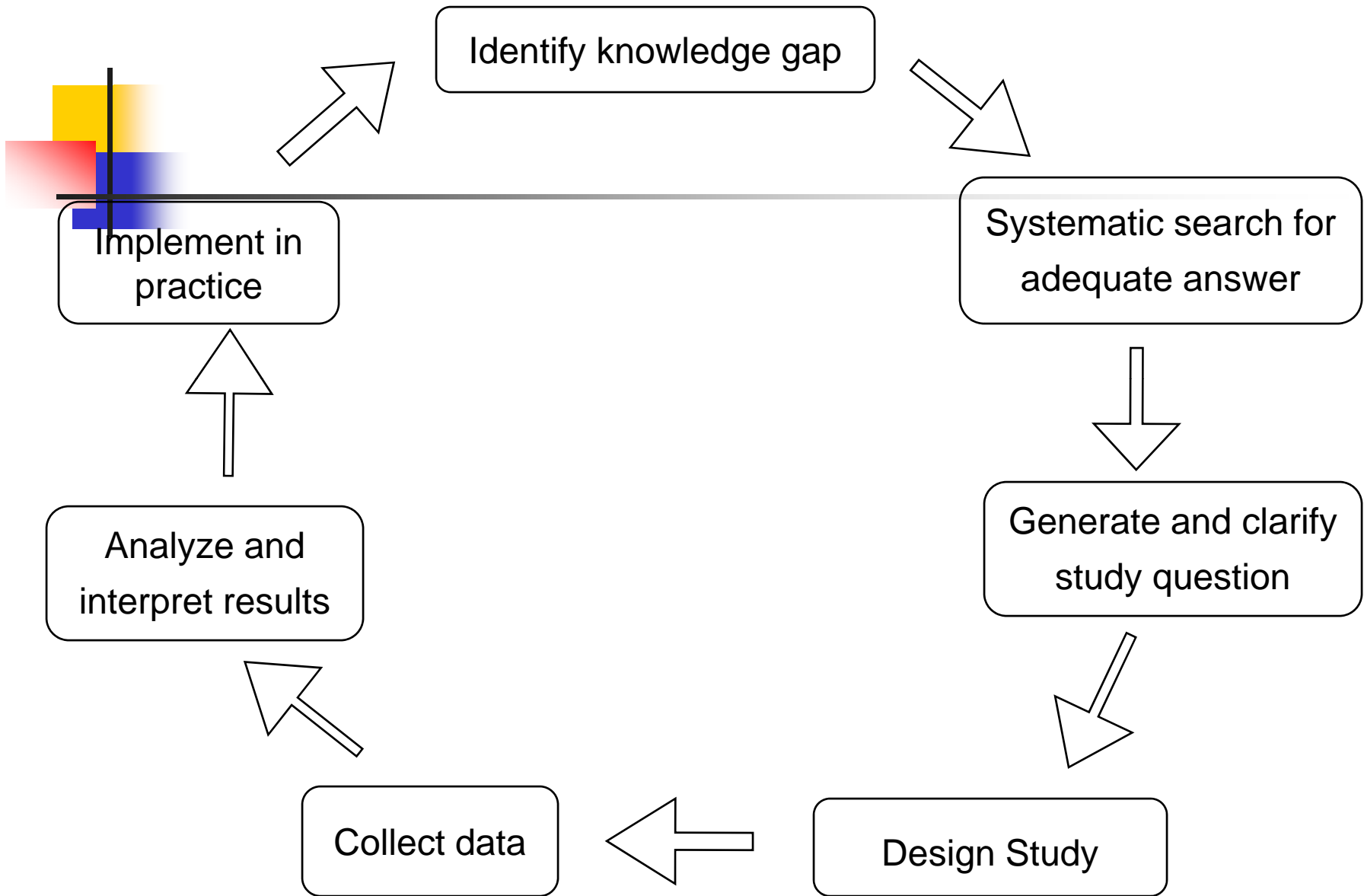
Methods: How do we do it?

