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From CBPR to RCT: Lessons Learned 10+ Years with Interventions in Public Housing

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- **Advisory Groups**
 - Sister to Sister Advisory Board
 - MUSC CCHP CAB
 - MCG Health Disparities CAB





Purpose

- Describe lessons learned after 10+ years of community engaged tobacco cessation interventions in a Southeastern US metropolitan region



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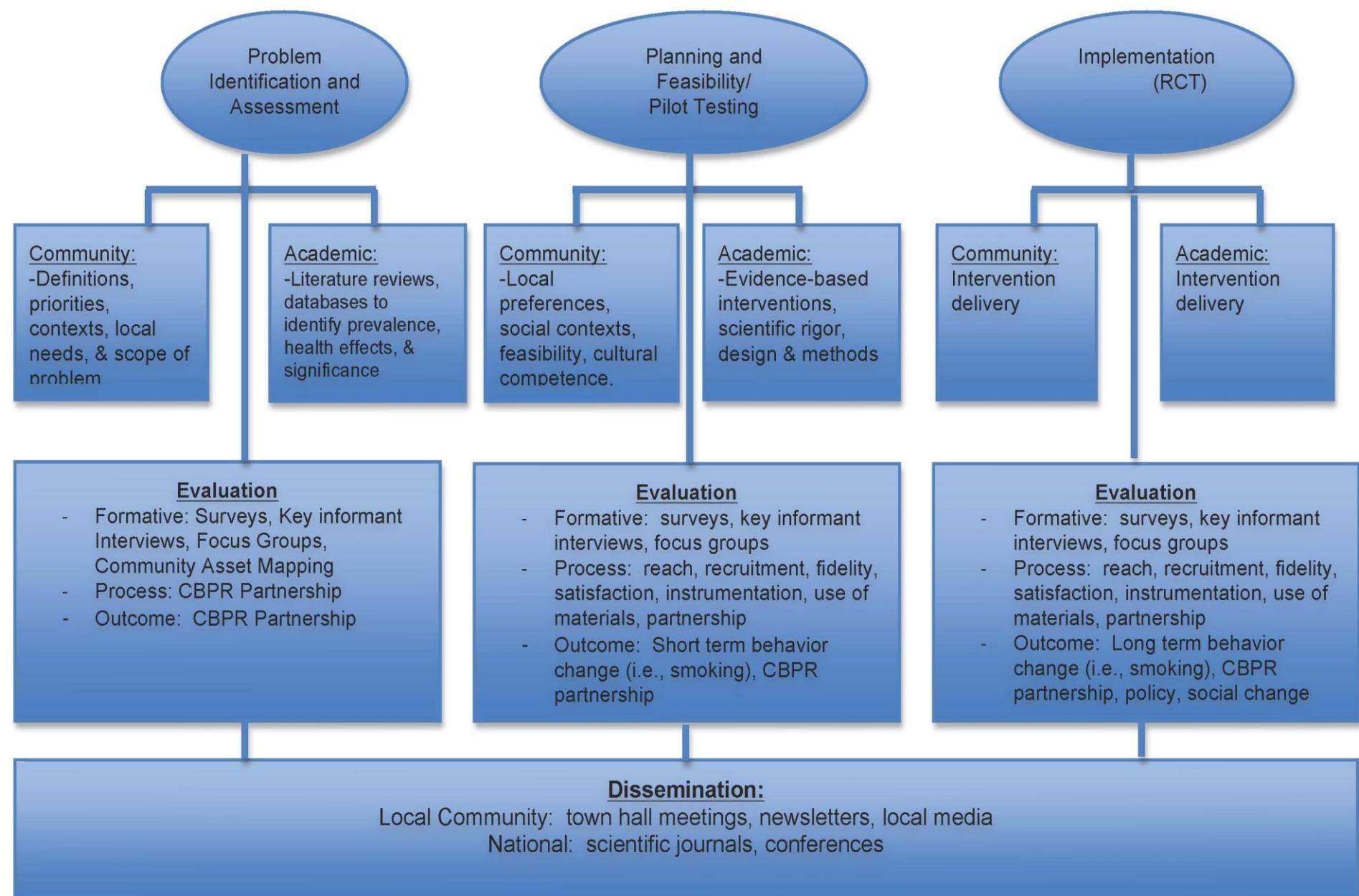
Background



