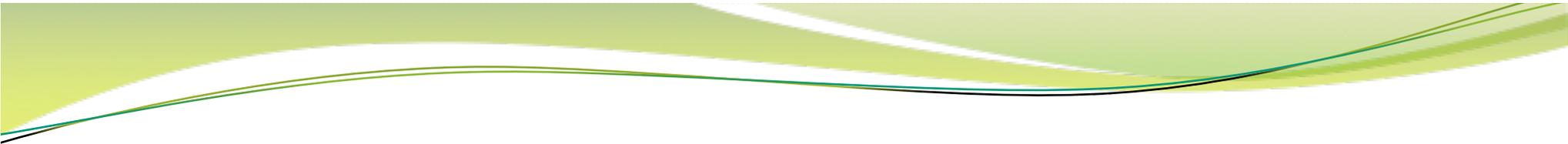


**Building primary care research infrastructure:
Reflections and achievements of AHRQ Research
Centers in Practice-Based Research and Learning
(P30 awards)**

Panel Presentation: Infrastructure/Network Operations
PBRN Annual Meeting
June 2018
Bethesda, MD





Objectives

- P30 Center Grant introductions and sharing of key insights about how their P30 accelerated primary care research
- Preliminary findings from a program evaluation study
- Facilitated discussion to address:
 - Components of the P30 worth replicating
 - Whether and how research and training activities, as well as collaborations and partnerships, are being sustained
 - Lessons learned in building a national primary care research infrastructure and partnering with other PBRNs
 - Suggestions on how to further facilitate the collaborative work of PBRNs at the national level



AHRQ Centers for Primary Care Practice Based Research and Learning (2012)

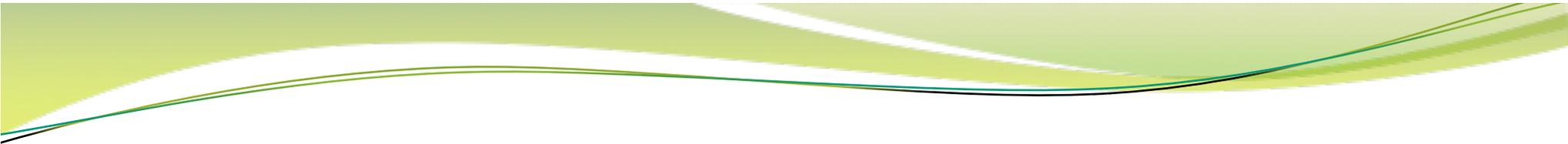
<https://pbrn.ahrq.gov/pbrn-profiles/p30-centers>

- Bring together multiple PBRNs to leverage common resources and stimulate innovation with the ultimate goal of improving the delivery and organization of primary care
- Nurture partnerships and foster trans-network collaboration
- Conduct research and develop methods
- Develop a robust and productive research and dissemination infrastructure

More information on resources and trans-P30 collaborations - the P30 Centers Overview Profile ([PDF – 1.24 MB](#)).

AHRQ P30s

CoCoNet2	(Nagykaldi)	Coordinated Coalition of Primary Care Research Networks
COIN	(Werner)	Collaborative Ohio Inquiry Network
C-PRL	(Fiks)	National Center for Pediatric Practice-Based Research and Learning
Meta-LARC	(Fagnan)	Meta-network Learning and Research Center
MOSAIC	(Kimminau)	Meaningful Outcomes Science And Innovation Center
N ²	(Tobin)	Building a Network of Safety Net PBRNs
PPRNet	(Ornstein)	Primary (Care) Practice Research Network
PRIME Net	(Neale)	Primary Care Multi Ethnic Network



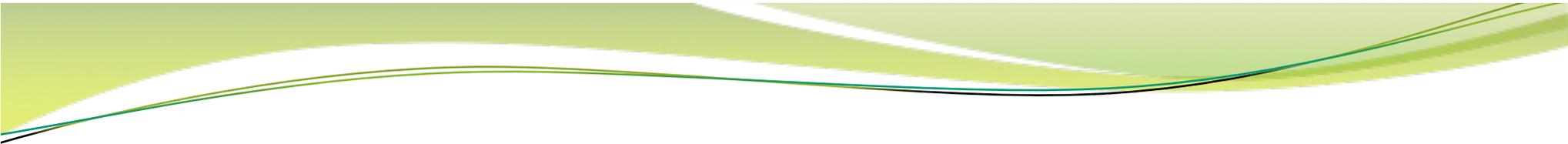
Panel Presenters

- Zsolt Nagykaldi, PhD - CoCoNet2
- Margaret Wright, PhD – C-PRL
- Kim Kimminau, PhD - MOSIAC
- Jonathan Tobin, PhD - N2
- Lyle J. Fagnan, MD - Meta-LARC

- Rebecca Roper, MS, MPH – AHRQ PBRN Initiative
- Paula Darby Lipman, PhD - CoCoNet2

