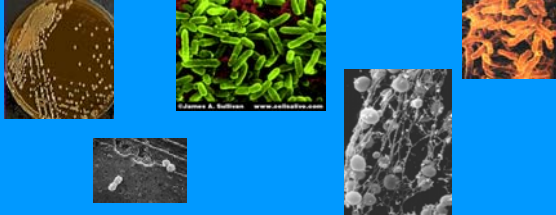
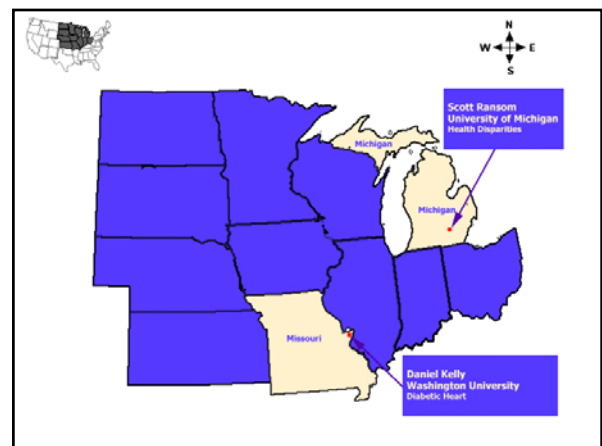
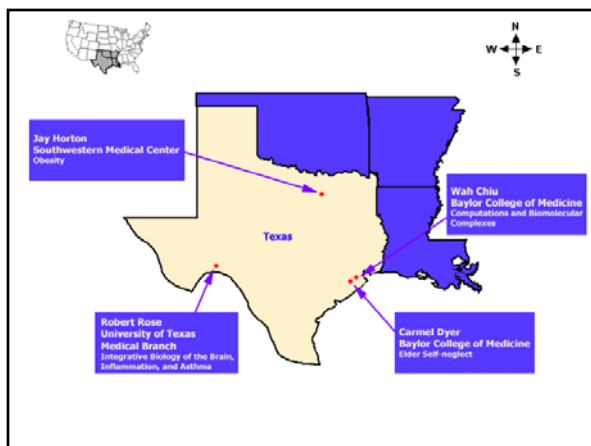
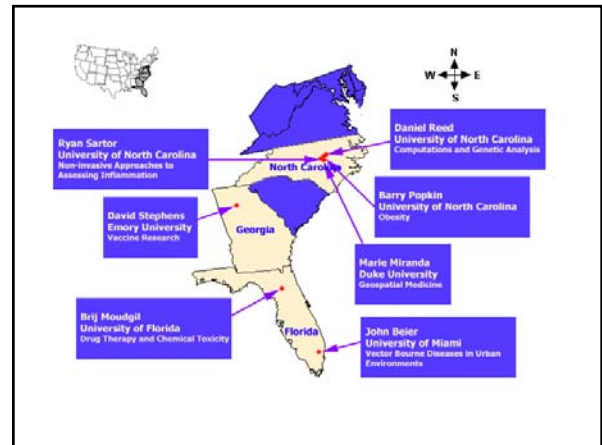
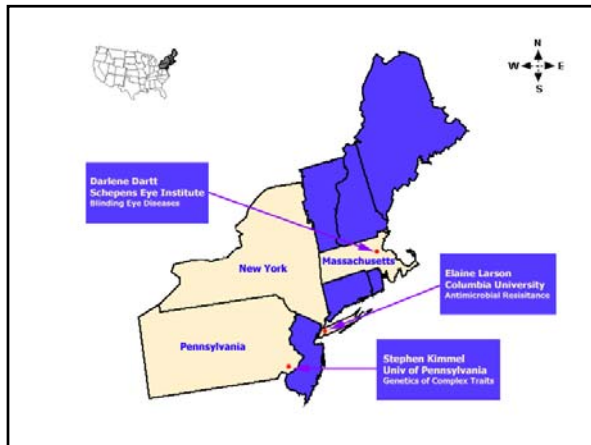


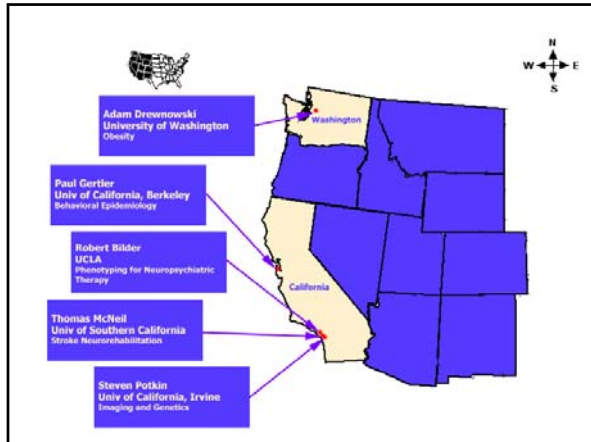
## Center for Interdisciplinary Research on Antibiotic Resistance (CIRAR)



## Component of NIH Roadmap Initiatives

- Supported by the National Center for Research Resources
- Grant number: P20 RR20616





## AIMS: Year 1

- Plan, implement, and evaluate curriculum to prepare biomedical researchers to conduct interdisciplinary research.
- Develop expertise of CIRAR investigators in interdisciplinary research.