- Partnership Formation
- 2001
- Phone call from inner city school counselor
- Mutual interest
- Need for CBPR
- 5 member Steering Committee formed



CBPR Framework to Inform RCT



Problem Identification

| Methods | Community | Academic |
|--|--|--|
| Windshield Tour Asset Mapping | -Physical Infrastructure -Social Infrastructure -Women Leaders | -Recognize and begin with community strengths and assets |
| Neighborhood Survey (20% female head of households; n=220) | -40% women current smokers -48% households had at least 1 smoker in residence -62% who smoked interested in quitting | -40-60% public housing residents smoke -Associated health disparities -60-70% smokers want to quit |
| Grounded Theory (n=25 AA female former smokers) | -Transition to cessation is empowerment process -Spirituality | -AA women who have quit are empowered experts and potential CHWs -Spirituality is preferred coping strategy |

Planning/Feasibility/Pilot Phase

| Methods | Community Preferences | Academic (Evidence Based Literature) |
|---------------------------------|---|---|
| Key Informant Interviews (n=30) | <ul style="list-style-type: none">-Prefer approach with multiple strategies/multiple levels of influence | <ul style="list-style-type: none">-Ecological levels of influence on behavior |
| Neighborhood Forums x 4 | <ul style="list-style-type: none">-Testimonials from AA women who had quit smoking-Peer group meetings with food-Involvement of NGHB leaders-Presentation of information-Incorporate evidence from research | <ul style="list-style-type: none">-Indigenous CHWs“-Sister circles”-NGHB governance board-Cultural sensitivity-AHRQ guidelines: |

Planning/Feasibility Testing



- Community Advisory Board
 - 8 members
 - Named project
 - Co-developed cessation materials
 - Co-developed intervention protocols
 - Co-planned feasibility study

Feasibility Study



- Feasibility study (n=10)
 - 1 group
 - Group behavioral intervention
 - Community Health Workers
 - 6 weeks



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Pilot Study



- 2 neighborhoods (n=103 women)
- Treatment (Sister to Sister Condition)
 - Neighborhood level activities/policy
 - Peer groups – weekly x 12 weeks
 - CHW – Individual contact weekly x 12 weeks
- Comparison
 - 4 group sessions (healthy eating, PA, financial management)



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Pilot Outcomes



- 7-day point prevalence
 - 24 week time point
 - 39% vs. 11.5%
 - $p < .0001$
- 6 month prolonged abstinence
 - 27% vs. 5.7%
 - $p < .0001$
- CBPR partnership
- 87.4% retention at 6 months (Andrews et al, 2005; 2007)

Process Evaluation (Handout)

- Design considerations
 - Cluster design, randomization by neighborhood
 - Comparison – useful materials; delayed treatment
- Intervention components
 - Individual
 - Peer group
 - Neighborhood