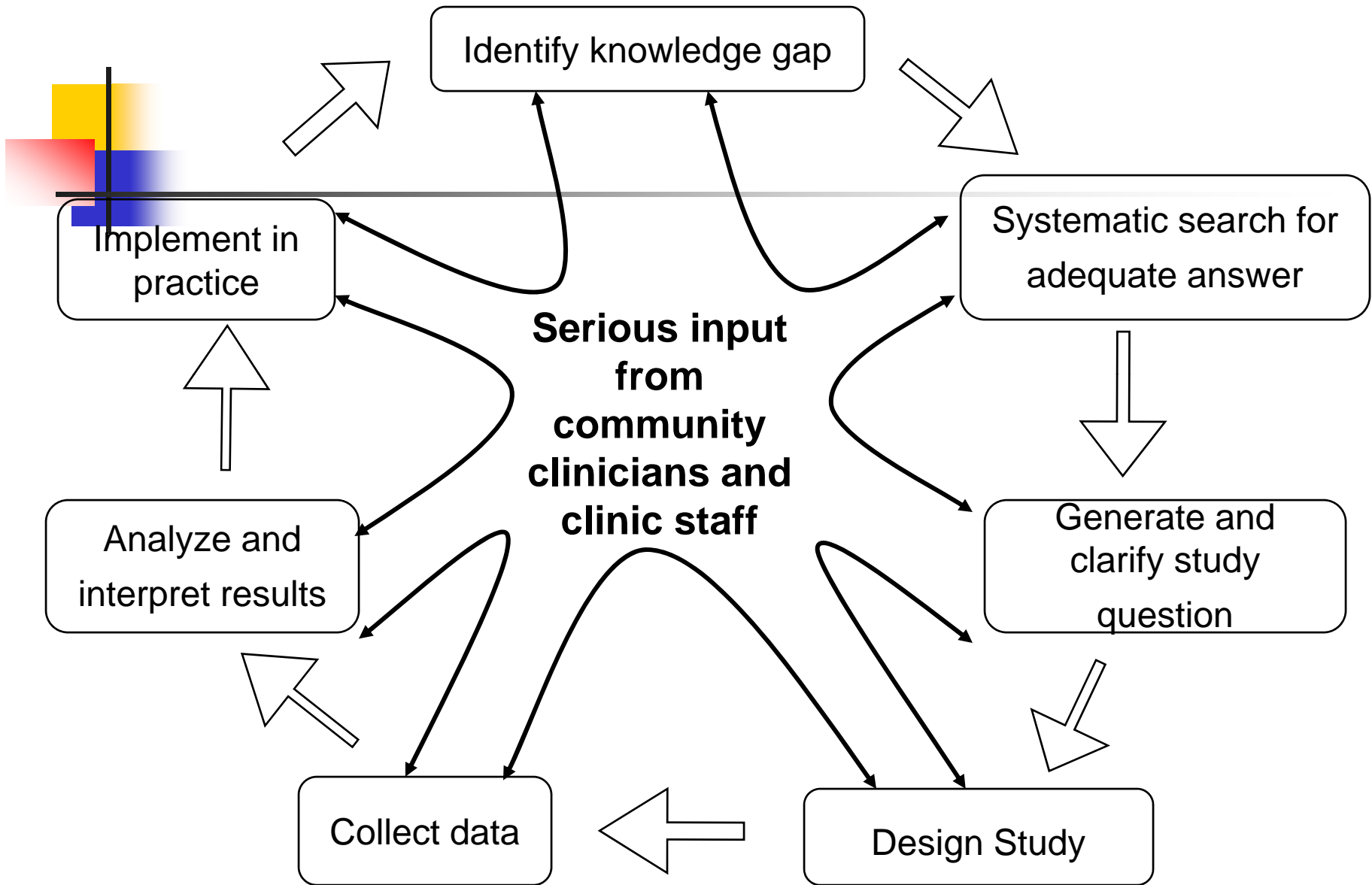
- NOT just research *in* practice settings
- Research *with* practices, with the physicians, nurses, office staff, and patients.
- Principles of participatory research:
 - trust building,
 - long term relationships,
 - recognition and incorporation of local expertise,
 - shared decision making, and
 - identification of relevant clinical questions.

Not what we have in mind!



**We have a collaborative arrangement;
he cleans my teeth and then I eat him.**







History of PBRNs

- Dutch Sentinel Stations – 1970
- Dartmouth COOP Project – 1978
- Ambulatory Sentinel Practice Network – 1981
- Pediatric Practice Research Group – 1984
- Pediatric Research in Office Settings – 1985
- Other regional networks in MI., MN., WI. in mid 1980's
- Dental, Mental Health, Pharmacy PBRNs started in last 10-15 years



Current status of practice-based research networks

- Over 100 regional and national primary care networks in the U.S. in 2007
- National Networks
 - PROS: pediatric research in office settings
 - AAFP NRN
 - ACPNet
- Not just primary care
 - Dental
 - Nurse Practitioners
 - Pediatrics

PBRN Primary Care Practice-Based Research Networks

Research in Everyday Practice

- Home
- Resource Center
- About PBRNs
- Events
- PBRN Registry
- PBRN Information**
- PBRN Networks by Acronym
- Peer Learning Groups
- Resources
- Funding Opportunities
- FAQs
- Contacts
- Sitemap
- Stay Informed
- [Subscribe to Updates / Submit Feedback](#)



