

# **Collaborating Across Borders V Pre-Conference Workshop**

## **September 29, 2015**

### **The National Center for Interprofessional Practice and Education: Generation of Evidence Workshop**

**Barbara F. Brandt, PhD, Director**

**Frank Cerra, MD, Senior Advisor**

**M. Nawal Lutfiyya, PhD, FACE, Senior Research Scientist**

# *Learning Objectives:*

- Articulate the National Center's Nexus of Inquiry of team science approach to studying Interprofessional Education and Collaborative Practice (IPECP)
- Understand the National Center's comparative effectiveness research (CER) agenda to studying IPECP
- Describe the intervention approach of living laboratories for testing IPECP models that integrate education and practice
- Discuss the generation and collection of essential data to enable sound analyses in the National Center Data Repository (NCDR)



# Detailed Description of Workshop (sign posting):

3

- In this workshop we will use a combination of hands-on activities and didactic elements intermixed over the time frame.
- The didactic sessions will entail 10-15 minute lectures on multiple topics including:
  - describing *intervention research* in IPECP
  - defining health and education related outcomes at multiple levels (micro, meso and macro)
  - comparing and contrasting *comparative effectiveness research* (CER) designs



# *A little more sign posting:*

The outcomes defined by the Triple Aim (improve quality of care, improve population health, reduce the per capita cost of care) will inform the discussion of multi-level health and education related outcomes.

- The hands on dimension of this workshop will comprise small groups of 3-4 people working on developing IPECP interventions (one per group) articulating multi-leveled outcomes (at least one micro, meso and macro outcome per intervention) that are studied using a CER design.



Let's start by having each of the workshop leaders (Barb, Frank, Nawal) introduce our selves

- Once you are working in your small groups please introduce yourselves to one another be sure to say:
  - who you are,
  - what you do, and
  - what you are interested in getting out of this workshop



# What and who are the National Center for Interprofessional Practice and Education (~10 minutes—Dr. Barbara Brandt)

The National Center for Interprofessional Practice and Education is supported by a Health Resources and Services Administration Cooperative Agreement Award No. UE5HP25067. The National Center is also funded in part by the Josiah Macy Jr. Foundation, the Robert Wood Johnson Foundation, the Gordon and Betty Moore Foundation and the University of Minnesota. © 2015 Regents of the University of Minnesota, All Rights Reserved.

UNIVERSITY OF MINNESOTA



# Interprofessional Education and Collaborative Practice <sup>7</sup>

**Interprofessional education** “occurs when two or more professions learn with, about, and from and each other to enable effective collaboration and improve health outcomes.”

*Framework for Action on Interprofessional Education and Collaborative Practice, World Health Organization 2010; Centre for the Advancement of Interprofessional Education, UK, 1987*

**Interprofessional (or collaborative) care** “occurs when multiple health workers from different professional backgrounds provide comprehensive health services by working with patients, their families, carers (caregivers), and communities to deliver the highest quality of care across settings.”

*Framework for Action on Interprofessional Education and Collaborative Practice, World Health Organization 2010*



We believe high-functioning teams can improve the experience, outcomes and costs of health care.

National Center for Interprofessional Practice and Education is studying and advancing the way stakeholders in health work and learn together.

### ***National Center Funders***

- Health Resources and Services Administration Cooperative Agreement Award No. UE5HP25067
  - Robert Wood Johnson Foundation (RWJF)
  - Gordon and Betty Moore Foundation
  - Josiah Macy Jr. Foundation





# The National Center for Interprofessional Practice and Education: Our Goal

9

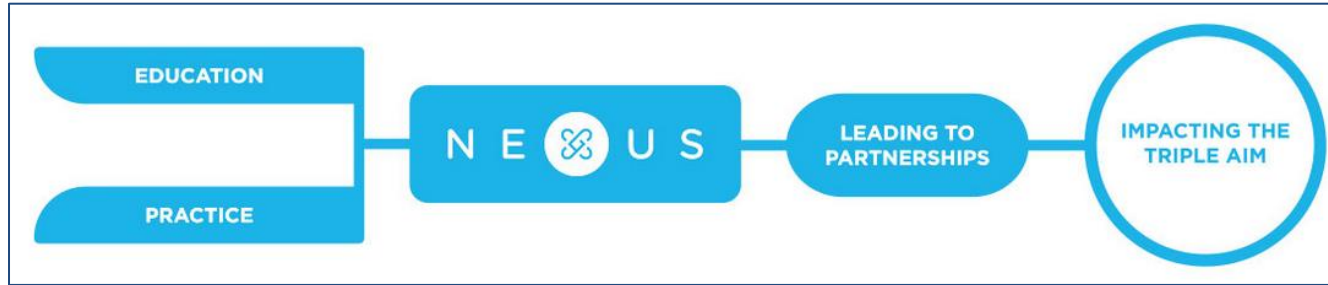
To provide the **leadership**, **evidence** and **resources** needed to guide the nation on the use of interprofessional practice and education as a way to enhance the experience of health care, improve population health, and reduce the overall cost of care.



- **Co-create** and **evaluate** interprofessional practice and education models that reconnect education and collaborative practice in Nexus sites across the U.S. and show the impact of this work on the Triple Aim.
- **Strengthen** and increase the availability of evidence about the effectiveness of interprofessional practice and education in achieving the Triple Aim.
- **Lead** and **facilitate** the national dialogue among stakeholders in education and health care about the effectiveness of interprofessional practice and education in achieving the Triple Aim.



