A Healthy Workforce, A Health Community, A Healthy Economy

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A MODEL FOR CHW-Based Chronic Care Management

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SUSTAINABLE EMPLOYMENT FOR COMMUNITY HEALTH WORKERS

PROJECT GOALS:

• Improve workforce health in distressed Appalachian counties.
• Sustainable employment for community health workers as a new health care workforce in rural Appalachia.
• Improve community linkages and care coordination to address health disparities in rural Appalachia.
## Outcome Impact Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Three-year Projected Value</th>
<th>Accomplished to date</th>
<th>Percent of Target to date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Health Workers Employed (Jobs Created)</td>
<td>26</td>
<td>31.5</td>
<td>120%</td>
</tr>
<tr>
<td>Patients Served (Healthier Workforce)</td>
<td>650</td>
<td>663</td>
<td>102%</td>
</tr>
</tbody>
</table>
Cumulative Enrollment May 2017 Through June 2019

Figure 1: Cumulative Enrollment May 2017 Through June 2019
System for CHW-Based Chronic Care Management of High Utilizer Patients

Clinic Referrals

Clinic Referrals

Clinic Referrals

Care Mgmt Team
-Provider (NP/PA)
-Nurse(s) CDE
-CHWs

- Risk Assessment and enrollment
- Care Plan
- Weekly Assessment
- Patient Follow Up

Refer for ancillary and social services

Home Visits

Involve patient in community events (DSMP, DSME, gardening, walks, etc.)

APPALACHIASTRONG
prosperity. progress. growth.
## Partnering Agencies

<table>
<thead>
<tr>
<th>West Virginia</th>
<th>Kentucky</th>
<th>Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabin Creek (FQHC)</td>
<td>Big Sandy Health Care (FQHC)</td>
<td>Adams County Regional Medical Center (Rural Hospital)</td>
</tr>
<tr>
<td>Community Care of WV (FQHC)</td>
<td>Mountain Comprehensive Health Corporation (FQHC)</td>
<td></td>
</tr>
<tr>
<td>Minnie Hamilton Health Care (Rural Hospital)</td>
<td></td>
<td></td>
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<tr>
<td>Jackson General (Rural Hospital)</td>
<td></td>
<td></td>
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<tr>
<td>St. Joseph’s Hospital Buchanan (Rural Hospital)</td>
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<td></td>
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<tr>
<td>Williamson Health and Wellness Center (FQHC)</td>
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<tr>
<td></td>
<td></td>
<td>Athens County Health Dept.</td>
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<td></td>
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<td>Meigs County Health Dept.</td>
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<tr>
<td></td>
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<td>Washington County Health Dept.</td>
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<tr>
<td></td>
<td></td>
<td>Holzer Health Systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ohio Health</td>
</tr>
</tbody>
</table>
Funding Partners

- Appalachian Regional Commission – POWER Grant
- Claude Worthington Benedum Foundation
- Merck Foundation – Bridging the Gap Initiative
- HRSA
- Logan Healthcare Foundation
- McDonough Foundation
- Sisters Health Foundation
- Pallottine Foundation of Buckhannon
- The Greater Kanawha Valley Foundation
- Highmark Foundation
What is a CHW? (CHWs self definitions)

• Person who makes connections
• A walking resource person
• Counselor
• Patient advocate
• Friend
What does a CHW do? (Self definition)

- Bed bug assistance
- Assist getting lamps, ramps, refrigerators, heating vouchers
- Help patients organize meds
- Give moral support
- Help patients manage their schedules
- Help apply for insurance, med assistance, public housing
- Food assistance
- Pet management
- Community partnerships
- Anything that will help my patients
What does a CHW do: Loetta Adkins, Community Care of West Virginia
Key Points

• CHW is a member of the care management team and is a full time employee of the health care agency.

• The care management team receives referrals of high-utilizer patients.

• Eligibility is determined by risk assessment.

• The role of the CHW is to equip patients with self-management decision-making and problem solving skills so that patients can control their condition.

• Foundational assumption: improved outcomes → healthier workforce → reduced costs → sustainable reimbursement from payers.
Sustainable Employment for Community Health Workers in Rural Communities

**Approach:**

- Providers hire CHWs who are local to the community
- Care team = CHW + RN + NP/PA under the management of the PCP
- Care team manages the needs of the patient to improve patient outcomes
- Build the rural evidence base

**MU Team Provides:**

- Training/TA/support for providers and CHWs
- Grant writing and project management
- Convene payers re: quality measures and reimbursement
- Evaluation of health outcomes and cost savings
Health Outcome Data as of 6/2019