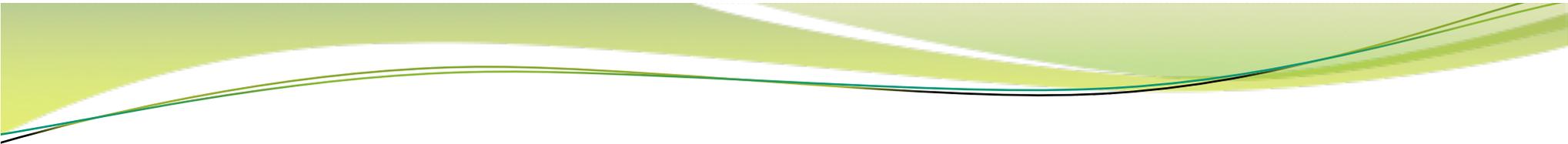
Participating P30s - Center Goals

CoCoNet2 (Nagykaldi)	Establish a formal coalition, develop common operating procedures, data collection methods and variables, and communication strategies.
C-PRL (Fiks)	Link pediatric PROS and PeRC; enhance working relationships between PROS/AAP and PeRC/CHOP; and leverage dissemination and implementation capacities to improve delivery of pediatric primary care.
Meta-LARC (Fagnan)	Foster research collaboration to improve quality, effectiveness and safety of primary care; accelerate research through high functioning infrastructure; promote continuous learning and sharing to accelerate dissemination of knowledge and bi-directional communication.
MOSAIC (Kimminau)	Center focuses on science and innovation and interrelationships essential for conducting comparative effectiveness, health services and practice-based research in a holistic way.
N ² (Tobin)	Develop scalable infrastructure for shared research; conduct and disseminate research; adopt elements of five Evidence Based Practices and Best Practices; facilitate and accelerate dissemination and implementation of clinical research findings.



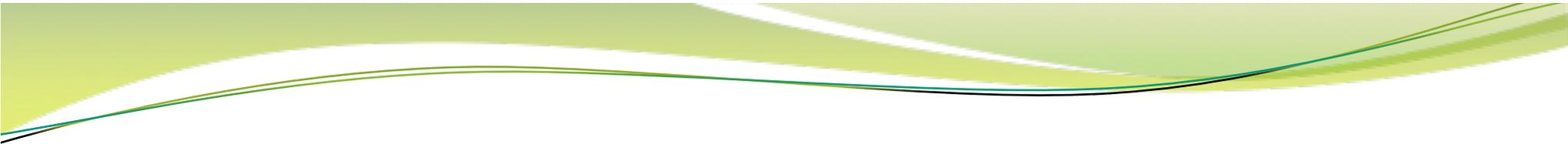
P30 Program Evaluation Study

- Led by CoCoNet 2 (Nagykaldi and Lipman)
- Several phases from June 2017 through January 2018
- Methods: Document review phase followed by semi-structured key informant interviews with two P30 leadership members in each center
- Dissemination: Today's panel presentation; final report to AHRQ



Study Objectives

- **Context and infrastructure:** What were the P30 center goals and how did they align with the goals AHRQ established for the P30 Centers of Excellence?
- **Structure and function:** Who participated in the P30 Centers and how were they organized and operated?
- **Activities, outputs and impact:** What were the specific activities engaged in and what did they contribute to the field?
- **Recommendations:** What were the “lessons learned” regarding building research infrastructure for primary care research?



Session Structure

- Showcasing the P30s (5 minutes each)
 - P30 demographics, location, membership, structure
 - Topics of focus or project aims
 - What makes your P30 distinct
 - Snapshot of what you have achieved and what you could not achieve
- Evaluation highlights
- Facilitated discussion

CoCoNet2 - Demographics



- 6 regional PBRNs and a coordinating center: OKPRN (Oklahoma); UNYNET (New York); WREN (Wisconsin); LANet (California); OCHRN (Oklahoma); MAFPRN (Minnesota); Westat (DC)
- CoCoNet networks incorporated over 400 primary care practices (33% rural; 50% private; 45% non-white patients) in 4 states located in 4 different regions of the country
- Governance by a Board of Directors representing all networks and the coordinating center
- Individual PBRN members were engaged through the network directors on the BOD



CoCoNet2 – Distinctive Features

- All, but one network has collaborated with OKPRN and/or with each other in the past
- All networks had experience training and working with practice facilitators (both research and QI projects)
- Streamlining all activities via a coordinating center (Westat) providing logistics, allowing PBRNs to focus on the content of their P30 mission
- Able to continue after P30 funding ended in the form of an R13 conference grant for the International Conference on Practice Facilitation (ICPF)
- Several collaborative initiatives with other P30s

CoCoNet2 – Main Achievements



- Participating in the development of **PBRN Research Good Practices (PRGPs)**, a national project led by Dr. Victoria Neale (PI) and a large team
- Establishing and **educating members** about research/admin tools and databases (e.g., SmartSheet, REDCap, clinical registries)
- Sharing **primary care and PBRN best practices** and disseminating knowledge and innovations in PBRNs (e.g., listservs, online media, ECHO-based resources)
- Supporting the development and improvement of **practice facilitation** programs nationally and creating the International Conference on Practice Facilitation (training curriculum development, program support)
- Spreading the **Clin-IQ** (“alternative FPIN”) program nationally
- Participating in large national research projects, including EvidenceNOW
- Conducting a **P30 Centers Review** and participating in inter-P30 initiatives

National Center for Pediatric Practice-Based Research and Learning (C-PRL)