# The Nexus: Our Vision for Health

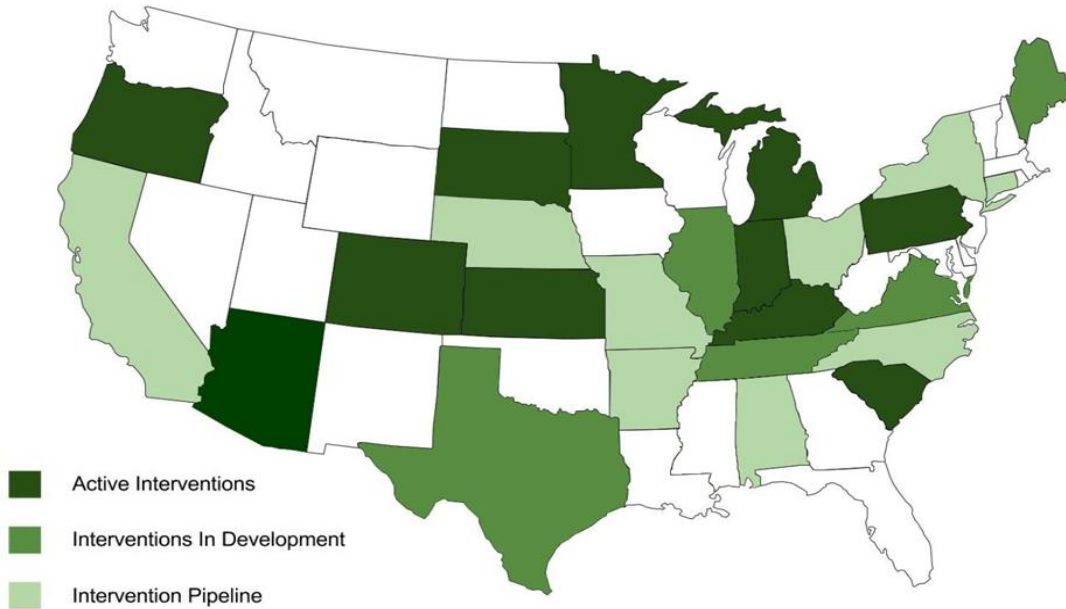


- Improving quality of experience for patients, families, communities and learners
- Sharing responsibility for achieving health outcomes and improving education
- Reducing cost and adding value in health care delivery and education



# Nexus Innovations Network

12



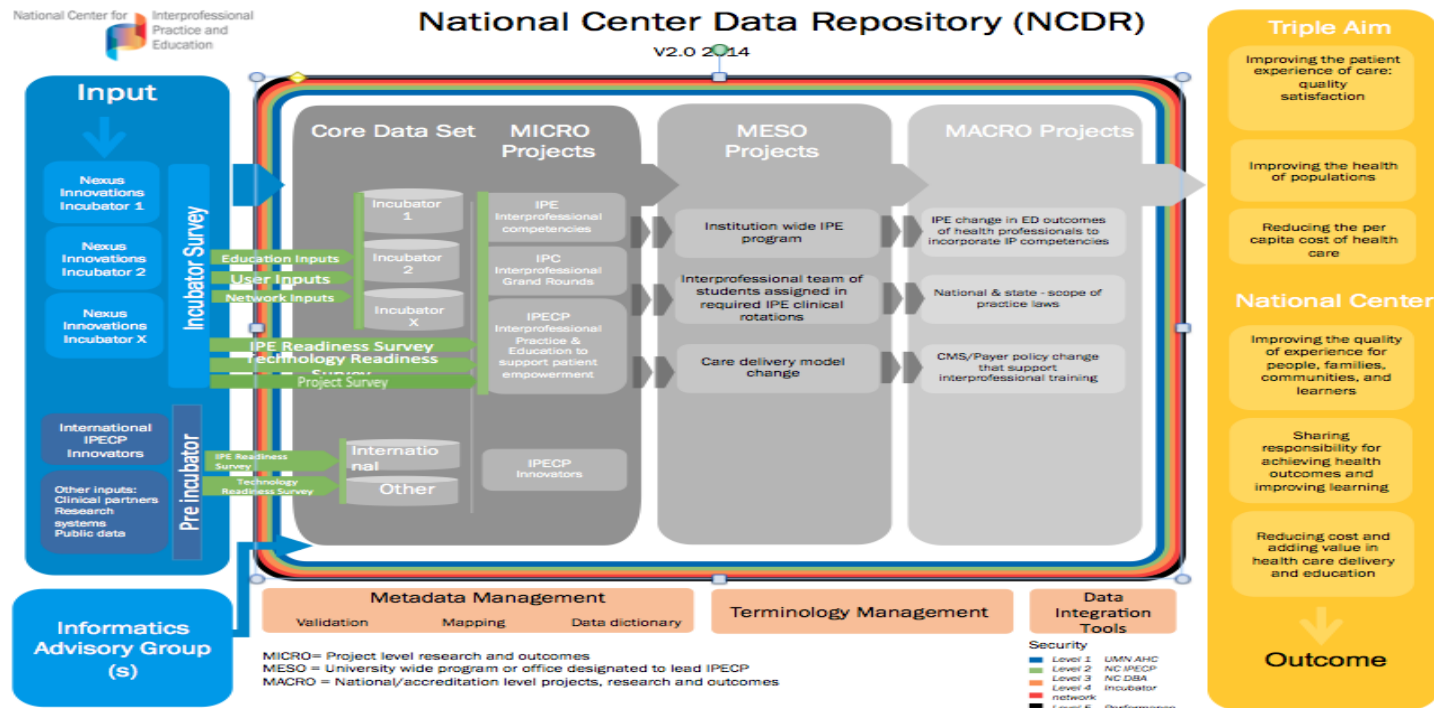
The National Center for Interprofessional Practice and Education is supported by a Health Resources and Services Administration Cooperative Agreement Award No. UE5HP25067. The National Center is also funded in part by the Josiah Macy Jr. Foundation, the Robert Wood Johnson Foundation, the Gordon and Betty Moore Foundation and the University of Minnesota. © 2015 Regents of the University of Minnesota, All Rights Reserved.