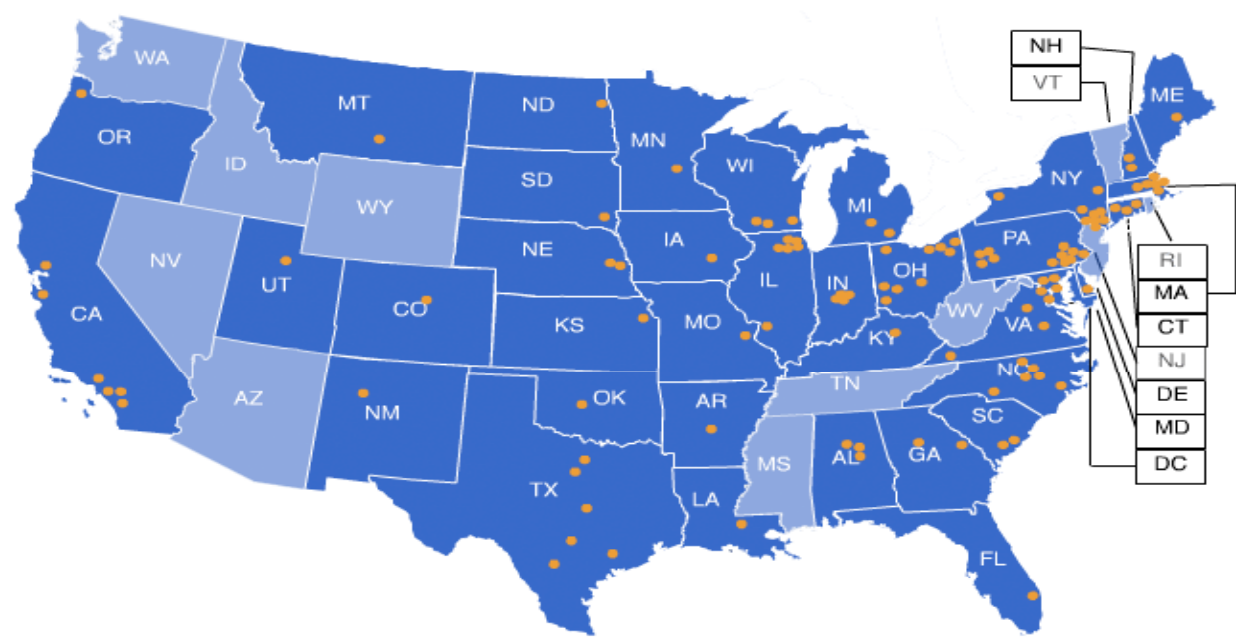
PBRN Networks

Select a State within the U.S. map below to view the current PBRN networks within that State.

[Networks Listed in Alphabetical Order by Acronym](#)

[US Networks](#) | [International Networks](#) | [Affiliate Networks](#)

[Search for PBRN Networks](#)



➔ [Search for PBRN Networks](#)

Type of Network *	Conditions Studied *
<input type="checkbox"/> Affiliates	<input type="checkbox"/> Alcohol and Drug Abuse
<input type="checkbox"/> Family Practice Network	<input type="checkbox"/> Asthma
<input type="checkbox"/> Internal Medicine Network	<input type="checkbox"/> Cancer
<input type="checkbox"/> Mixed Network	<input type="checkbox"/> Cardiovascular Risk Factors
<input type="checkbox"/>	<input type="checkbox"/>



Examples of Research in PBRNs

- Relevant Clinical Questions
 - Carpal Tunnel Syndrome
 - MRSA Skin and Soft Tissue Infections
- Accelerating Improvement
 - Depression Case Management
 - Improving Risk Factors for Diabetes Complications (NIH/NIDDK)

Carpal Tunnel Syndrome (CTS)

Ambulatory Sentinel Practice Network (ASPN)

- N=552 patients from 74 family practices
- Describe how CTS present to primary care and how initially evaluated and managed.
- In most patients, this condition was successfully managed by family doctors.
- Treatment was generally conservative

Miller RS, Iverson DC, Fried RA, Green LA, Nutting PA. Carpal tunnel syndrome in primary care: A report from ASPN. J Fam Pract 1994; 38:337-44.



ASPN Carpal Tunnel Syndrome

At 4 month follow up: over 50% reported improvement in symptoms

- 17% had worsened symptoms
- 4% not able to carry out routine activities
- 39% modified job requirements
- 10% unable to continue in job

Potential for Selection Bias in Carpal Tunnel Study

	All Patients N=380	Seen by Neurologist N=46
Management:		
Referral for surgical eval	7.9%	46.1%
Surgery	2.9%	24.9%
Outcomes at 4 months:		
Continued usual activities	57.2%	26.9%
Unable to continue job	5.8%	30.0%

MRSA Skin and Soft Tissue Infections



- South Texas Ambulatory Research Network (STARNet)
- Since 1992
- Non-VA, small offices
- Annual membership meeting
 - “Seems like I am seeing a lot of MRSA in my office”

Parchman ML, Munoz A. Risk Factors for Methicillin-Resistant *Staphylococcal aureus* Skin and Soft Tissue Infections Presenting in Primary Care: A South Texas Ambulatory Research Network (STARNet) Study. J Am Board Fam Med 2009;22:375–9



Physician "Card" Study

- 168 cases collected in 6 months across 5 clinics
- Two-thirds of all cultures were MRSA
- No historical risk factors assoc with likelihood of MRSA except "health care worker."
- No physical exam features assoc. with MRSA except abscess



MRSA Next Steps

- UT College of Pharmacy faculty
- Used card study for 2 year pilot research funding from our CTSA
 - “Community Acquired MRSA Skin Infections: Genetics, Resistance, and Treatment in a South Texas Practice-Based Research Network”



Implementation Research

- The challenge is no longer to show that something works, we now have to figure out how it works in everyday practice.
- 17 years to translate research findings into community. (Science Sept 2008)



ASPEN Depression RCT (1996-2000)

- 24 physicians in 12 practices:
Randomization by practice
- Usual care vs care management and tracking
- Care management embedded in practice operations--not 'carved out'
- 12,000 patients screened, 480 with major depression enrolled in trial
- Patients followed for 2 years
- 21 articles published from study

ASPEN Depression Trial Intervention



- Use of the PHQ-9 for monitoring severity and adjusting treatment
- Care management conducted by an office nurse with training from the research staff
- Used a manual (pencil and paper) tracking system
- Contacted patients frequently during acute and chronic phases
- Helped patients identify and work through barriers to care

ASPEN Depression Trial

Major Findings



- Significant improvement in depression severity at 6 months and increased benefit at 2 years.
- Significant improvements in general health status
- Significantly more satisfied with their overall care.
- Patients in rural areas and those with no insurance derived even greater benefit.