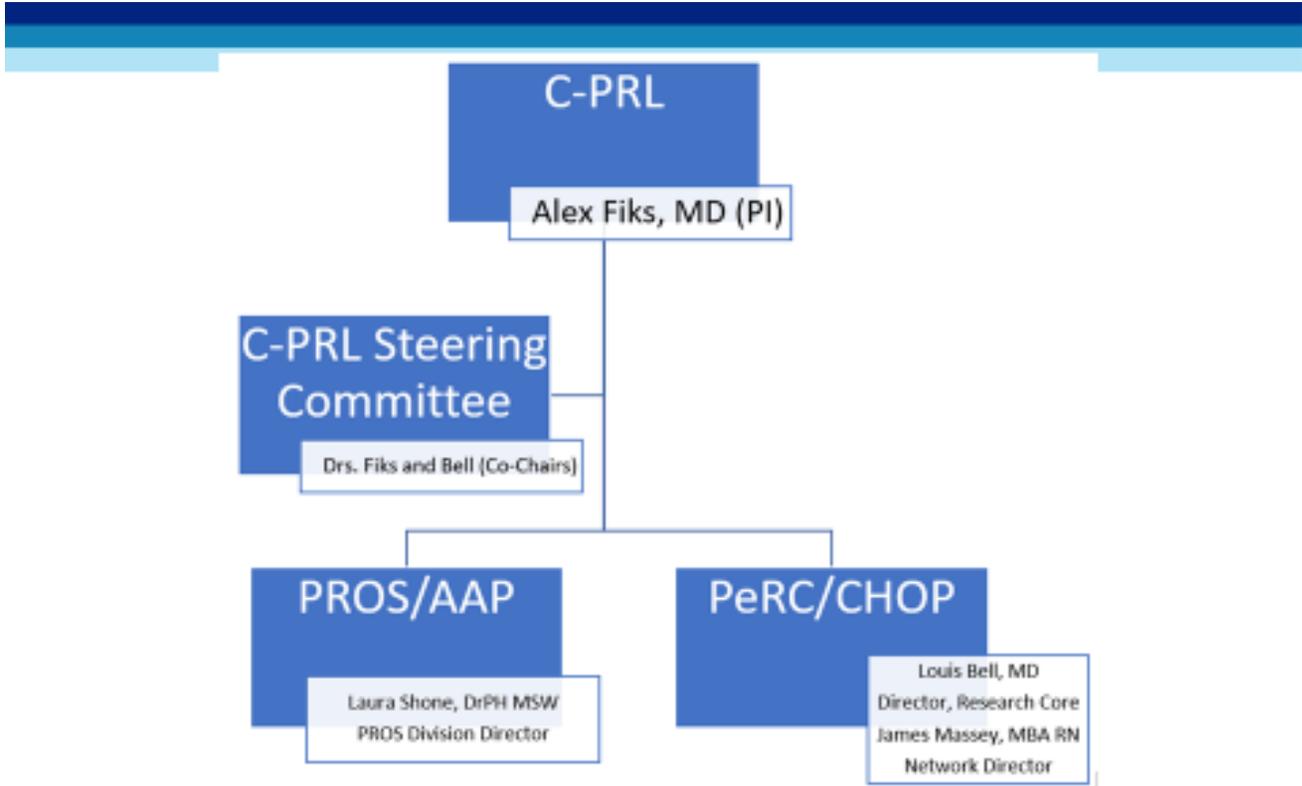
*Margaret Wright, PhD
Senior Research Associate*



**AHRQ P30 HS21645-01
2012-2018**

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®







AIMS

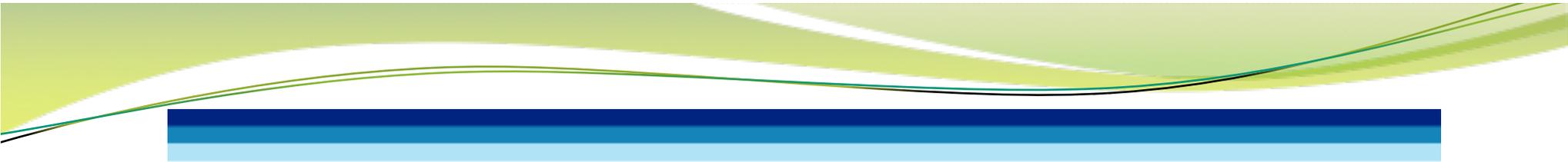
- Link 2 pediatric PBRNs: PROS & PeRC
- Enhance established & create new working relationships between PROS/AAP & PeRC/CHOP
- Leverage the dissemination & implementation capacities of PROS & PeRC & their parent organizations to improve delivery of pediatric primary care



ACCOMPLISHMENTS

- Develop, maintain, & augment CER² EHR supernetwork for secondary data analyses
 - Clinical data for > 1.5 million children
- Meaningful Use study
- Multiple R01-funded studies
 - Antibiotic prescribing
 - Overweight & obesity treatment
 - Influenza and HPV vaccination
 - Pharmacoepidemiology

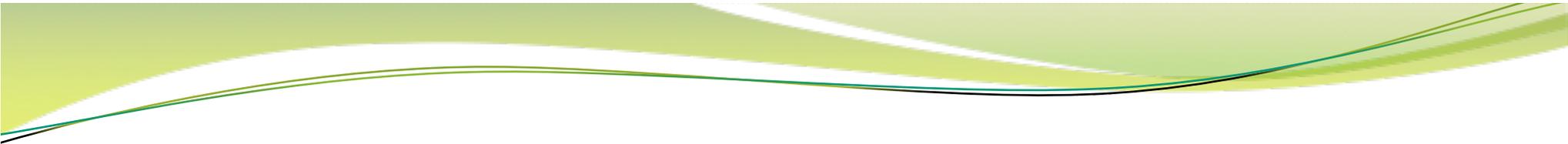




ACCOMPLISHMENTS

- 15 publications on topics including:
 - Health Information Technology (HIT)
 - EHR research methods
 - Pediatric hypertension, asthma, ADHD
 - Pediatric medication prescribing and use





Meta-network Learning And Research Center (Meta-LARC)

**Lyle J. Fagnan, MD
Director, ORPRN**



Meta-network Learning And Research Center (Meta-LARC)