UNIVERSITY OF MINNESOTA



# National Center Data Repository (NCDR)

13



The National Center for Interprofessional Practice and Education is supported by a Health Resources and Services Administration Cooperative Agreement Award No. UE5HP25067. The National Center is also funded in part by the Josiah Macy Jr. Foundation, the Robert Wood Johnson Foundation, the Gordon and Betty Moore Foundation and the University of Minnesota. © 2015 Regents of the University of Minnesota. All Rights Reserved.

UNIVERSITY OF MINNESOTA



# University of Kentucky and Cardinal Hill Rehabilitation Hospital

14

Intervention outcomes: For stroke patients: decreased length of hospital stay and readmissions, functional independence, reduced complications and medical errors, increased patient and provider satisfaction, lower cost of care



- Students and professionals: Dietetics, nursing, occupational therapy, respiratory therapy, social work in teams
- Care transitions: acute to post-acute care post-acute care to community; acute care to community
- Application of a simulation and practice tool for IP teams

The National Center for Interprofessional Practice and Education is supported by a Health Resources and Services Administration Cooperative Agreement Award No. UE5HP25067. The National Center is also funded in part by the Josiah Macy Jr. Foundation, the Robert Wood Johnson Foundation, the Gordon and Betty Moore Foundation and the University of Minnesota. © 2015 Regents of the University of Minnesota. All Rights Reserved.

UNIVERSITY OF MINNESOTA



**Intervention outcome:** effect of an interprofessional preceptors development program on preceptor and learner attitudes, knowledge, skills, behaviors; impact of interprofessional teaching and teamwork on patient outcomes.



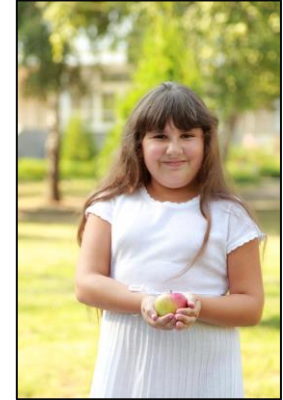
- Students and professionals: clinical psychologists, health information managers, lawyers, nurses, occupational therapists, pharmacists, physical therapists, physicians
- Developed a hybrid curriculum (online and small-group activities) for practitioners/preceptors to enhance interprofessional teamwork and to provide preceptors with an interprofessional curriculum for teaching students



## Interprofessional Practice and Education Collaborative

**Intervention outcome:** effect of collaborative learning on personal and professional perceptions and skills of communication and teamwork for addressing population health.

- South Dakota State University, University of South Dakota, Community Outreach, Augustana College, Sanford Health, Avera
- Graduate certificate program to provide skills to implement evidence-based approaches to childhood obesity prevention within community-outreach format
- Funded with a USDA Agricultural and Food Research Initiative grant
- Students from Nutrition, Exercise Science, Nursing, Counseling, Plant Science, and Journalism majors





# PCPCC's Report on Interprofessional Training

17

Download at:

[www.pcpcc.org](http://www.pcpcc.org)

And [nexusipe.org](http://nexusipe.org)

National Center Insert:  
Interprofessional Education:  
“Thinking and Acting  
Differently” PCMH Workforce  
Development Models

15



The National Center for Interprofessional Practice and Education is supported by a Health Resources and Services Administration Cooperative Agreement Award No. UE5HP25067. The National Center is also funded in part by the Josiah Macy Jr. Foundation, the Robert Wood Johnson Foundation, the Gordon and Betty Moore Foundation and the University of Minnesota. © 2015 Regents of the University of Minnesota. All Rights Reserved.

UNIVERSITY OF MINNESOTA



- Shared vision
- Patient-centered curriculum
- Innovation for culture change
- Spontaneous team leaders
- Benefits of the Nexus to the Patient-Centered Medical Home
- Benefits of the Nexus to students and residents

For more information, listen to:

<https://nexusipe.org/progress-and-promise-podcast-series>



# Didactic Session: Intervention Research in IPECP (15 minutes---Dr. M. Nawal Lutfiyya)



# What is research?

- Research, entails asking a question, whose answer is grounded in the rigorous and systematic collection and analysis of data.
- When conducting research, investigators paying attention to reliability and validity as well as generalizable findings and conclusions.
- Evaluation, in contrast, which is also systematic and rigorous, is grounded in a specific program's context where evaluators answer questions of interest to potential users.
- Although the terms are sometimes used interchangeably, research seeks to generalize while evaluation to particularize.



# What is Intervention research?

- Intervention research is the systematic study of purposive change strategies.
- When people act differently because of an intervening mechanism, then concerted, directed change happens.
- The logic of interventions is that as they are implemented they will influence behavior change in those exposed.



- 1) Research Questions
- 2) Outcomes
- 3) Covariates
- 4) Generalizability



# In developing an intervention research question you need to:

23

- Identify a current situation needing change

**THEN**

- Write a question using PICOT elements (population, intervention, outcome, comparison group, timeframe) in your research question.