<table>
<thead>
<tr>
<th>A1C N=416 (with 2 or more A1c Tests)</th>
<th>Patients</th>
<th>Percent</th>
<th>Mean Baseline A1c</th>
<th>Mean Last A1c</th>
<th>Percentage Point Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved</td>
<td>282</td>
<td>68%</td>
<td>10.3%</td>
<td>7.9%</td>
<td>Decrease 2.4 points</td>
</tr>
<tr>
<td>Worsened</td>
<td>98</td>
<td>24%</td>
<td>7.9%</td>
<td>8.7%</td>
<td>Increase 0.8 points</td>
</tr>
<tr>
<td>Same</td>
<td>66</td>
<td>20%</td>
<td>8.7%</td>
<td>8.7%</td>
<td>0</td>
</tr>
</tbody>
</table>
Strategy for Sustainability: Partnership with Medicaid health insurance payers

• Identify the top 10% of high-utilizers
• Partner with health care agencies to set up CHW-Based CCM
• Test and establish a payment model for CHW-Based CCM
• Use an impact investment strategy to minimize the risk to the insurance company for testing payment models
• Use claims data to document cost savings and establish a Win-Win payment system.
Preliminary Actuarial Data from The Health Plan

- Community Health Worker 4-month enrollment trends for 20 patients:
  - ED visits from 2.86 to 2.64
  - Prescriptions from 93 to 50
  - Reduction in overall average healthcare spend:
    - $20,056 to $15,152
    - $5,000 saved for 20 patients = $100,000
Rural Opioid Initiative

National Institute on Drug Abuse
Centers for Disease Control & Prevention
Substance Abuse and Mental Health Services Agency
Appalachian Regional Commission

Richard A. Jenkins PhD
National Institute on Drug Abuse
Asheville NC, Sept 6, 2019
Background

• Increases in opioid use and its consequences nationally
  • Prescription opioid users
  • Social networks of injectors regardless of how use started
  • Injection among long-term drug users, often HIV+ and not always previous injectors or opioid users
  • Emergent/overlapping stimulant epidemics
  • Fentanyl bringing together these epidemics

• Increases most pronounced in rural areas, particularly in ARC’s region

• Scott County HIV/Outbreak
  • First example of high HIV prevalence among rural injectors
Background

- Rural areas are different from metropolitan counterparts
  - Lower density of populations and services
  - Scarcity of specialized services (e.g., drug treatment, HCV care)
  - Publicly funded services play a larger role
  - Transportation, broadband & geography are common barriers
  - Regulations, policy & planning processes are the same as urban areas but sectors interact differently
Background

• NIDA identified rural opioid epidemic as an area needing an initiative
• Convened federal partners
  • CDC, SAMHSA, & ARC joined as cofunders
• Identified needs and ways to address them
  • Need to better characterize local situations and rapidly develop and test local responses that can implemented elsewhere
    • Rapid assessment of local drug use and related epidemiology
    • Engagement of local stakeholders
    • Development and testing of local response plans
    • Tailor these to local needs and resources
• Created basis for a jointly funded initiative
Rural Opioid Initiative

- RFA-administered by NIDA, cofounded by CDC, SAMHSA & ARC
  - HIV, HCV and Related Comorbidities in Rural Communities Affected by Opioid Injection Drug Epidemics in the United States: Building Systems for Prevention, Treatment and Control (UG3/UH3); RFA-DA-17-014
  - Companion RFAs: DA-17-023 (GHOST Lab); RFA-19-004 (Data Coordinating Center)
  - The UG3/UH3 grants are biphasic awards
    - UG3: multi-method community assessments---first 2 years
    - UH3: propose & test implementation of evidence-based practices to address opioid use, HIV/AIDS & related comorbidities in their communities—next 3 years
Partnerships

• **CDC**
  • Co-funding from Division of HIV Prevention, Division of Viral Hepatitis
  • In-kind support from Division of STD Prevention

• **SAMHSA**
  • Support for substance use and related infectious disease screening services

• **ARC:**
  • Support related to the POWER & Recovery-to Work Initiatives
  • Past collaboration on NIDA planning grant program (RFA-DA-16-015)
Rural Opioid Initiative Sites
Current Status of the Initiative

• Projects were funded August, 2017
• UG3 projects have completed field work or will soon
  • data collection instruments and sampling protocols
• Worked with stakeholders to review interim findings and begin planning UH3 projects
• UH3 projects have been formulated and are being harmonized and finalized
  • Data collection will begin in late 2019 or early 2020
  • The projects will conclude in 2022.
Phase I of the Project (UG3)

• Work with local stakeholders
• Inventory existing services
• Integrate data from surveillance & administrative databases
• Fill data gaps
  • Qualitative interviews & focus groups with PWID
  • Qualitative interviews with stakeholders
  • Surveys of providers
  • Surveys of PWID, recruited with respondent-driven sampling
Some Highlights from Phase I

- Resurgence of meth use across sites
  - Polysubstance use is the norm
- Fentanyl is commonplace
- Pervasiveness of drug user stigma
- Distance to key services
- Homelessness as a co-occurring problem
- HCV clinical guidelines have changed but local resources have not
What is the relationship between health and economics?