Improving Risk Factors for Diabetes Complications in Primary Care

- STARNet Study; Parchman PI
- NIH/NIDDK 5 year cluster-randomized trial (2007-2012)
- 40 small family physician and general internist offices
- Practice Facilitator/Office Coach: Implement Chronic Care Model
- Practice Teams and Learning Sessions

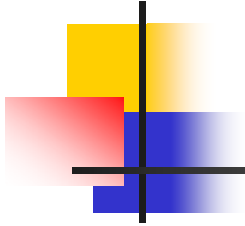
Parchman ML, Pugh JA, Culler SD, Noel PH, Arar NH, Romero RL, Palmer RF. A group randomized trial of a complexity-based organizational intervention to improve risk factors for diabetes complications in primary care settings: study protocol. Implementation Science 2008 Mar;3:15

PBRNs: A Learning Organization

- PBRNs can and will continue to evolve to be more effective, real time, learning organizations.
- Key: participatory based research



South Texas VA Primary Care PBRN



- VA HSR&D funded Short Term Health Project (SHP 08-157)
- March 2008-Sept 2008
- Objectives:
 - Recruit members: 8 VA OPCs
 - Establish research priorities
 - Develop pilot study



Results

- Initial Meeting Sept 2008 at VA Primary Care Service Line Meeting
- Pre-meeting survey of research interests
- Prioritization of topics, development of initial research questions



Initial Study

- Is the level of competing demands created by clinical reminders during a visit inversely associated with the patient's perception that their needs were met?
- Post-visit Card completed by clinician (content of visit)
- Patient survey to be mailed back to PBRN office (satisfaction with visit)



Progress to Date

- Instruments piloted March-April 2009
- CITI training required for all physicians who participate
 - Difficult due to high level of other mandatory training requirements
- University IRB and VA R&D committee approval pending CITI training
- Medical Directors and AOs kept informed of progress at monthly V-Tel primary care service line meeting



Characteristics Of Successful Networks

- Clear clinician involvement all aspects of network governance and operation
- Clear rewards for clinicians participating in the (often diverse) network activities
- A “network of researchers” who have learned how to work within a network



Characteristics Of Successful Networks

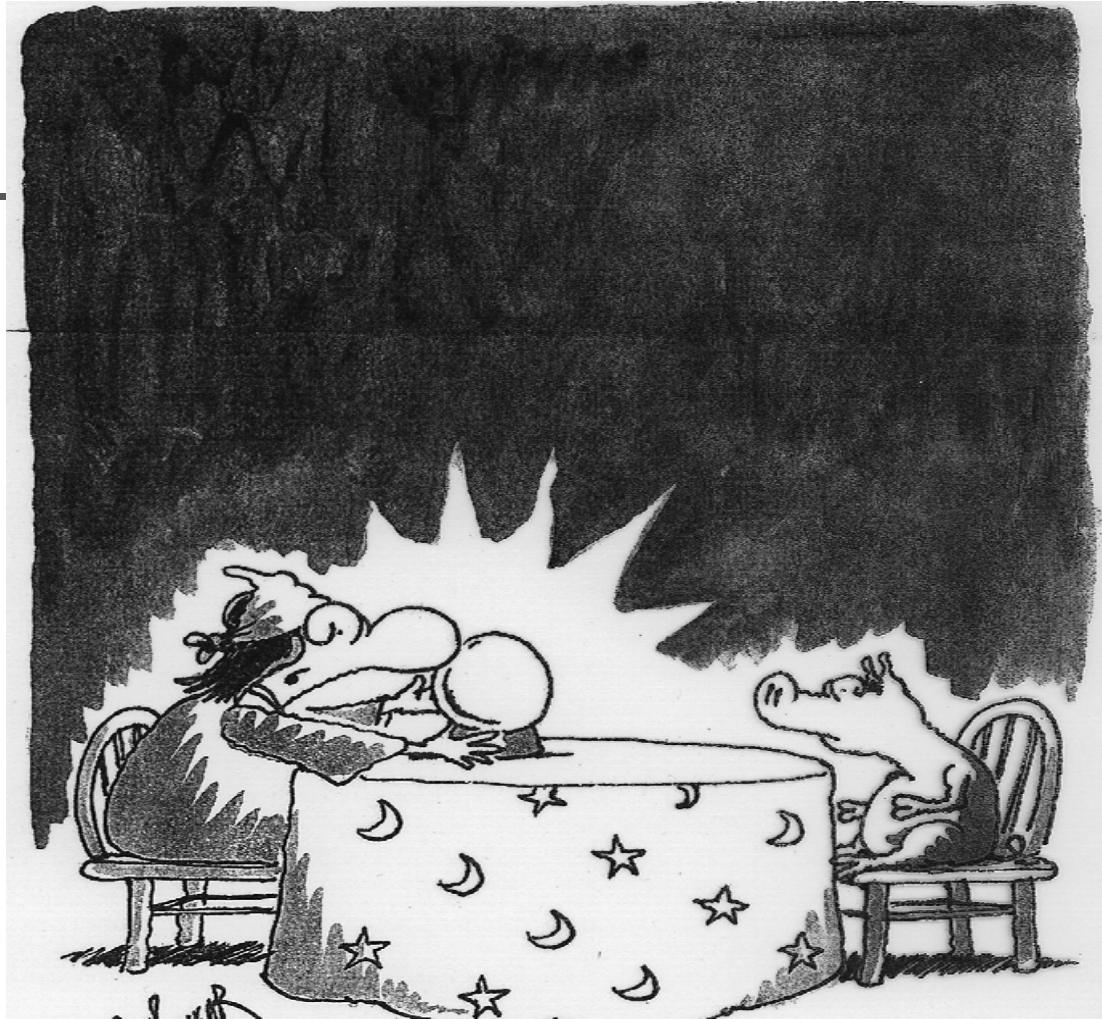
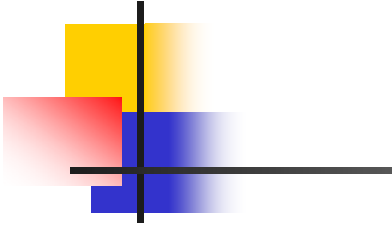
- Visionary leadership
- A huge dose of commitment by all players
- Consistent infrastructure support
- A varied stream of project revenue
- A benevolent academic program(s) that does not try to “own” the network