## AIMS: Years 2-3

- Conduct interdisciplinary demonstration projects related to the prevention and control of antimicrobial resistance and evaluate their outcomes.
- Implement dissemination and implementation strategies that assure the sustainability and expansion of CIRAR's interdisciplinary research projects and programs.

## AIMS: Year 3

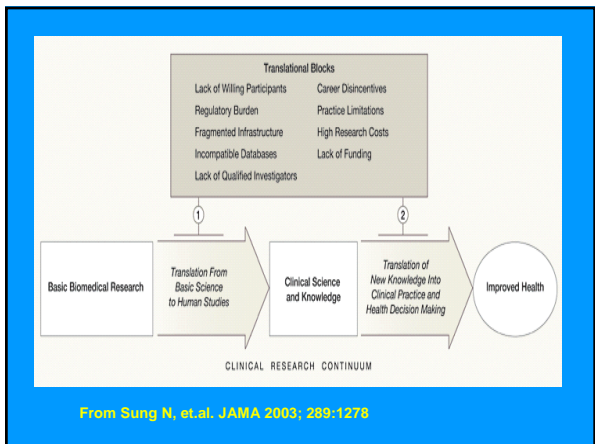
- Formalize plans for a sustainable Interdisciplinary Research Consortium for Antimicrobial Resistance.



## Background

**Two major gaps that hinder the translation of research to improved health outcomes: the translation from basic science to human studies, and from clinical research to practice and policy. These translational blocks "impede efforts to apply science to better human health in a expeditious fashion."**

(IOM Clinical Research Roundtable, 2003)



## The Challenges

- Collaborative partnerships have a high failure rate
- Visible changes in population outcomes (i.e. reduced antibiotic resistance) may take longer than the life of the Center
- There is an absence of accurate and sensitive indicators for many issues of concern (e.g. effect of an educational campaign on antibiotic use)

## Levels of Interdisciplinary Collaboration

**Multidisciplinary:** Work in parallel or sequentially from disciplinary-specific base to address common problem

**Interdisciplinary:** Work jointly from disciplinary-specific basis to address common problem

**Transdisciplinary:** Work jointly using shared conceptual framework drawing together disciplinary-specific theories, concepts and approaches to address common problem

## What Works?



## National Study of Partnership Functioning

- Survey of 815 informants in 63 partnerships in existence >18 months with at least 10 partners
- Partnership synergy was most closely related to leadership effectiveness and partnership efficiency (i.e. getting stuff done)

Weiss, Anderson, Lasker 2002; Health Educ Behav

## Essential Structures

- Comprised of a small number of multi-professional teams
- Standardized methods for planning, communicating, convening meetings and decision making and regularly scheduled meetings
- Formal agreements for data sharing and other collaborative activities
- Core administrative staff and structure
- External funding, often from multiple sources

## Essential Processes

- Clear and explicit shared research goals and objectives
- Clear articulation and agreement regarding research gaps
- Knowledge and experience with the change process
- Acceptance, validation, commitment, synergy among collaborators
- Strong and clear leadership

## Essential Processes

- Contributions made and recognized by all partners
- Minimal wasting of time, highly efficient work processes
- Participants exchange ideas outside of regular meetings
- Active involvement of students
- Team members receive formal training in interdisciplinary research
- Members understand the values and viewpoints of others

## Essential Outcomes

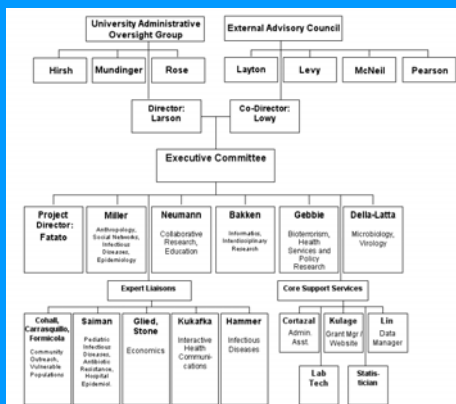
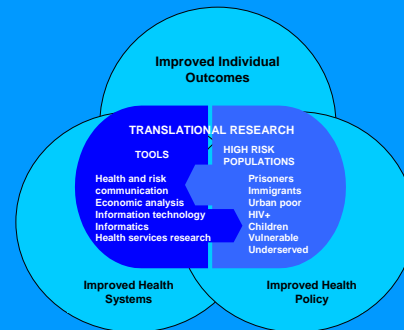
- Measurable work products, including publications, dissertations, presentations and funded grants