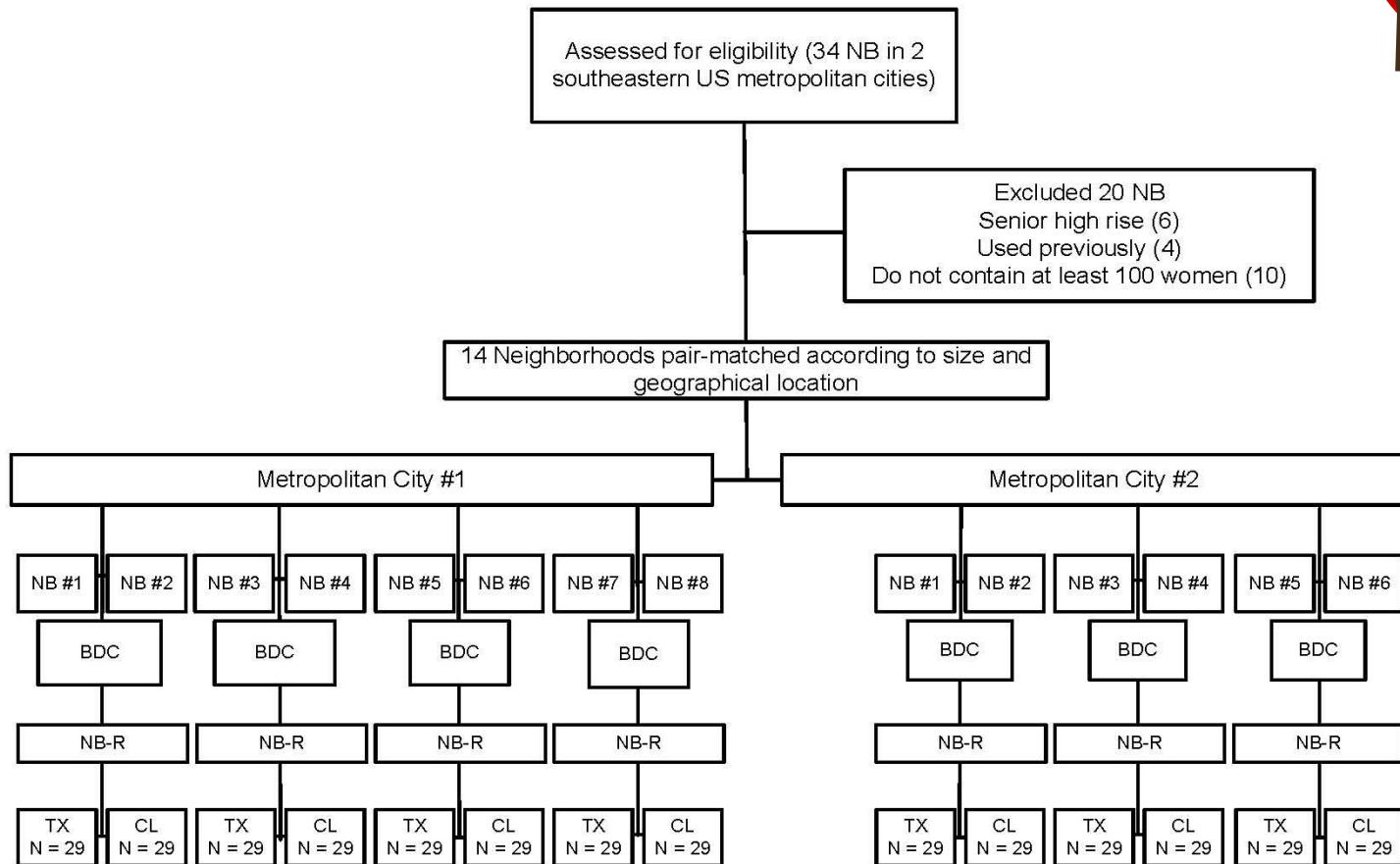




RCT Implementation

| Community | Academic |
|--|---|
| Assist with recruitment | Assist with recruitment |
| CHWs | Protocol development/fidelity/measurement |
| Space for Peer groups | Employ/train CHWs |
| NGHB level activities | Lead groups (Certified cessation specialist) Technical Support |
| -Sociocultural preferences (collectivism, spirituality, story telling materials) | EBP Guidelines |

Figure 2. Flow Diagram of Cluster Randomized Controlled Trial



Legend:

BDC = Baseline data collection* (recruit & screen women; enroll 29 eligible per NB)
NB = Neighborhood TX = Treatment CL = Control
NB-R = Neighborhood randomization

RCT



- 14 public housing neighborhoods
- 2 metropolitan regions
- 406 women
- Entry into neighborhoods/survey
- Recruitment/information sessions
- Relationship building
- Andrews et al., 2012



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RCT



- Sister to Sister neighborhoods
 - Individual Level Strategies
 - Interpersonal Level Strategies
 - Neighborhood Level Strategies
 - NRT
 - Study Specific Written Cessation Materials

RCT



- Control Neighborhoods
 - Pathways to Freedom (CDC) – Baseline
 - Mailouts
 - Week 6 – State sponsored quit line brochure
 - Week 12 – PHS Guideline – You Can Quit Smoking
 - Week 18 – ACS pamphlet – When Smokers Quit
 - Delayed intervention after 12 month data collection