Future Challenges to PBRNs in the VA

- Infrastructure Support
 - PBRNs are a “laboratory” and require minimum maintenance to keep going
 - Admin Staff and Director
- Regulatory/Training for Full Time Clinicians
 - Human subjects protection
 - VA specific research training

The Future of PBRNs in the VA?



There, I can see you....you're eating an apple....no,
you're not exactly eating it.....

*"There, I can see you... you're eating an apple...
no, you're not exactly eating it..."*



Recommended Readings

- J Am Board Fam Med June 2009 Special Issue on PBRNs
- Westfall J, Mold J. Practice-Based Research: “Blue Highways” on the NIH Roadmap. JAMA 2007;297:403-406.
- Mold JW, Peterson KA. Primary Care Practice-Based Research Networks: Working at the Interface Between Research and Quality Improvement. Ann Fam Med 2005 3: S12-S20
- Green LA. Infrastructure requirements for practice-based research networks. Ann Fam Med 2005;3(S).

VA DENTISTS ENGAGED IN RESEARCH

Donald J. DeNucci D.D.S., M.S.

Research Consultant/VA Office of Dentistry

Program Officer/NIH/Practice-based Research Networks



VA Mission Statement

- *Our Mission...* The mission of the Veterans Healthcare System is to serve the needs of America's veterans by providing primary care, specialized care, and related medical and social support services.
- *To accomplish this mission, VHA needs to be a comprehensive, integrated healthcare system that provides excellence in health care value, excellence in service as defined by its customers, and excellence in education and **research**,.....*



VA Office of Dentistry (OOD)

*Integrated approach to research,
education, and quality measures*

- VA OOD Quality Group
- VA Dental Practice-based Research Network (PBRN)
- VA OOD Education Initiative



VA OOD Quality Group

- **Mission is to improve the oral health of veterans by promoting clinical practice based on the best evidence available**
- **Develops Quality Indicators and Scorecards**
- **Develops Information Papers**
- **Develops Clinical Guidelines**



VA Dental Practice-based Research Network

- **Mission is to conduct research and provide answers to the questions facing VA Dentists in their daily practices**
- **Strengthen the knowledge base for making clinical decisions.**
- **Provide data to the VA Quality Group to assist them in addressing issues of greatest importance to the oral health of veterans**
- **Provide information to the Educational Group to guide the development of education and training for the VA Dental Team**