- Varies by state/local conditions
- Relatively high resource locales can still struggle with scarcity, stigma, and various local constraints.
- Homelessness & marginal housing is a significant problem in all locations.
- Public sector plays a larger role as a payer and/or provider of services than in metro areas.
- Local funding mechanisms vary and the ability to supplement state & federal funds often is limited.
- Local capacity to provide even modest co-funds for new resources often is limited.
- Drug use epidemics are an impediment to economic development, although services for drug users have emerged as employers in some places.
Barriers encountered while working in the field and/or conducting research?

• Pervasiveness of drug use stigma
  • Self-stigma among drug users & among providers
  • Provider & setting stigma regarding drug users
  • Stigma regarding specific kinds of interventions
  • Consequences of stigma—discrimination, absence of services

• Services often are not well-integrated

• Limited resources for initiating new services even when policy or financial barriers are removed
How do you define success with your current projects?

• Successful completion of initial milestones and subsequent intervention research plans.
• Reducing drug use and co-occurring problems.
• Increased uptake of services to treat and prevent drug use & its infectious disease consequences.
• Increasing the number of providers who can treat addiction & its infectious disease consequences.
• Interventions that are sustained beyond the life of the grants.
• Impact beyond the immediate scope of the grants.
What have you heard from the field in terms of health and investment?

- The lag between introducing initiatives and their implementation.
- New resources often are provided on a competitive basis and capacity for successfully competing varies.
- Infrastructure investments such as data dashboards need training and staffing investments.
- Policies sometimes change without accompanying resources to implement them fully.
CDC Division of Diabetes Translation

**Vision**
A world free of the devastation of diabetes

**Mission**
To reduce the preventable burden of diabetes through public health leadership, partnership, research, programs and policies that translate science into practice.
Division of Diabetes Translation Strategic Goals

- Prevent type 2 diabetes
- Prevent complications, disabilities, and consequences related to diabetes through improved approaches to care.
- Reduce differences in health that impact people affected by diabetes.
Measure how diabetes and its complications affect populations in the U.S.

Study interventions to find out what works best to prevent type 2 diabetes and diabetes complications.

Fund and help guide states, U.S. territories, cities/counties, tribes, national organizations, and other partners to use proven interventions.

Share information to help all Americans understand and reduce their risk for type 2 diabetes and diabetes complications.
The Appalachian Region

- Geographically Appalachia is a group of 420 counties along the spine of the Appalachian Mountains.
- Stretching thru 13 states from New York down to northern Mississippi.
- The entire state of West Virginia is in Appalachia.
- Most of Appalachia is in the Diabetes Belt.
The Diabetes Belt Counties

County-level Estimates of Diagnosed Diabetes among Adults ≥ 20 years
United States 2008

Note:
Data Source: Behavioral Risk Factor Surveillance System (BRFSS) and data from the U.S. Census Bureau’s Population Estimates Program.
The Diabetes Belt

- Of the 420 counties in Appalachia, 232 are located in the Diabetes Belt.
- People living in the diabetes belt have similar risk profiles higher levels of modifiable risk factors such as obesity and inactivity and lower levels of education, access to health care, and nutritious foods.
- The prevalence of diabetes is at least 11% in these counties
The Appalachian Regional Commission (ARC) County Designations

- Distressed
- At Risk
- Transition
- Attainment
- Competitive
The Appalachian Regional Commission
Distressed Counties

- Poorest 10% of counties nationwide
- County-level prevalence of diabetes is approximately 13% in these distressed counties (ages 45-64: 1 in 5).
- Residents in distressed Appalachian counties are at significantly greater risk for diabetes than residents in non-Appalachian counties in the region.
| The Appalachian Regional Commission |
| Distressed Counties cont’d |

- Higher rates of chronic disease, mortality, and disability than non-Appalachian populations
- Lower levels of health insurance.
- Need for improved infrastructure: broad band, adequate water and sewage to support sustained growth in some areas.
- Strong familial ties
“Better health makes an important contribution to economic progress, as healthy populations live longer, are more productive, and save more.”*

Empowered communities, government departments, non-profit organizations, foundations, the private sector, and national priorities and policies also impact population health.

*WHO, Social determinants of Health, 2006
There are approximately 30.3 million persons with diabetes in the United States.
The estimated cost of diagnosed diabetes in 2017 was $327 billion, ($237 billion in direct medical costs and 90 billion in reduced productivity).
Care for persons with diagnosed diabetes accounts for 1 in 4 health care dollars in the U.S.
Persons with diabetes have 2 to 3 times higher medical expenditures than persons without diabetes.