Research Question template:

In \_\_\_\_\_ (P), what is the effect of \_\_\_\_\_ (I) on \_\_\_\_\_ (O) compared with \_\_\_\_\_ (C) within \_\_\_\_\_ (T)?



These are measured and tangible such as reduced cost of care, reduced prevalence of a disease state, or increased patient satisfaction.

- outcomes are achieved results or consequences of some sort of intervention (the benefit of the intervention)
- measurements and/or metrics should be identified for outcome variables





- A covariate is a variable that is possibly predictive of the outcome under study
  - Alternative terms are explanatory variable, independent variable, or predictor variable

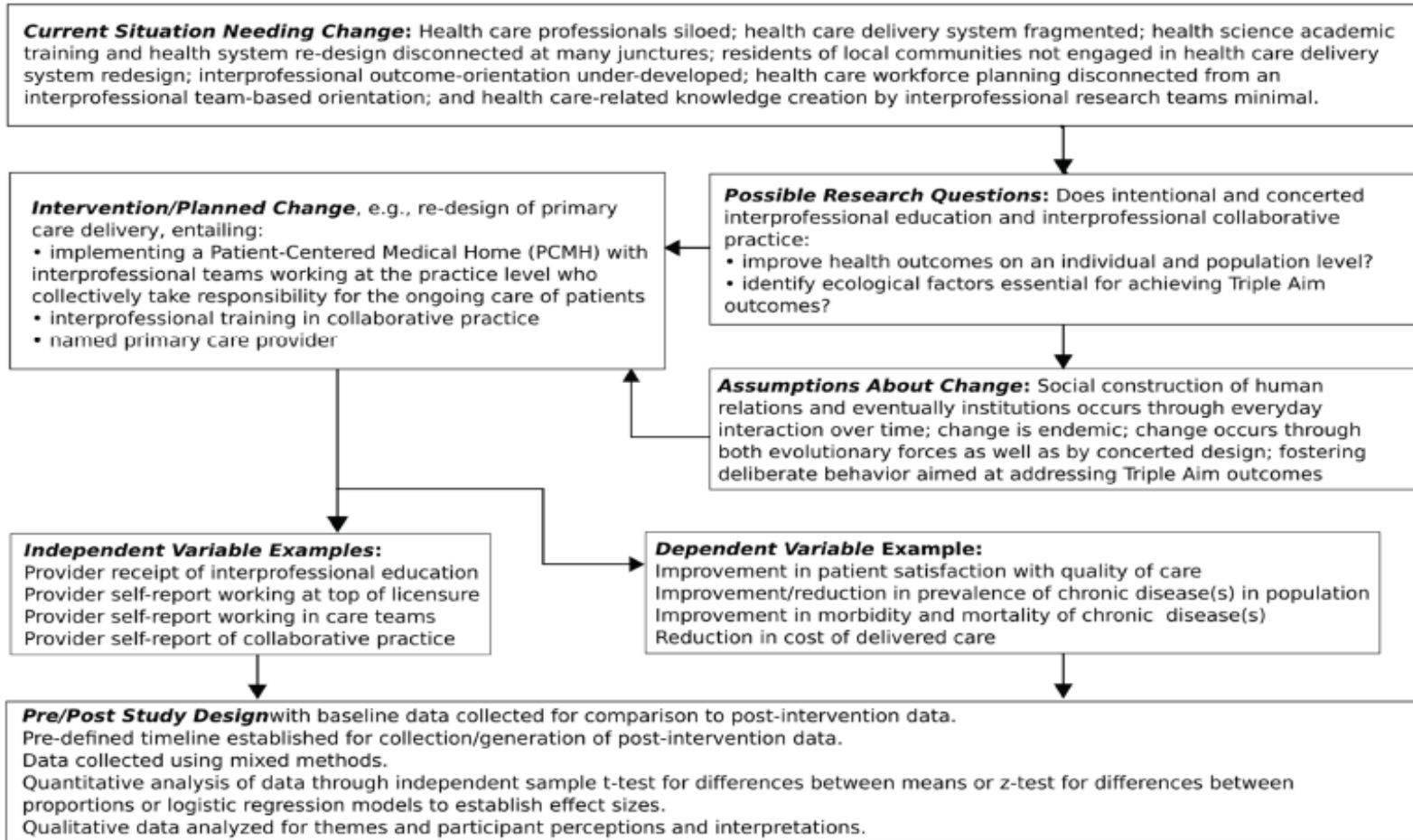


- For findings to be generalizable they must be generated from rigorously designed intervention research with sufficient sample sizes to allow for analyses that can produce and assess the effect sizes of predictor variables on outcome variables.



# What does an intervention look like?





**Figure 1.** Illustration of intervention design and research process.



# In terms of designed change making the Triple Aim flesh, the following are among the many possible underlying assumptions:

1. A collaborative team approach to care could reduce healthcare cost.
2. Collaborative training could result in better healthcare quality by developing interdependencies, mutual respect, and understanding for scope of work among health professionals.
3. Health professionals trained in understanding population health could enhance primary prevention leading to reduced prevalence of modifiable risk factors that may result in chronic disease. This can happen at the point of care one person at a time, a disease-based population intervention, or a population health status intervention.
4. A collaborative team approach to care could facilitate cost effectiveness with appropriate level providers working at the top of their licenses to provide care at the appropriate level of prevention (primary, secondary, or tertiary).



# Small Group Exercise 1

Working in small groups of 3 or 4 develop a project intervention (purposive change strategy) to address a current situation needing change.