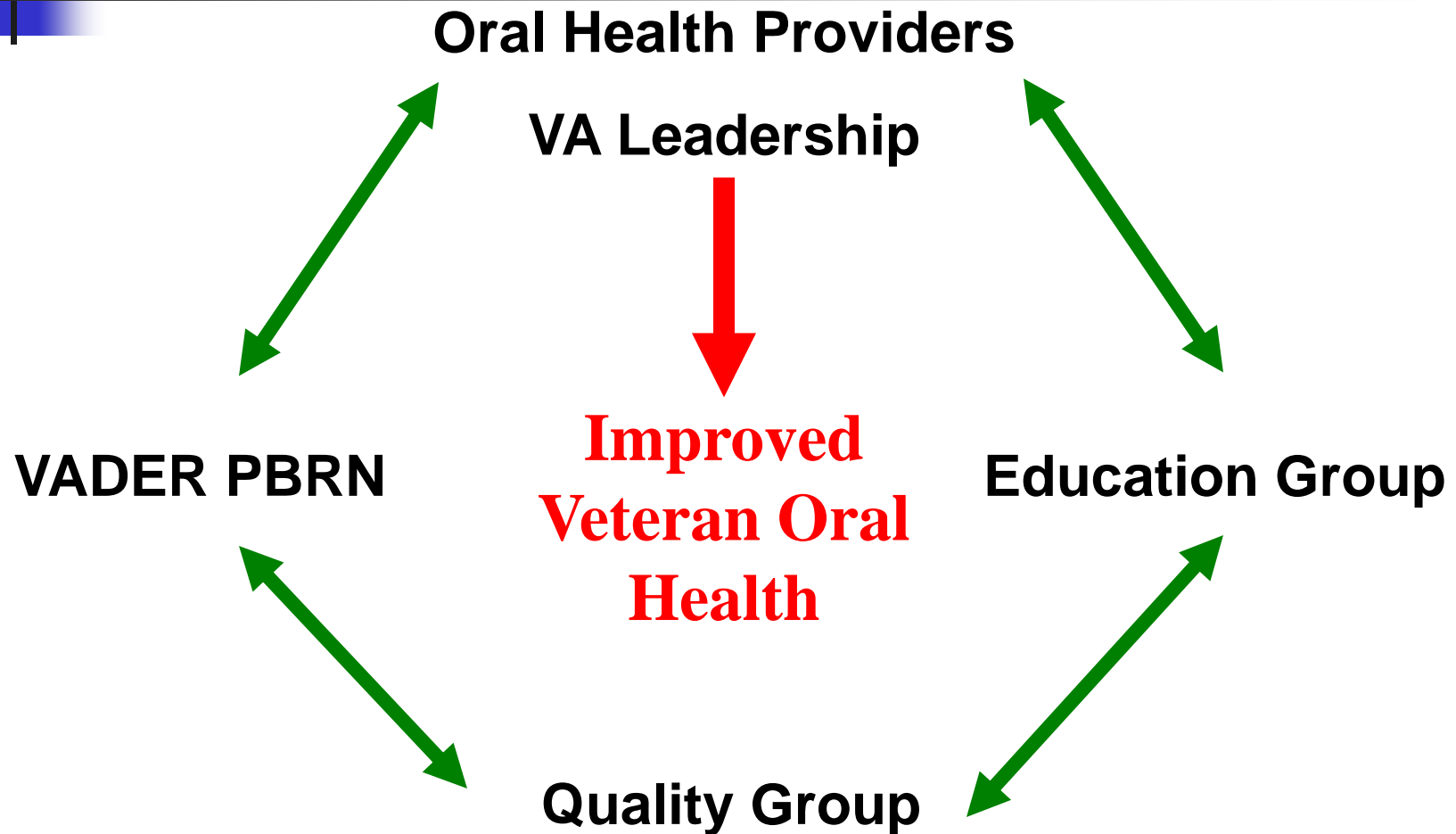
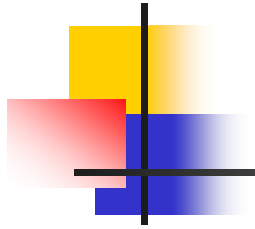


VA OOD Education Group

- Mission is to improve the oral health of veterans by enhancing the translation and implementation of evidence into clinical practice
- Provides monthly VA wide webinars on topics of interest to the VA Dental Team
- Maintains a VA website with educational materials, archived webinars, and links to other educational resources



Integrated Approach to Research, Education, and Quality Care



VA Dental Practice-Based Research Network (VADER)



VETERANS
AFFAIRS
DENTISTS
ENGAGED IN
RESEARCH

- Deployed in September 2007
- A virtual network open to all 600+ VA Dental Professionals
- Governed by an executive committee of “volunteers” composed of VA practitioners, researchers, IT experts, educators, residents, and fellows



VADER Participants

- 204 dental clinics VA wide
 - 127 facilities (hospitals)
 - 77 outpatient clinics
- Oral Health Research Officers (OHRO)
 - 44 Officers: Certified VA Researchers VA wide
 - 37 Dentists
 - 7 Dental Hygienists



VA Dental Practice-Based Research Network (VADER)

- **Primary objectives:**
 - **Conduct clinical studies to improve the health of Veterans**
 - **Emphasize effectiveness of oral health treatment and disease prevention**
 - **Facilitate clear and clinically meaningful outcomes**
- **Secondary objectives:**
 - **Surveillance: Provide data on disease and treatment trends**
 - **Obtain estimates of the prevalence of less common conditions**



Dental Practice-Based Research Network in the VA

- **Research Ideas:**
 - **Stimulated by the clinical challenges faced by VA practitioners**
 - **Generated by practicing dentists and dental hygienists (i.e. practitioner - investigators)**
 - **Accepted from sources outside the VA PBRN (academia, individuals, etc...)**



Unique Aspects of the VADER PBRN

- A virtual network with no defined budget and staffed by volunteer VA dental professionals!
- The first VA practice-based research network!