Meta-LARC Table 1

Network & Headquarters	Institutional Affiliations	Principal Investigator	Active Practices (#)	Total # of Clinicians	% Family Medicine	# of Patients	% Non-Hispanic or Latino	% Hispanic or Latino	% of patients 65 years and older (#)	% of patients 18 years and younger (#)
IRENE Iowa City, IA	University of Iowa College of Medicine	Barcey Levy, MD, PhD	179	283	99	900,000	94.3	5.7	16.4 (147,600)	23.3 (209,700)
ORPRN Portland, OR	Oregon Health & Science University	LJ Fagnan, MD	100	490	94	467,610	93	7	25*** (114,614)	10**** (44,588)
PCRC Durham, NC	DUKE University Medical Center	Rowena Dolor, MD, MHS	49	331	49	455,597	90	5	21 (95,700)	26 (118,500)
QPBRN Quebec City, Quebec	University of Laval Medical School	France Légaré, MD, PhD	12	216	100	106,285	X	X	17.5** (18,600)	17.5** (18,600)
SNOCAP Denver, CO	University of Colorado School of Medicine	Donald Nease, MD	155	800	75	400,500	75	25	20 (80,100)	20 (80,100)
UTOPIAN Ontario	University of Toronto	Michelle Greiver, MD, MSc	400	1500	100	1,000,000	X	X	22 (220,000)	14* (140,000)
WREN Madison, WI	University of Wisconsin School of Medicine	David Hahn, MD, MS	80	200	95	400,000	93	7	15.2 (60,800)	28.6 (114,400)
TOTAL			975	3820		3,729,992			737,414	725,888

*Age 16 years and younger; **Province statistics, age 60 years and older and 17 years and younger; *** Age 60 years and older; **** Age 17 years and younger



Meta-LARC: Specific Aims

- Aim 1: Foster the capabilities of six PBRNs and 533 primary care practices through a robust collaboration designed to conduct research to improve the quality, effectiveness and safety of primary care.
- Aim 2: Accelerate the conduct of PBRN research through a well designed, high functioning common infrastructure that enables the efficient conduct of research.
- Aim 3: Promote continuous learning and sharing across Meta-LARC networks and practices to accelerate the dissemination of knowledge and bi-directional communication.

What is needed to ensure Meta-LARC's success?

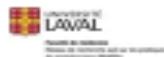
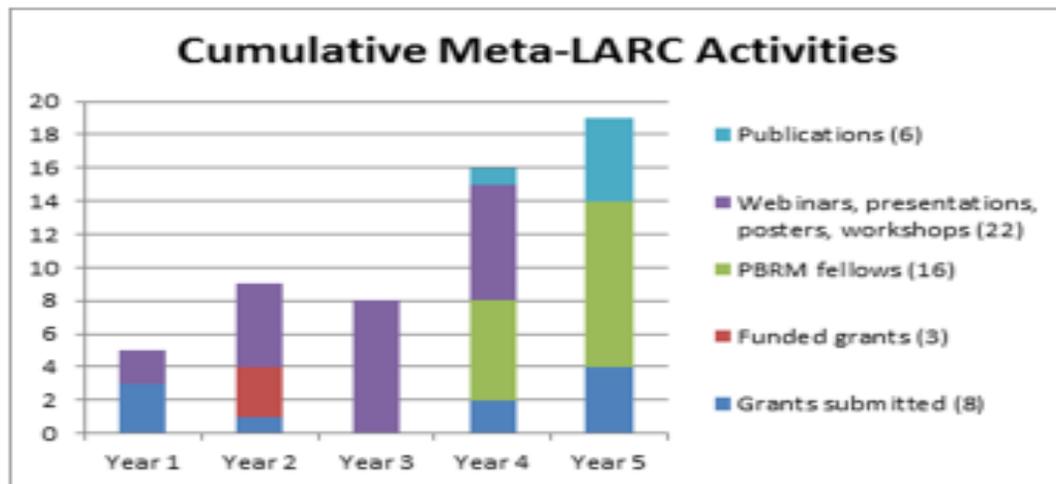
Communication ★	Effective Shared Leadership	Accelerated Processes ★	Resources	Measuring and Building Success ★	Collaboration
Nimble, Effective Communication	Governance	Accelerated Processes	PIs to Write Grants (Fundable)	Measures of our Own Success	Close Collaboration
Communication Tools	Share Leadership Based on Network Strengths	Rapid Decision Making	Funding	Enhanced Research Productivity	Shared Goals
Efficient and Sustained Communication	Flexibility and Openness		Everyone Contributes!	Capacity Building	Shared Learned and Best Practices
Face-to-Face Exchanges			Resources and People and \$\$	Early Successful Projects	Common Goals/Vision
			Adequate Resources		

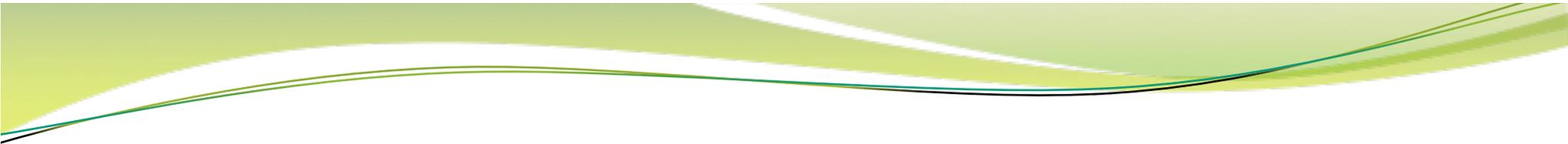
Meta-LARC meeting December 1, 2012
 NAPCRG
 New Orleans





Meta-LARC Production





Meaningful Outcomes and Science to Advance Innovation Center of Excellence

(MOSAIC)