*American Diabetes Association. Diabetes Care 2018
84.1 million American adults — more than 1 out of 3 — have prediabetes.

9 out of 10 people with prediabetes don’t know they have it.

Prediabetes is when your blood sugar level is higher than normal but not high enough yet to be diagnosed as type 2 diabetes.

Prediabetes increases your risk of:
- Type 2 Diabetes
- Heart Disease
- Stroke
The Economic Costs of Prediabetes

• In 2017, the annual cost associated with prediabetes was 43.4 billion dollars; 1.6 billion for gestational diabetes.

American Diabetes Association. Diabetes Care 2018
The Appalachian Diabetes Control and Translation Project Partners

- The CDC established an Inter Agency Agreement with ARC.
- ARC sub-contracts with Marshall University to implement evidenced-based activities and interventions that reduce the burden of diabetes at the community level.
Objectives of ADCTP

- Assist in the development of an infrastructure (network of coalitions) to support implementation of evidenced-based interventions at the community level.
- Measure success through the promotion and use of performance measures for monitoring and evaluating coalition activities.
- Identify and convene partners for building a strategic framework for the control and prevention of diabetes.
IMPLEMENTATION STRATEGY

- Competitive RFA issued by Marshall University is used to select grantees that are local coalitions in the distressed counties.
- Successful applicants attend the Diabetes Today Training to learn more about DDT’s evidenced based interventions, to refine workplans, and to strengthen their coalitions.
- Marshall University provides TA and collects data to assess progress.
Implementation Strategy cont’d

- CDC holds monthly calls with ARC and Marshall University.
- Meetings are held to network and share promising practices among coalitions.
- An advisory committee composed of state partners, and CDC provides input.
Intervention:
Diabetes Self Management Education and support

- Diabetes is a complex condition. People with diabetes (PWD) must make many self-care decisions each day.
- Diabetes self-management education and support (DSMES) provides the foundation to help PWD navigate these daily self-care decisions/activities. It is specifically tailored for PWD and improves health outcomes.
- Activities are now in place to increase the availability of DSMES in the distressed counties.
The Chronic Disease Self-Management Program

- Evidence-based model developed by Stanford University based on the results of a randomized control study of a community-based self-management program for persons with chronic illness.
The Chronic Disease Self-Management Program

- Evidence-based model developed by Stanford University based on the results of a randomized control study of a community-based self-management program for persons with chronic illness.
The Chronic Disease Self-Management Program

- Offer classes in CDSMP/DSMP.
- Promote local programs in physical activity and nutrition education through partnerships with local non-profit organizations, and governmental organizations (i.e., schools, churches, parks and recs).
National Diabetes Prevention Program

Join largest national effort to mobilize and bring effective lifestyle change programs to communities across the country!

Reducing the Impact of Diabetes

It brings together:

Congress authorized CDC to establish the NATIONAL DIABETES PREVENTION PROGRAM (National DPP) — a public-private initiative to offer evidence-based, cost effective interventions in communities across the United States to prevent type 2 diabetes

Research shows structured lifestyle interventions can cut the risk of type 2 diabetes in HALF to achieve a greater combined impact on reducing type 2 diabetes.
The Future

- The burden of diabetes in this region will continue to exact high social and economic costs.
- More needs to be done to reduce the burden of diabetes and other chronic diseases in Appalachia.
- More evidence is needed on how to effectively use resources to improve health outcomes in the distressed counties in Appalachia.
- Increasing collaboration with state health departments and local, regional, and federal partners, will enhance the success and sustainability of programs in the distressed counties in this region.
Thank You

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Community-based Health Systems Specialist
Division of Diabetes Translation
Centers for Disease Control and Prevention, Mailstop F-75
Email: pet0@cdc.gov
Background: Appalachian Diabetes Control and Translation Project

CDC $ ARC

County-Level Coalitions

Marshall University
Appalachian Region Overlay with Diabetes Belt
A Region Defined by its Geography

Characterized by steep mountains and narrow valleys
Appalachian Culture
Local Economic Base

Emphasis on agriculture; small farms; manual labor
Appalachian Region Diabetes Coalitions

78 Coalitions
9 States
Marshall’s On-going Relationships

- One-Time start up grant of $10,000
- Diabetes Today
- Site visits
- Training programs
  - CDSMP, DSMP
  - NDPP
  - Gentle Yoga
  - DSME
- Regional conference
Participation in Physical Activity and Healthy Eating Programs 2011 -- 2018

5K run/walk
Physical activity programs
Healthy eating programs
Leveraging Resources for Rural Appalachia

- American Heart Association
- Bristol Myers-Squibb Foundation
- Merck Foundation
- Share Our Strength
- Feeding America
- Center for Health Law and Policy Innovation at Harvard Law School
- ARC POWER grant
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Center for Rural Health
Marshall University