Establishing A Research Network in the VA

STRENGTHS

- Electronic Health Records
- Uniform Practice Environment
- Relatively Stable Research Population
- Access to the superb VA Research Culture
- Potential Access to the VA Central IRB



VA Dental Record Manager Module: CPRS

Dental Record Manager Plus in use by: GERNGROSS,PETER J for ZZQWERTY,JOSEPHINE

File Edit Dental Encounter Data Treatment & Exam Tools Help

ZZQWERTY,JOSEPHINE Visit Not Selected Primary Dental Provider: SEDER,STEPHEN J Patient Class
 000-00-2121 10/25/1955 Age: 52 GERNGROSS,PETER J Secondary Dental Provider: BUTTERWORTH,THERESE S CLASS IIA

Cover Page Clinical Record Dental History Chart/Treatment

Treatment & Exam

Diagnostic Findings	Notes	Observe	Sealant	Bridge	P & C	Drifting	UndrCont	Faceted	Open Ct	Edentulous	*Sequencing*	*H & N*
Treatment Plan	Restore	Partial	Endo	Conn Bar	Impact	Tipped	OverCont	Cracked	Abfract		History	*PSR*
Completed Care	Missing	Denture	Apico	Hemi	Def Rest	Rotated	Overhang	Chipped	Dentition		Summary	*Plaque*
Include Completed	Clear	Implant	Retro	Coping	Caries	Ret Root	Lesion	Supr/Sub	Perm/Prim			

* Periodontal Chart *

Visit Date	Stat	Category	Tooth/Quad	Surf/Root	Diag	Code	Description	Prov
07/01/2008	F	Caries	8		MIF		Diagnostic Finding	PJG
07/01/2008	F	Lesion	8		I		Diagnostic Finding	PJG
07/01/2008	F	Overhang	13		D		Diagnostic Finding	PJG
07/01/2008	F	Restored	13		DO		Diagnostic Finding	PJG
07/01/2008	F	Retained	14				Diagnostic Finding	PJG
07/01/2008	F	Lesion	14		dIm		Diagnostic Finding	PJG
07/01/2008	F	Restored	15		MOD		Diagnostic Finding	PJG
07/01/2008	F	SuprErpt	16				Diagnostic Finding	PJG
07/01/2008	F	Caries	16		O		Diagnostic Finding	PJG
07/01/2008	F	Impacted	17				Diagnostic Finding	PJG
07/01/2008	F	Coping	18				Diagnostic Finding	PJG
07/01/2008	F	Implant	18				Diagnostic Finding	PJG
07/01/2008	F	OpnCtct	28				Diagnostic Finding	PJG
07/01/2008	F	Defective	30		MO		Diagnostic Finding	PJG

Upper Lower Full

Start 2 Mic... CPRS - ... Docume... Dental... Links 9:54 AM

Establishing A Research Network in the VA

CHALLENGES

- Integration of research into a patient care environment
- Providing incentives to participate in research
- Managing fluctuations in fiscal and other support resources



VADER PBRN Research Portfolio

Studies in Progress

- **VADER Study One: Assessment of Caries Diagnosis and Caries Treatment**
- **VA/UAB Study of ONJ in Veterans**
- **VA/DOD Registry of Veterans with Cranial Implants**



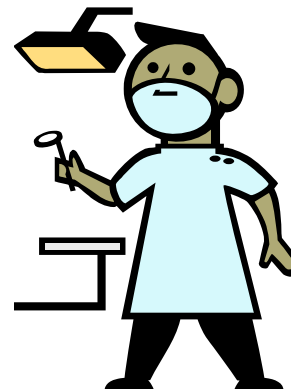
VADER Study One: Assessment of Caries Diagnosis and Treatment

A Quality Survey



VADER Study One: Assessment of Caries Diagnosis and Treatment

A Quality Survey

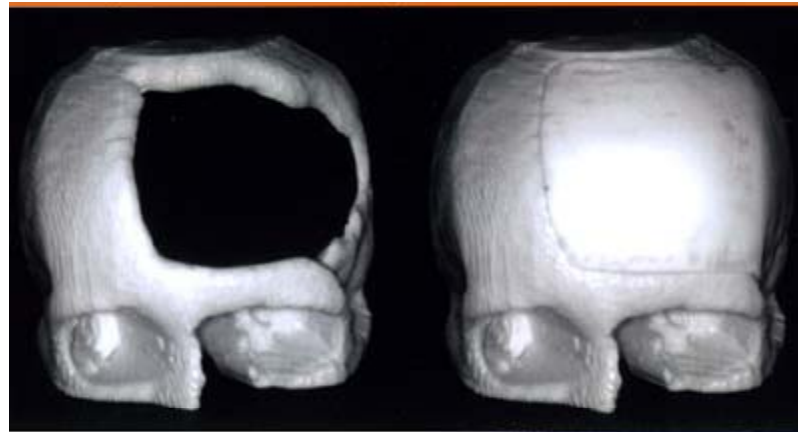


Osteonecrosis of the Jaw: VADER/UAB/ IOWA City VA/ VA Pharmacy

- Cohort study of ONJ in Veterans (AHRQ funded)
- Case-Control study of ONJ in Veterans (VA funded)