## Year 1: Preparing for Interdisciplinary Research

- Studies are lacking regarding
    - Success of collaborative and other approaches
    - Assessment of a comprehensive, step-by-step pathway for collaboration
  - The first order of business
    - A model
    - An action plan
    - An evaluation plan
- Lasker & Weiss. J Urban Health 2003

## The Model: CIRAR Conceptual Underpinnings



## Student Involvement

- Students are active members of Executive Committee
- Infectious disease fellow, doctoral nursing student, doctoral public health student
- Assist in identifying appropriate networks

## The Action Plan: Content

- Conceptual underpinnings of interdisciplinary research and the Center; Definitions of collaboration, interdisciplinary research
- State-of-the-science literature reviews of collaborative research (including effects of collaboration on outcomes)
- Models of collaboration and characteristics of successful collaborative projects

## Content

- Barriers to collaboration; Conflict Resolution
- Methods to measure effectiveness of interdisciplinary research
- Understanding perspectives, research priorities and focus of various disciplines

## Curriculum (shared)

- Applications of information technology
- Economic / cost analysis for interdisciplinary research
- Incorporating health services, systems and policy research with clinical and basic sciences
- Ethics of interdisciplinary research, including joint authorship, sharing intellectual property

## Curriculum (shared)

- Collaborative research and targeted communication for underserved / vulnerable populations
- Cognate, research design and methodology and topical information on antimicrobial resistance

## Seminar Series

- "Research Perspectives on Antibiotic Resistance" sponsored by the Center with widespread outreach
- Presentations by members of the research team (Executive Committee, Expert Liaisons, External Advisory Committee) and additional experts

## Seminar Topics: Research Perspectives on Antibiotic Resistance

- Biological
- Sociological/Cultural
- Educational (practice guidelines, public media and educational campaigns)
- Policy and public health
- Healthcare systems
- Pharmaceutical (drug development)
- Epidemiological/Community outreach

## Possible Task Groups

- Networking/Outreach
- Gap Analysis/Research Agenda
- Seminar Series
- Evaluation Group

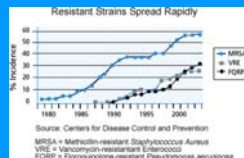
## Networking/Outreach Group

- Identifies appropriate internal and external groups (e.g. departments, corporate, organizations, individuals) with which the Center should interface. Makes and implements a plan for liaison with these groups



## Gap Analysis/Research Agenda

- Conducts thorough review of research on antibiotic resistance, identifies gaps and an interdisciplinary research agenda to fill these gaps



## Seminar Series

- Develops and sustains a seminar series which includes interdisciplinary research perspectives on antibiotic resistance and on preparing interdisciplinary researchers



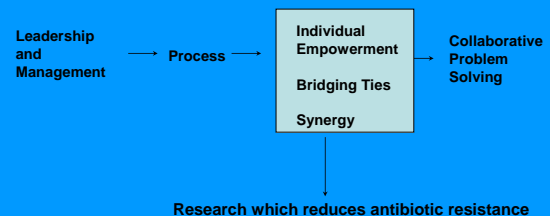
## Evaluation of Collaborative Process

- Develops and conducts evaluation plan of the success of the Center's collaboration



## The Evaluation Plan

### Components of a Partnership to Be Evaluated



Adapted from Lasker and Weiss, J Urban Health, 2003

## Evaluation Plan

- In Year 1, components to be evaluated include
  - Leadership and management
  - Critical characteristics of the process
- Evaluation methods
  - Several paper-and-pencil tools to measure team functioning and leadership
  - Qualitative assessment of team (observation)

## Meetings: Year 1

- Monthly meetings of Executive Committee and External Liaisons (and other groups as needed)
- One meeting each: University Oversight Group and External Advisory Council
- Working group meetings as agreed by group



## Work Products: Year 1

- Establish appropriate networks/links
- Identify research gaps/begin research agenda
- Develop seminar series, “Research Perspectives on Antibiotic Resistance”
- Each working group completes at least one publishable paper
- Funding priorities and process for pilot studies

## OK, off and running