- Define the situation you believe needs to be changed
- Identify the outcomes you would like to impact
- Identify variables you think will predict or at the very least affect your outcomes
- Write a research question using the PICOT approach



# Didactic Session: Defining Health and Education Related Outcomes at Multiple Levels (Micro, Meso and Macro) To Incorporate Into IPECP Research Design and Analysis (15 minutes---Dr. Barbara Brandt)



# Change occurs at multiple levels three of which are: micro, meso and macro

- Micro level changes in clinical settings entail health care professionals interacting with one another in new and different ways to improve the quality and outcomes of care provided to patients.
- Organizational change constitutes the meso level. An example is a clinic or constellation of clinics undergoing a concerted effort at re-designing their care delivery process and/or approach.
- Macro level change encompasses societal level changes at the institutional, state and/or national levels supported by policy changes. An example of macro level change includes new accreditation criteria for different professions impacting education and credentialing.





# Outcomes at Multiple Levels (Micro, Meso and Macro)

Change Level	Clinical	Education	Nexus
<b>Micro</b>	Provides care of patients and operates within its own environment and ecology; participants are committed to working together	Teaching environment to education learners	Intentionally create relationship at the practice and education microsystem level to achieve the Triple Aim.
<b>Meso</b>	Senior leadership and governing structures in clinical systems; corporate offices, governing boards;	University/college presidents, provosts, deans and senior administration; governing boards and trustees, regents	Greater understanding of synergies between health system transformation and meeting higher education needs; support IPECP implementation at micro level
<b>Macro</b>	Political, financial, accreditation and policy environment; state, regional and/or national level; increasingly complex	Political, financial, accreditation and policy environment; state, regional and/or national level; increasingly complex	Political, financial, accreditation and policy environment; state, regional and/or national level; increasingly complex



Working in your small groups and with the intervention you have already conceptualized, develop outcomes for your intervention that exemplify each of the three levels of micro, meso and macro.

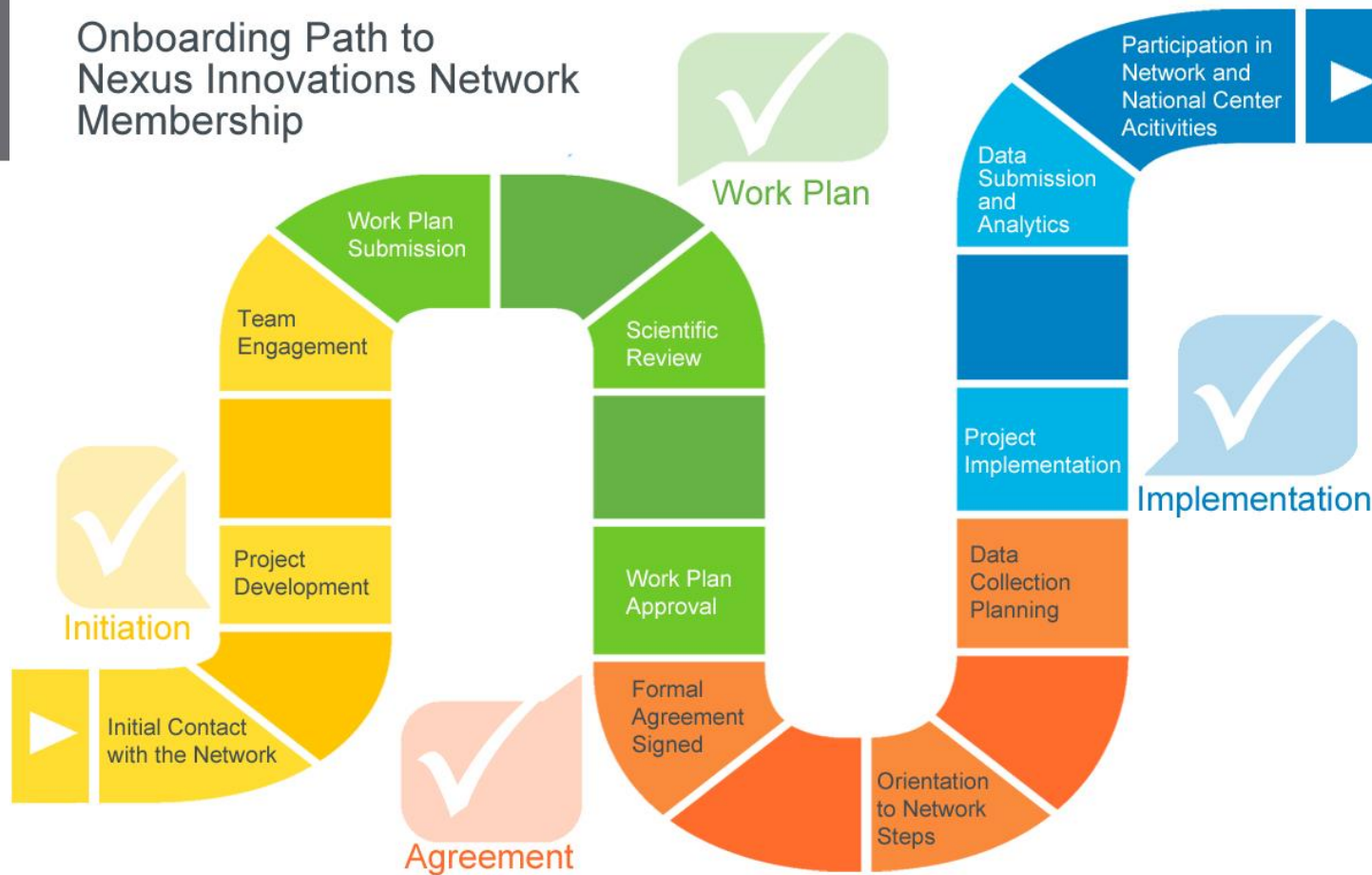
- Think through not only the change level but also the domains of clinical practice, health professions education and nexus