AAFP national research
— network — 

 **DARTNet** Institute
Informing Practice Improving Care

Participating Networks

1. AAFP National Research Network
2. American College of Physicians Network (ACNet)
3. DARTNet Institute
4. Collaborative Care Research Network (CCRN)
5. Connecticut Center for Primary Care (CCPC)
6. The Dental PBRN (DPBRN)
7. Electronic National Quality Improvement & Research Network (eNQUIRENet)
8. Free Clinic Research & Educational Engagement Network (FreeNet),
9. New York City Research Improvement and Networking Group (NYC RING)
10. Oklahoma Physicians Resource/Research Network (OKPRN)
11. Residency Research Network of Texas (RRNeT)
12. Scalable Architecture for Federated Therapeutic Inquiries Network (SAFTINet)
13. South Texas Ambulatory Research Network (STARNet)
14. Upstate New York Practice Based Research Network (UNYNET)
15. WWAMI Region Practice and Research Network (WPRN)

AAFP national research
— network — 

 **DARTNet** Institute
Informing Practice Improving Care

Aims

- ✓ **Explore novel methods** of utilizing and expanding electronic data (point of-care data, patient reported outcomes and claims data)
- ✓ Improve a developing **learning community** to disseminate study findings, find and share best practices, and identify questions that require further exploration
- ✓ Establish **processes for non-DARTNet Collaborative clinicians and practices to engage** in the learning activities of the DARTNet Collaborative that do not require patient-level data sharing

Aims of the Center of Excellence

- ~~4. Promote new research with rapid cycle funding opportunities only available to the eight AHRQ designated Centers of Excellence.~~
- ✓ Advance practice-based research and **grow practice-based learning**
- ✓ **Accelerate** the generation of new knowledge to improve quality, patient safety and effectiveness of care



N²-PBRN: Building a Network of Safety Net PBRNs

JONATHAN N. TOBIN, PHD
CLINICAL DIRECTORS NETWORK, INC. (CDN)

Funded by AHRQ Grant: P30HS021667

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CDN N²-PBRN: Building a Network of Safety Net PBRNs



CDN IS A PRACTICE-BASED RESEARCH NETWORK (PBRN) THAT WORKS WITH FEDERALLY QUALIFIED HEALTH CENTERS (FQHCs) AND OTHER PRIMARY HEALTH CARE SAFETY-NET PRACTICES

CDN has built a scalable research infrastructure to serve the needs of the clinicians who practice in the health care safety-net by building on existing infrastructure, creating new relationships, providing external practice facilitators (onsite, online), and dissemination channels

DHHS – HRSA: The Primary Health Care Safety-Net



CDN N2-PBRN

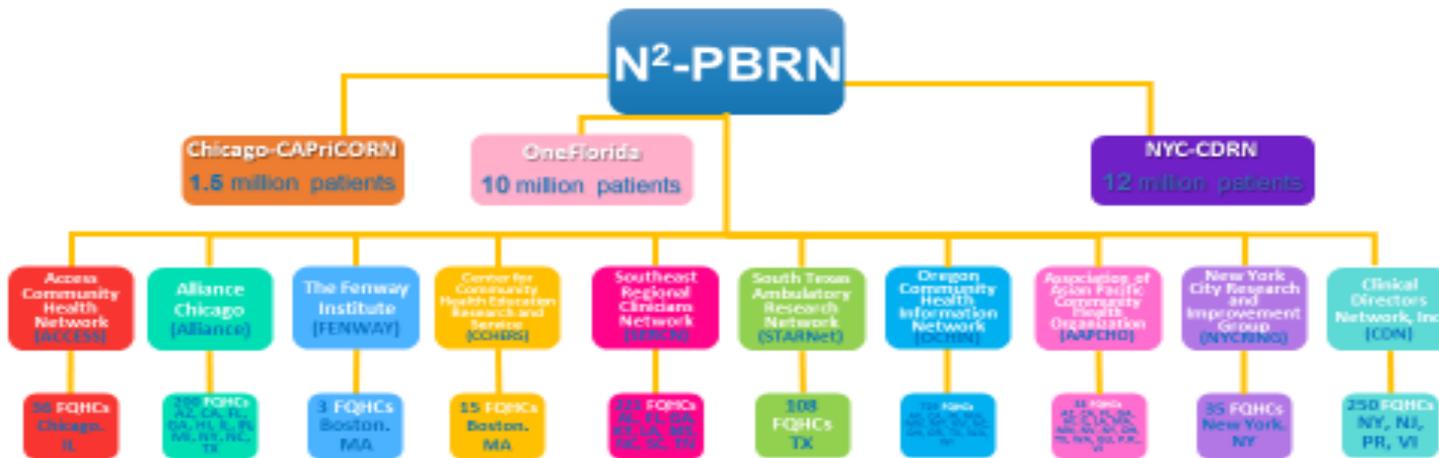


FACILITIES, PATIENTS & VISITS	National	New York
Total # Grantees	1,367	65
Total # Delivery Sites	10,847	676
Total # Medical Users	21,880,295	1,898,867
Total # Medical Encounters	71,297,375	6,174,700
Total # Dental Users	5,686,198	406,696
Total # Dental Encounters	14,429,355	1,198,612
Total # Medical/Dental Users	25,866,296	2,036,538

AHRQ
 CDN is an AHRQ-designated Center of Excellence for Practice-based Research and Learning



CDN N²-PBRN OF NETWORKS





Project Aims:

- To develop a scalable infrastructure for shared research conduct and dissemination within a consortium of well-established practice-based research networks (PBRNs) modeled after elements of five evidence-based practices and best practices (EBP-BPs)
- To facilitate and accelerate dissemination and implementation of clinical research findings through early and ongoing clinician engagement and buy-in by engaging clinicians with respect to:
 - a) Relevance of the research questions to primary care patient populations (concept and meaningfulness)
 - b) Design of the study to follow established workflow routines in clinical practice, analysis, feedback and utilization
 - c) Engagement of practicing clinician-investigators as the best educators as well as the best advocates of new knowledge dissemination and implementation that they were responsible for producing



Accomplishments:

- Total of 93 N²-PBRN webcasts have been conducted and marketed to member clinicians across all N2-PBRNs (9/2012-3/2018)
- Webcasts reached a wide online audience and focused on system-based practices and clinical research methodology and evidence-based research findings

Figure 1: A Density Map of Registrants in N²-PBRN Webcasts (5/2015-3/2018)
NATIONAL WEBCAST OUTREACH



- **10,310** live audience participants
- **2,739** library participants
- **Total of 13,049** participants
- **82 CME credits** awarded to participants from 50 US states and territories, including Puerto Rico and the US Virgin Islands



N²-PBRN Webcast Summary

	Live Viewers	Enduring Viewers	Total Viewers	Credit(s)	% Rated Good to Excellent
Total	10,998	2,860	13,858	89	98 sessions
Average	113	30	143	1.11	95%

- Since project inception between September 2012 and June 2018, a total of **98 N²-PBRN webcasts** have been conducted and marketed to member clinicians across all N2-PBRNs.
- In total, the webcasts have reached **10,998 live audience participants** and **2,860 library participants**, for a total of **13,858 participants**.
- CDN awarded **89 CME credits** to participants from 50 US states and territories, including Puerto Rico and the US Virgin Islands.



Funded Projects and PBRN Partners:

Funder	Project	PBRN Partners
AHRQ	Guide to Improving Patient Safety in Primary Care Settings by Engaging Patients and Families	ACTION III
AHRQ	Certificate Program in Practice-Based Research Methods (cPBRM)	All P3Os
CDC	Capacity Building Assistance for High Impact HIV Prevention	NYCRING
FDA	Extended-Release/Long Acting (ER/LA) Opioid Post-Marketing Requirement Studies: Observational Study 1A	NYCRING, OneFlorida
FDA	Extended Release (ER)/ Long Acting (LA) Opioid Analgesics Risk Evaluation and Mitigation Strategy (REMS): Patient Survey	NYCRING, OneFlorida, AllianceChicago
NCATS/ NY Academy of Sciences	Obesity and Adolescent Pregnancy: Building a De-Identified Electronic Health Record Clinical Database to Examine the Biological and Social Determinants of Nutritional Status, Pregnancy and Birth Outcomes	NYCRING, NYC-CDRN
NCATS	Metabolic Outcomes After Sleeve Gastrectomy for Obesity and Diabetes	PCORNet, NYC-CDRN
NHLBI	Blood Pressure-Visit Intensification for Successful Improvement of Treatment (BP-VISIT)	DartNet
PCORI	Enhancing Community Health Center PCOR Engagement (EnCoRE)	AAPCHO, ACCESS, AllianceChicago, CHARN, OCHERS, FENWAY, NYCRING, OCHIN
PCORI	Collaborations for Health and Empowered Community-based Scientists (CHECS)	AllianceChicago
PCORI	Patient-Centered CIER Study of Home-based Interventions to Prevent CA-MRSA Infection Recurrence	NYC-CDRN, SERCN
PCORI	New York City Clinical Data Research Network	NYCRING, NYC-CDRN
PCORI	Chicago Area Patient Centered Outcomes Research Network	AllianceChicago, CAPiCORN
PCORI	Collaborative Care to Reduce Depression and Increase Cancer Screening among Low-income Urban Women	NYCRING



Conclusions:

- N²-PBRN has adopted elements of five evidence-based practices and best practices (EBPBPs) that have been demonstrated to be effective at transforming clinical research into a more clinician-engaged, cost-effective, accelerated translational research model
- The success of the scalable infrastructure for shared research conduct, dissemination and implementation has allowed the N²-PBRN to develop clinician-engaged research that has produced with significant and lasting clinical and public health impact



Jonathan N. Tobin, PhD, FAHA, FACE



President/CEO
Clinical Directors Network, Inc. (CDN)
New York NY

Co-Director, Community Engaged Research
The Rockefeller University Center for Clinical and Translational Science
New York NY

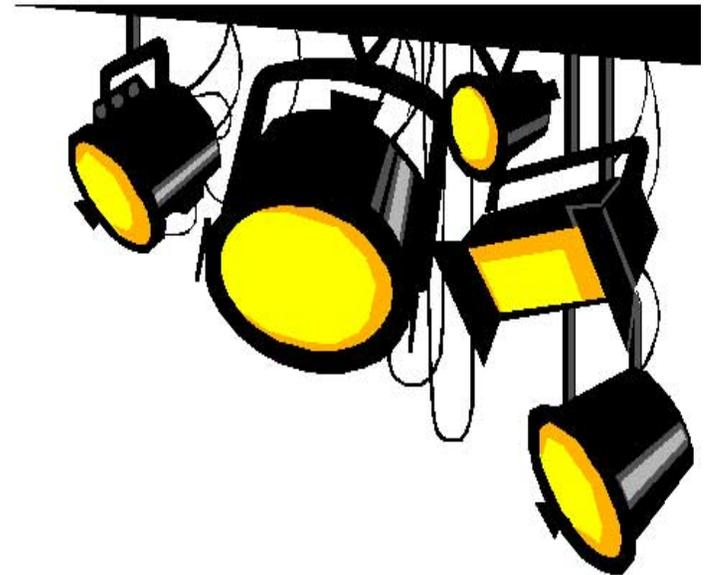
Professor, Department of Epidemiology & Population Health
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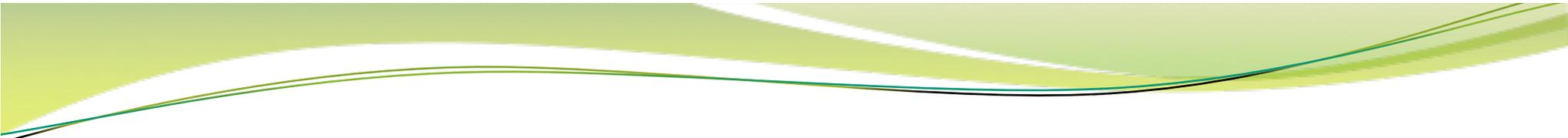
[TEL \(212\) 382-0699 ext 234](tel:2123820699)
JNTobin@CDNetwork.org
www.CDNetwork.org