VA Cranial Implant Registry: A Joint VA / DOD project



Source: Neurosurg Focus © 2004 American Association of Neurological Surgeons

VADER PBRN Research Portfolio

Studies in Development

- Endodontic Outcomes Study



VADER PBRN Research Portfolio

Studies under Consideration

- **Web/computer based smoking cessation study**
- **Implant outcomes study**
- **Oral cancer detection study**
- **Effective treatments for dry mouth**



ADA Professional Product Review (PPR) – VADER

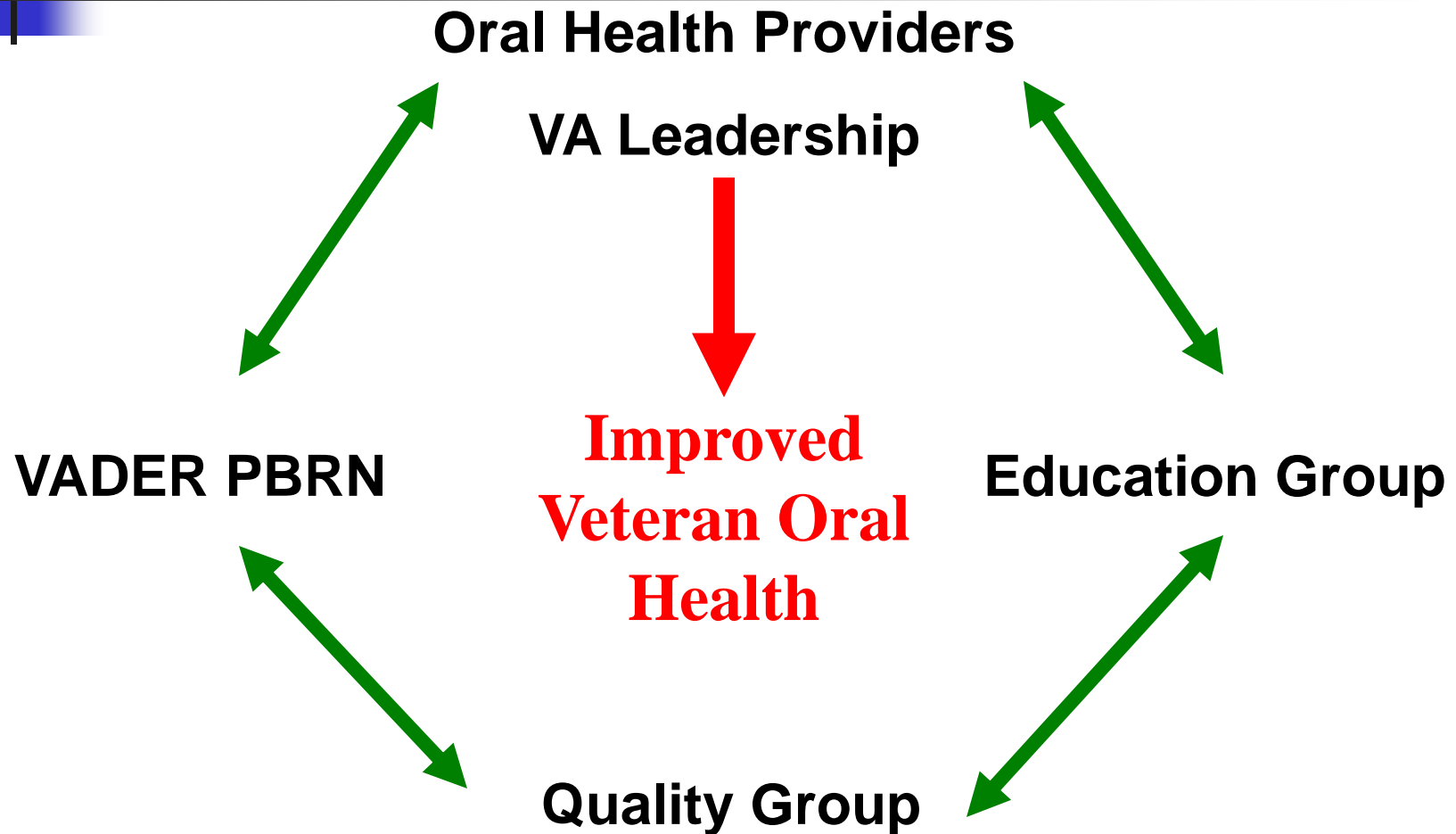
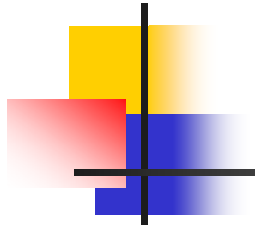


ADA Professional Product Review (PPR) – VADER

- Evaluation of dental products and equipment by VA Dental Professionals
- Provided by the American Dental Association; hence no direct contact with industry
- Evaluated in the real-world environment of VA clinical practice
- Potential to inform VA acquisition decisions and the oral health community in general



Integrated Approach to Research, Education, and Quality Care



VA Office of Dentistry (OOD)

*Integrated approach to research,
education, and quality measures*

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