# Didactic Session: Comparing and Contrasting Comparative Effectiveness Research (CER) Designs To Other Others (15 minutes---Dr. Frank Cerra)



# Onboarding Path to Nexus Innovations Network Membership



# National Center Workforce Real Time Data Strategy:

37

Does intentional and concerted interprofessional education and interprofessional practice (new models of care):

1. improve the triple aim outcomes on an individual and population level?
2. result in sustainable and adaptive infrastructure that supports the triple aim outcomes of both education and practice?
3. identify ecological factors essential for achieving triple aim outcomes?
4. identify factors essential for systematic and adaptive infrastructure in the transformation of the process of care and education?
5. identify changes needed in policy, accreditation, credentialing and licensing for health care provision and education?



# National Center for Interprofessional Practice and Education

## Nexus Innovations Incubator



# Anatomy of an incubator

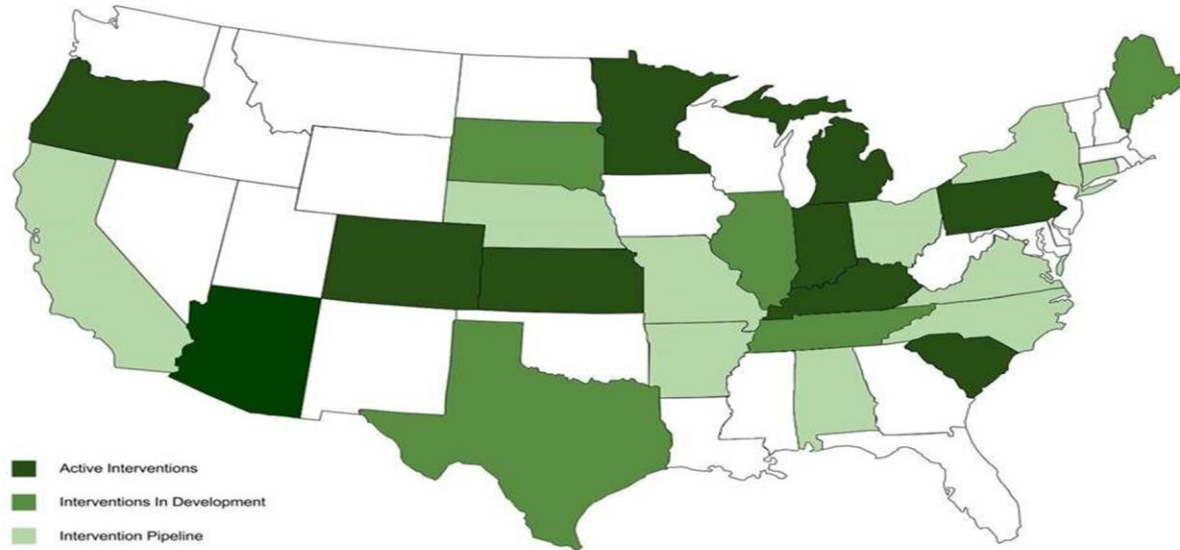
- ✓ Integrating clinical practice and education
- ✓ An intervention to impact the Triple Aim (cost, quality and population health)
- ✓ Interprofessional team involving students / residents / learners
- ✓ Report on particular ecology
- ✓ Shared resource model
- ✓ Sign agreements
- ✓ National conversation for problem-solving, sharing resources
- ✓ Scalability
- ✓ Transportability to other environments





# National Center Network Incubator Network

40



The National Center for Interprofessional Practice and Education is supported by a Health Resources and Services Administration Cooperative Agreement Award No. UE5HP25067. The National Center is also funded in part by the Josiah Macy Jr. Foundation, the Robert Wood Johnson Foundation, the Gordon and Betty Moore Foundation and the University of Minnesota. © 2015 Regents of the University of Minnesota, All Rights Reserved.

UNIVERSITY OF MINNESOTA

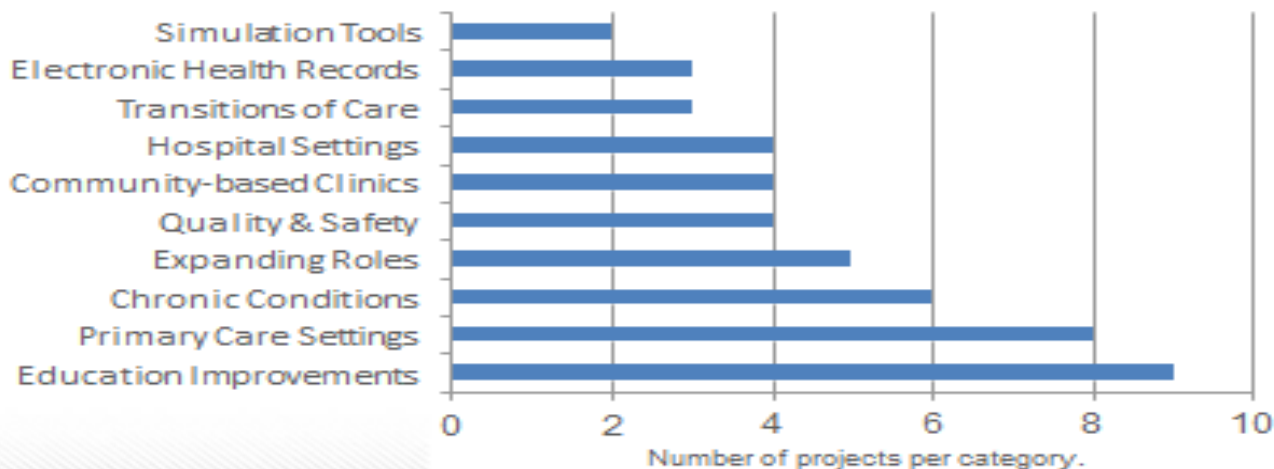




## National Center Update

### Nexus Innovation Network Project Categories

15 active intervention projects address 10 categories



All of the projects address 3 or more categories.