Results: Setting the Stage

- Distinction and Diversity
 - Activities and Outputs
 - Initiatives
- Insights and Observations
- Component Replication: What Worked
- Sustainability
- Lessons Learned





Results: Distinction and Diversity

- Multiple regions/countries
- One region/state
- National
- Pediatric
- General population
- Centralized coordination
- Governance structure and functions
- Methods development
- Distance learning
- Training/mentoring future PBRN researchers
- Use of EHRs data in research
- Data management skills
- Patient and family engagement
- Clinician engagement

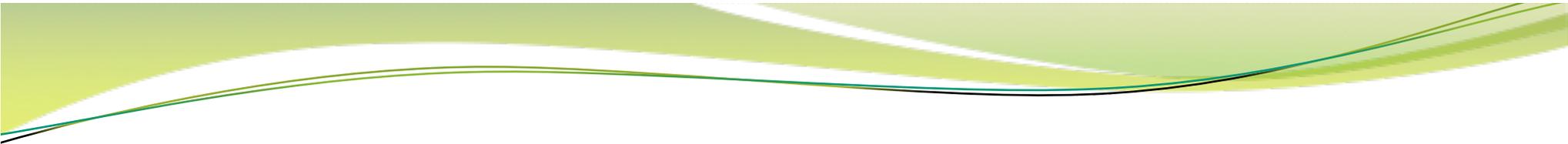
Results: Activities and Outputs

P30 Center	Training	Best Practices	Mentorship	Fellows/ Jr. Inv.	Proposals Submitted	Funded Research **	Pubs Produced ***
CoCoNet2	Yes	Yes			Yes		
COIN	Yes	Yes	Yes	Yes	Yes	Yes	
C-PRL	Yes			Yes	Yes		Yes
Meta-LARC *	Yes	Yes		Yes	Yes	Yes	
MOSAIC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N²	Yes	Yes	Yes		Yes	Yes	
PPRNet	Yes	Yes		Yes	Yes	Yes	Yes
PRIME Net	Yes	Yes			Yes	Yes	Yes

*awarded the one targeted project from AHRQ

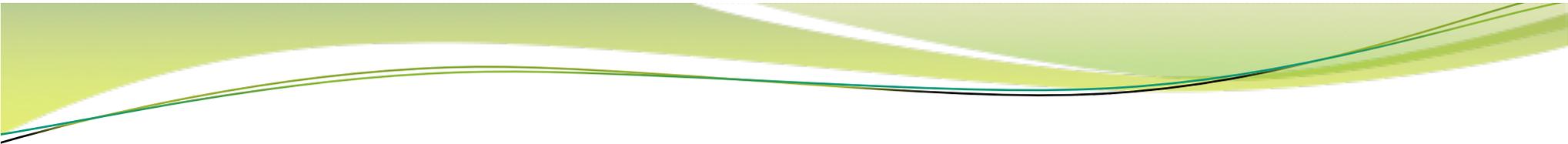
**may reflect individual PBRN funding (particularly for the prime network) in addition to P30 funding

***may reflect PBRN publications



Results: Initiatives

- PBRN Methods Certificate Program
- PBRN Fellowship Program
- PBRN Research Best Practices
- Practice Facilitation Resources
- MOC Part IV Peer Support Collaborative
- Boot Camp
- Patient and Family Engagement
- International Networking
- Stepped Wedge Design
- AHRQ ACTION III
- EvidenceNOW
- Patient-Centered Research
- Building a Learning Community



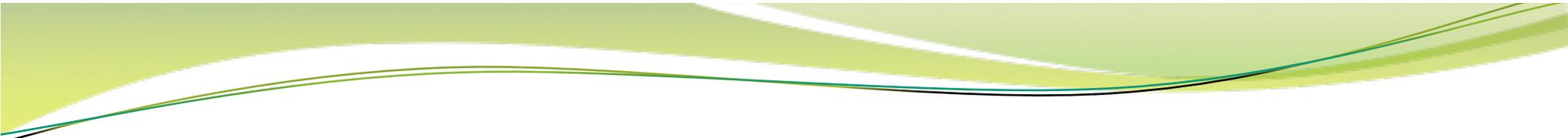
Results: Insights and Observations

- “I think the most important accomplishment is building and sustaining the relationships between the PBRNs...each has strengths and weaknesses but there is a great deal of respect.”
- “It’s been a really great opportunity to bring together PBRNs that were working in silos...to engage in collaborative learning, networking, sharing of strategies and providing a venue for continuous communication.”
- “Patient engagement was tough. We tried different models to link patients and clinicians...the effort definitely helped advance ideas.”