Outcomes



- 409 women recruited
- 91% retention at 12 months
- Cessation outcomes
 - | | <u>6 mo</u> | <u>12 mo</u> | |
|----------------|-------------|--------------|-----------|
| – Intervention | 10% | 3.4% | p = .007 |
| – Comparison | 12% | 5.3% | p = 0.16 |
| – Pilot | 39% | 11.5% | p < .0001 |

Lessons Learned



- We can easily recruit
 - With incentives/Indigenous CHWs
 - \$25, \$25, \$50, \$75 Gift Cards
 - Food
- We can retain women (challenging)
 - Multiple phone contacts
 - “Hanging” out to locate
 - Flexible, flexible, flexible scheduling



Fidelity

- Challenging!!!
 - Multi-site; multi-state
 - Neighborhood context
 - High smoking prevalence (up to 60%)
 - Crime
 - Stress, Social Cohesion
 - Staff safety (day and evenings)
 - CHWs in pairs at all times
 - Depression, social norms, other priorities – Impacts motivation?



Fidelity



| NEIGHBORHOOD | Name | # | Contacts With CHW % (95% CI) | Length of CHW contact N (95% CI) | Group sessions attended % (95% CI) | Weeks on Nicotine Patch N (95% CI) | Proportion of patch use % (95% CI) | Proportion of book use % (95% CI) | Cessation Outcomes 12 month |
|--------------|-----------------------------|----|---------------------------------|-------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------|--------------------------------|
| | | | | | | | | | |
| Robert Mills | Robert Mills | 2 | 61% (53, 68) | 17.6 (16.0, 19.2) | 58% (47, 68) | 3.44 (2.45, 4.43) | 78.1% (60.1, 90.7) | 81.3% (63.6, 92.8) | 19% |
| | Wraggborough | 3 | 46% (38, 53) | 13.5 (11.9, 15.2) | 59% (49, 70) | 1.77 (0.75, 2.79) | 63.3% (43.9, 80.1) | 73.3% (54.1, 87.7) | 0% <i>*3% at 6 mo</i> |
| | Olmstead Homes | 10 | 81% (73, 89) | 12.4 (10.7, 14.0) | 76% (65, 87) | 3.27 (2.25, 4.29) | 58.1% (39.1, 75.5) | 96.8% (83.3, 99.9) | 6% |
| | Allen Homes | 14 | 99% (91, 100) | 8.6 (6.8, 10.3) | 76% (65, 88) | 1.22 (0.15, 2.30) | 37.0% (19.4, 57.6) | 92.6% (75.7, 99.1) | 0% <i>*3% at 6 mo</i> |
| | Fairwinds | 17 | 52% (43, 60) | 16.0 (14.3, 17.8) | 56% (44, 67) | 3.22 (2.15, 4.30) | 64.3% (44.1, 81.4) | 67.9% (47.7, 84.1) | 4% |
| | Parkway Village/ Haven Oaks | 18 | 45% (36, 54) | 15.8 (13.8, 17.7) | 64% (52, 77) | 3.71 (2.49, 4.93) | 77.3% (54.6, 92.2) | 63.6% (40.7, 82.8) | 0% (9%) |
| | Barton Village | 19 | 99% (91, 100) | 6.7 (5.1, 8.4) | 76% (65, 86) | 3.10 (2.08, 4.12) | 56.7% (37.4, 74.5) | 96.7% (82.8, 99.9) | 20% |
| | | | | | | | | | |
| | Overall Neighborhoods | | 70% (66, 74) | 12.8 (12.0, 13.6) | 66% (62, 70) | 2.80 (2.40, 3.20) | 62.0% (54.9, 68.8) | 82.5% (76.5, 87.5) | |

Lessons Learned - Time



- 2001 – 2002 Partnership Formation
- 2003-2004 Pilot
- 2009 – 2013 RCT
- PI relocation
- Change in administration in public housing/neighborhoods
- Advisory Board
- Funding



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Lessons Learned – Context over Time

- Situational Context of Public Housing
 - Increasing Poverty
 - Recession 2008/2009- ??
 - Crime
 - Policies in public housing/Welfare reform
 - Power imbalances between residents/administration
 - Navigation
 - Marijuana use
 - More women working; diverse work schedules