7

National Center for Interprofessional  
Practice and Education

UNIVERSITY OF MINNESOTA



# Some Preliminary NCDR Lessons Learned and Success Factors

1. The redesign of the process of care is about changing culture
  1. Moving from teaching to learning; volume to value; on the job learning
  2. Evaluation and assessment using knowledge and evidence
  3. Broader engagement of communities, people and populations
2. Moving education and delivery systems requires a compelling vision and case statement
  1. Return on investment
  2. Knowledge and evidence
  3. Partnerships across sectors
3. The IPECP effort needs to be appropriately resources
  1. Part of strategic plan, goals and direction
  2. Positioned high in the organization with operational alignment
  3. Part of institutional budgeting and accountability processes
4. Leadership is essential
  1. Championed from C-Suite to point of care
  2. Environment where risk is OK to take and manage
  3. Accountability in data collection and reporting



1. Of those who provided team care, 50% did not have or occasionally had a nexus infrastructure in the workplace
2. Of those who formed care teams around patient needs, 47% felt IPECP was never or occasionally essential in the process of care
3. Of those who formed care teams around community needs, 53% felt IPECP was essential for the process of care
4. For those who formed care teams around community needs, the important factors appear to be feeling IPECP is essential in the process of care and exposure to IPE, but not instruction on team competencies



# Some Preliminary NCDR Qualitative Information

44

1. Patients need to participate in the development of care plans
2. The cost of care and other social determinant issues need to be taken into account as these relate to the success of the care plan
3. Listen to and ask the people seeking health what they need
4. Patients and families need to be part of the care team
5. Social stressors need to be addressed in the care plan
6. Elicit patient goals and experiences and use the answers to devise pharmacotherapeutic plan with the patient



- The Affordable Care Act explicitly connected CER with current healthcare reform in the US.
  - This is not without controversy since randomized control trials (RCT) are often thought of as the gold standard for advancing scientific knowledge creation.
  - RCTs are a form of intervention research, just as some CER is.
  - The RCT is much too limiting when interventions are outside the scope of specific types of clinical interventions such as drug or device studies.



# Challenges with RCTs

Often RCTs produce findings with limited generalizability based on inadequate contextual information from small samples.

- Evidence produced from RCTs relies on a very narrow and specific definition of causality where the timing and controlling of events leads to the inference that one variable led to and even created another.
- Other criteria for scientific evidence may be equally or more valuable for informing practice and policy.
- Well-designed observational studies or quasi-experimental interventions (such as the ones undertaken by the Nexus incubators) frequently produce valuable evidence that can and should inform action.
- The National Center goal is to produce actionable knowledge and data.



# Getting Past the Issues with RCTs

Some questions are better or even best answered by longitudinal studies or studies that are not as controlled as RCTs.

- For example, what is the impact of IPECP interventions on sustainable change in the process of care; the scalability/transportability of a new model of care; or the effects on population health?
  - In such instances it makes sense to create opportunities to connect the dots from the findings from a *number* of well-designed studies in order to build a relevant, reliable and valid knowledge or evidence base employing both qualitative and quantitative data.
  - Connecting the dots entails linking evidence from research on specific steps in a *likely* causal pathway by creating a pathway of linked association.
  - Inferences made to linked knowledge between associations should be supported by well-developed logic models and clearly articulated theories of change (plausible explanations for change).



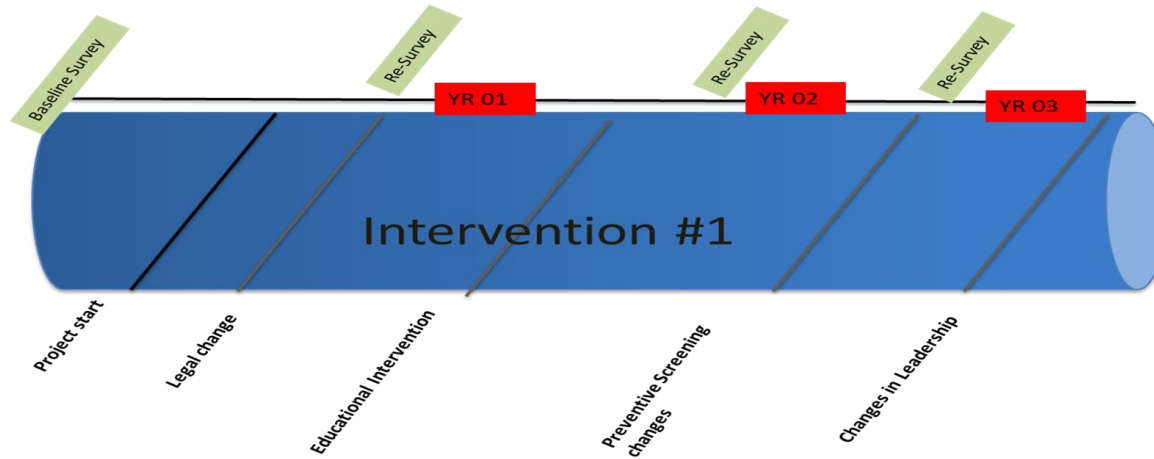
# CER and Connecting the Dots in a Pathway of Linked Associations