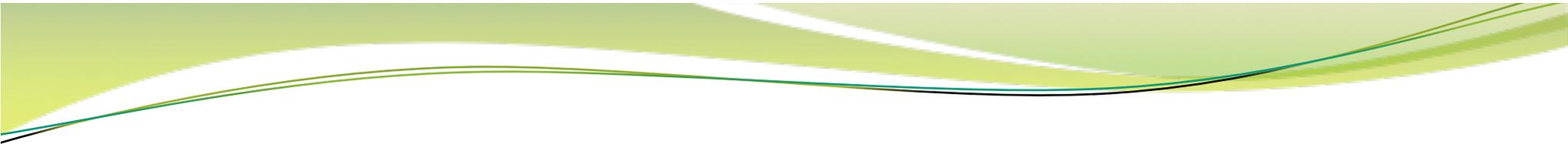
Results: Component Replication – What Worked

- “...building the infrastructure allowed multiple grants to move ahead and be funded.”
- “The P30 funding itself has kept people together, coming to meetings, and talking...allowing the group process to move forward.”
- “You need to use technology and data extraction and informatics approaches to really facilitate large-scale work.”
- “It’s okay to have monthly phone calls but you also have to have the ability to meet in person at least once a year....”



Results: Sustainability

- “Enthusiasm and personal zeal of directors will keep us together.”
- “...seemingly getting harder to get primary care to participate in PBRN research...because of all the mandates and pressure that is building.”
- “Now collaborating more with health systems instead of just with individual practices, as more practices become part of health systems.”
- “AHRQ was interested in more rapidly executing projects as well as building more of a learning capacity across multiple PBRNs...so larger scale projects could be conducted quickly using the most and appropriate methodologies for PBRNs.”



Results: Lessons Learned

- **Partnerships:** “...we can develop and expand meta-networks and expand learning and take the work of PBRNs to the national level.”
- **Collaborations:** “...have strengthened...as part of the [initiatives], and the work of Rebecca Roper building a community among P30 scientists and having us work together...”
- **Future:** “I don't think it's ever been more important than now to drive healthcare reform through the lens of pragmatic healthcare research.”

PBRN Research is a Team Sport





DISCUSS: How has the PBRN P30 experience enhanced your?

- **Branding/Name recognition**
- **Funding**
- **Workforce**
 1. Recruitment
 2. Retention
 3. Diversity
 4. **Training**
- **Partnerships**
 1. **Across socio-ecological levels, e.g., community engagement**
 2. Quality Improvement Organizations
 3. FQHCs
 4. Consortia/Registries



DISCUSS: How has the PBRN P30 experience enhanced your?

- **RESEARCH METHODS**
- **Research Administration**
 1. Enhanced responsiveness
 2. Workflow
 3. Co-PIs
 4. Single IRB
 5. Clinical trials reporting
 6. Public data sets
- **Research Topics**
 1. Social determinants of health
 2. Health disparities
 3. PI-initiated
 4. Public health impact
 5. Stage of implementation research?



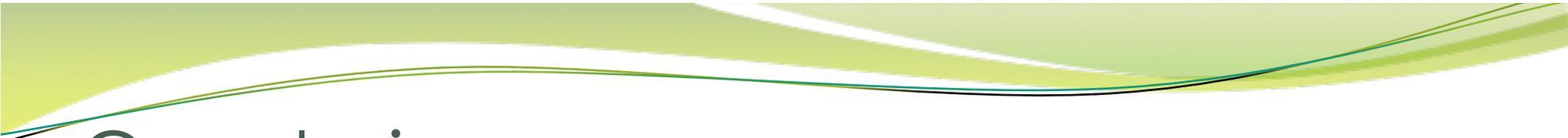
DISCUSS: How has the PBRN P30 experience enhanced your?

- **Research projects to identify sustainable, adaptable solutions**
- **Dissemination strategies**
 1. **Training**
 2. Technical support
 3. Professional accreditation
 4. Peer-review literature
 5. Grey literature
 6. Social Media

DISCUSS: Challenges and gaps to address next time

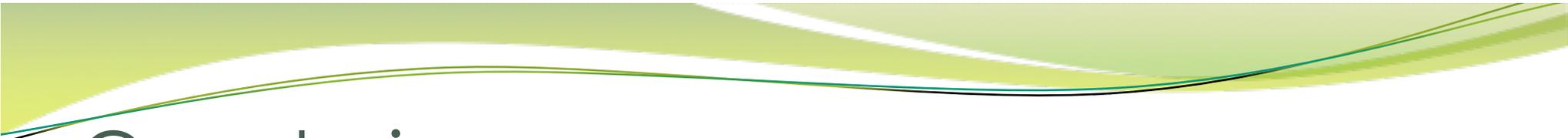
- Branding
- Funding
- Workforce
- Partnerships
- Research Methods
- Research Administration
- Research Topics
- Dissemination Strategies
- How does one demonstrate impact/value?
- Other priorities?





Conclusions

- PBRNs formed meta-networks that came together to:
 - Find new solutions and methods
 - Work with other P30s
 - Focus on activities such as capacity development, education and training, and developing and disseminating products and best practices



Conclusions

- Collaborations within and between P30s contributed to the launch of several successful initiatives, including:
 - PBRN Certificate Program, PBRN Best Practices, several training programs, an international conference on practice facilitation, and the PBRN Fellowship Program
- PBRNs are better equipped to:
 - Pursue a range of funding options (e.g., PCORI, AHRQ, NIH) individually and in combination
 - Advance primary care research using appropriate methods and designs

Acknowledgements

- AHRQ funding 2012-2017
- Evaluation team
 - Zsolt Nagykaldi, PhD, PI, OUHSC
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- P30 directors and project teams
- Participating PBRNs and primary care practices