Neighborhood characteristics

| | N = (total # homes) | n = (# surveyed) | Smoking Prevalence | Mean Social Cohesion Scale (SCS) | Mean City Stress Index (CSI) | Total # crimes/ annual | Crime Proportion (# crimes/# homes) | 12 month Cessation Outcomes |
|------------------------|---------------------------|------------------------|-----------------------|--|------------------------------------|------------------------------|--|-----------------------------------|
| 1 | 272 | 54 | 55.6% | 4.5 | 44.8 | 69 | .25 | |
| 2 | 257 | 53 | 34.0% | 7.2 | 32.7 | 43 | .17 | 19% |
| 3 | 178 | 35 | 54.3% | 6.1 | 36.2 | 27 | .15 | 0% |
| 4 | 201 | 40 | 60.0% | 5.3 | 38.4 | 113 | .56 | |
| 5 | 61 | 20 | 25.0% | 7.7 | 31.6 | 13 | .21 | |
| 6 | 356 | 70 | 28.6% | 6.9 | 33.7 | 52 | .15 | |
| 9 | 74 | 20 | 25.0% | 9.2 | 29.6 | 49 | .66 | 6% |
| 10 | 254 | 50 | 36.0% | 6.9 | 32.6 | 91 | .36 | |
| 11 | 100 | 20 | 45.0% | 5.9 | 35.1 | 73 | .73 | |
| 13 | 246 | 50 | 26.0% | 6.5 | 33.3 | 166 | .68 | |
| 14 | 149 | 30 | 26.7% | 6.3 | 31.4 | 76 | .51 | 0% |
| 16 | 142 | 27 | 29.6% | 6.5 | 30.3 | 164 | 1.15 | |
| 17 | 352 | 70 | 38.6% | 5.6 | 35.1 | 109 | .31 | 14% |
| 18 | 144 | 31 | 41.9% | 6.4 | 34.8 | 82 | .57 | 0% |
| 19 | 450 | 30 | 36.7% | 5.7 | 35.0 | 293 | .65 | 20% |
| 20 | 166 | 33 | 27.3% | 9.0 | 25.7 | 18 | .11 | |
| 21 | 150 | 30 | 40.0% | 3.8 | 36.6 | 68 | .45 | |
| TOTAL/ MEAN (SD) | 3552 | 663 | 37.1% (SD=11.2) | 6.4 (SD= 4.1) | 33.9 (SD=4.1) | 88.6 (SD=68.5) | .45 (SD = 27) | |

Lessons Learned - Relationships



- Pilot - Partnership for over 2 years prior to pilot testing
- RCT – 1 month relationship building, then recruitment, intervention starts within 3 months
- CAB for pilot studies later evolved to Academic Center CAB



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Lessons Learned – CBPR Partnership Readiness

– Goodness of Fit

- Shared values, compatible climate, mutual benefit, dedicated commitment



– Capacity

- Leadership, inclusive membership, complementary competencies, adequate resources

– Operations

- Congruent goals, transparent communication, complementary competencies, adequate resources

– Andrews et al., 2010, 2011



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Lessons Learned – Community Readiness

- Community readiness - the degree to which a community is prepared to take action on an issue. (Donnermyer et al, 1997; Plested et al., 2006)
- The theory is grounded in the assumption that a community can be moved through a series of stages to develop and implement effective prevention programs.
- community efforts
- community knowledge of the efforts
- leadership
- community climate
- community knowledge about the issue
- resources related to the issue



Summary

- A social, culturally appropriate intervention was developed and tested in two states
- Overall, positive results
- Long term relationships
- Has led to additional partnerships/resources
 - Communities linked with resources; additional health promoting programs, students
 - Academics linked with additional partners/additional studies



Summary



- CHWs in studies continued education, new employment opportunities, broadened experiences
- We can recruit and retain participants in public housing
- Additional measures to understand context and readiness
- Motivation to change behavior in context of life in public housing?



Summary



- CBPR partnerships
 - With who? Grassroots vs. organizations
 - CAB for RCT in multiple states
- Time
- Funding
- Fidelity in “real life” community settings
- Alternative designs/pragmatic trials
- Is CBPR with one community scalable to others?

Next steps



- New study with community based education (Diabetes Prevention Program) with linkages to Primary Care/Community Clinics
- New formative assessments/problem identification
- Process Evaluation
- Informing new intervention