The concept of a pathway of linked associations was introduced to address the question of *when do we know enough to recommend action*

- Some have suggested that the potential fundamental root causes of health and/or health related outcomes can be identified using a connect the dots logic based on the following four essential elements:
  - the influence on multiple disease or health outcomes; impact on health outcomes through multiple risk factors; impacting access to resources that can be used to avoid risks or minimize the consequences of disease; and whether or not a relationship is reproduced over time through the replacement of intervening mechanisms.
- Connecting evidence from different studies addressing these elements allows for the identification of plausible critical components of a pathway leading to a health-related outcome.







## Ecological / Environmental / Critical Incidents Impacting the intervention over time



CER requires control or baseline data to compare the intervention results to. The National Center uses the following controls for CER:

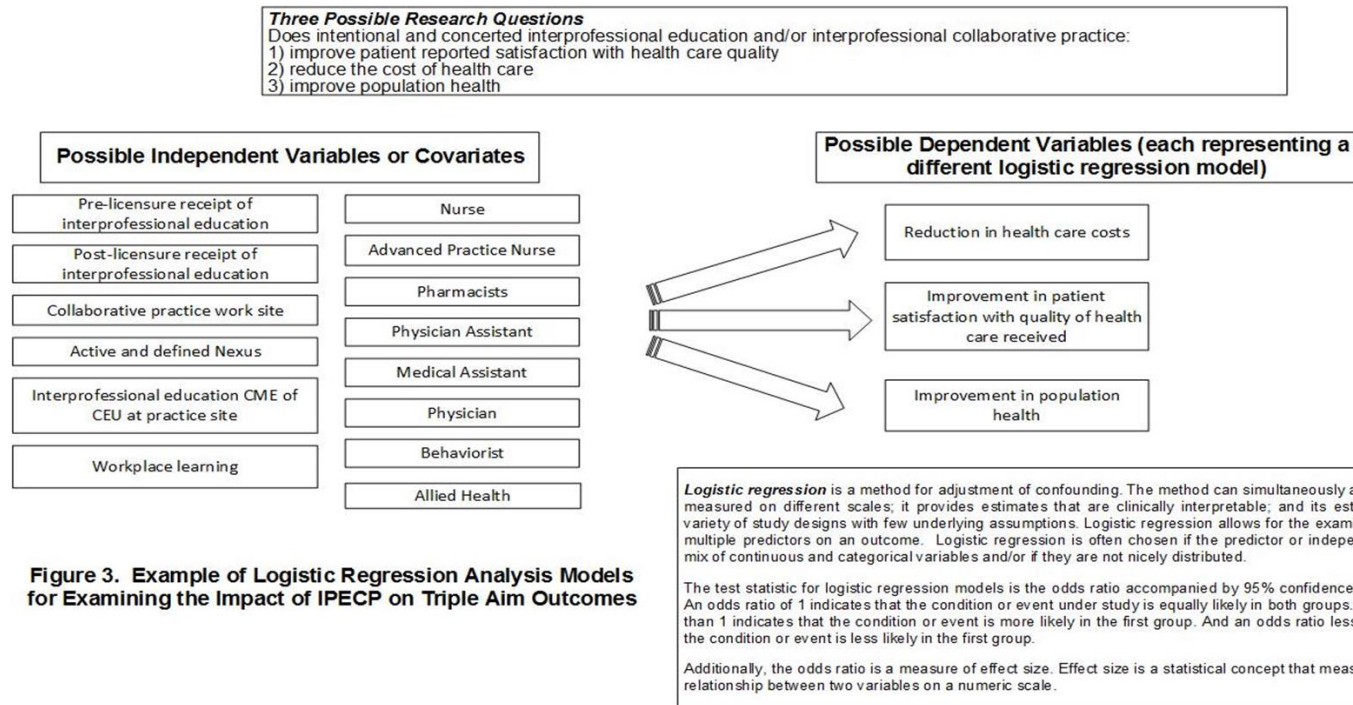
1. Pre/Post testing with a given instrument with cohorts of participants
2. Starting point data and longitudinal corrective actions to achieve desired outcome improvements
3. Baseline control data collected prior to initiation of the intervention
4. Parallel control



# Small Group Exercise 3

- Thinking about CER, outline how your intervention project is or could be a CER project.
- Identify how your project fits or could fit into the diagram on the next slide.





# Interactive Presentations from Small Group Activities

(10 minutes per group---Dr. Nawal Lutfiyya)



# Large Group Discussion of Lessons Learned From Workshop and Closing (7 minutes—Dr. Barbara Brandt)





**NATIONAL CENTER for  
INTERPROFESSIONAL PRACTICE  
and EDUCATION**

The National Center for Interprofessional Practice and Education is supported by a Health Resources and Services Administration Cooperative Agreement Award No. UE5HP25067. The National Center is also funded in part by the Josiah Macy Jr. Foundation, the Robert Wood Johnson Foundation, the Gordon and Betty Moore Foundation and the University of Minnesota. © 2015 Regents of the University of Minnesota, All Rights Reserved.

UNIVERSITY OF MINNESOTA