NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION

Delivering the National Diabetes Prevention Program (National DPP) in Rural Areas

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BACKGROUND

In 2010, Congress authorized the creation of the National Diabetes Prevention Program (National DPP) to build a nationwide delivery system for a lifestyle change program (LCP) proven to prevent or delay the onset of type 2 diabetes. Over the last 11 years, the Centers for Disease Control and Prevention (CDC), through the Diabetes Prevention Recognition Program (DPRP), has recognized organizations to deliver the LCP to 690,000+ participants.

CDC and its partners strive to scale the National DPP to underserved areas, which includes all demographic subgroups that reside in rural areas. This analysis aimed to identify gaps in enrollment in rural areas, study the characteristics of organizations delivering the LCP in those areas, and identify strategies for scaling and building capacity. In addition, county health rankings data associated with specific rural counties were used to provide insight as to why some organizations struggled to deliver the LCP and why some participants had challenges in achieving program goals of the National DPP LCP.

METHODS

- Active organizations were defined as CDC-recognized organizations currently approved to deliver the LCP.
- Inactive organizations were defined as organizations that previously held CDC recognition and whose recognition was revoked or withdrawn from the DPRP.
- Classification of counties as rural was based on United States Department of Agriculture Rural-Urban Continuum Codes1 and the Census Bureau definition:
- There are two types of urban areas:
  - » Urbanized Areas (UAs) of 50,000 or more people
  - » Urban Clusters (UCs) of at least 2,500 and less than 50,000 people
- Areas not classified as urban are classified as rural.
- Data were analyzed from organizations delivering the LCP in person and classified as rural based on zip code (active: 18, inactive: 64).
- Participant outcomes were calculated for those who had the opportunity to complete the 12-month program.
- Analysis was conducted using SAS 9.4.

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Establishing partnerships within rural communities may help to bring services to individuals in these areas that will allow for successful participation in the LCP.

Figure 1. Rural National DPP in-person delivery organization types: active and inactive

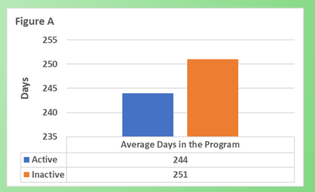
Table 1. Percentage of the population, in counties where in-person delivery organizations are located, impacted by environmental and economic factors[2]

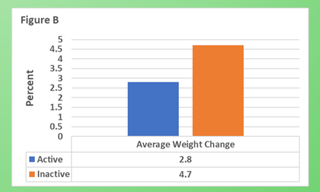
	Status of Organizations Located in Counties Associated with the Given Measures	Broadband Access Mean (Std Dev)	Limited Access to Healthy Foods Mean (Std Dev)	Access to Exercise Opportunities Mean (Std Dev)	Uninsured Mean (Std Dev)
Rural (Codes 8, 9)	Active	75.4 (6.7)	6.0 (6.2)	49.5 (24.3)	15.7 (4.8)
	Inactive	76.8 (6.9)	8.4 (10.2)	50.5 (24.9)	13.1 (4.3)
Urban (Codes 1-7)	Active	86.0 (5.3)	6.5 (4.6)	82.2 (16.9)	12.0 (5.5)
	Inactive	86.1 (5.7)	6.3 (4.6)	82.8 (16.9)	11.7 (5.4)
		Broadband Access	Limited Access to Healthy Foods	Access to Exercise Opportunities	Uninsured
United States		87.0	6.0	84.0	12.0

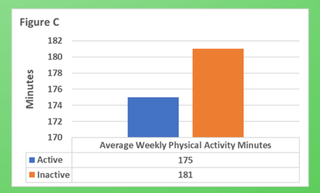
Table 2. Demographic characteristics of participants enrolled in active and inactive in-person rural organizations

		Active Organizations (n=772)	Inactive Organizations (n=1,193)
Sex	Men	21.0	16.1
	Women	78.9	83.7
	Not reported	0.1	0.3
Age Group	18-44 years old	24.2	16.0
	45-64 years old	47.0	52.6
	65+ years old	28.8	31.4
Race/Ethnicity	Hispanic or Latino	1.3	4.6
	Non-Hispanic or Latino		
	American Indian or Alaska Native	11.1	2.1
	Asian or Asian American	0.3	0.1
	Black or African American	43.4	2.3
	Native Hawaiian or other Pacific Islander	0.0	0.1
	White	39.6	88.2
	Multiracial	1.0	0.4
	Not reported	3.2	2.3
Educational Attainment*	< Grade 12	3.9	2.5
	High school graduate	26.8	8.8
	Some college or technical school	20.6	13.1
	College or technical school graduate or higher	30.3	14.1
	Not reported	18.4	61.5
BMI Category	< 30 kg/m^2	26.9	22.6
	≥ 30 kg/m^2	73.1	77.4
*This variable became part of required data collection in 2018.			

Figure 2 A-C. Participant outcomes for those enrolled in active and inactive in-person rural organizations. A: Average days spent in the LCP; B: Average weight change; C: Average physical activity minutes







RESULTS

- 78% of the in-person organizations serving rural areas have become inactive.
- The highest % of in-person rural organizations were hospitals/health care systems/medical groups/physician practices (active: 27.8%, inactive: 49.2%).
- Regardless of status (active/inactive), these organizations served primarily women (78.9%/83.7%) and adults aged 45-64 (47.0%/52.6%).
- The largest % of those enrolled in active organizations identified as non-Hispanic or Latino/Black or African American adults (43.4%), while the largest % enrolled in inactive organizations identified as non-Hispanic or Latino/White adults (88.2%).
- In rural counties where organizations were located, County Health Rankings[2] showed that:
  - Access to exercise opportunities was much lower in rural areas where active/inactive organizations were located (49.5%/50.5%) than in urban areas (82.2%/82.8%).
  - Access to broadband was lower (75.4%/76.8%) than in urban counties (86.0%/86.1%).
- In rural areas, outcomes were poorer for those enrolled in active organizations than in inactive organizations:
  - Average days in the LCP: 244 vs. 251
  - Average weight loss: 2.8% vs. 4.7%
  - Average weekly physical activity minutes: 175 vs. 181

CONCLUSIONS

Increasing access to type 2 diabetes prevention programs for underserved populations remains a priority of the National DPP. This analysis showed that in-person, rural organizations had challenges reaching these populations. Programs that had a history of good outcomes tended to struggle during the recent public health emergency, causing them to go inactive. To address this need, establishing partnerships within these communities and organizations that serve these populations may help to bring services to individuals in these areas that will allow for successful participation in the LCP. Virtual program offerings may also expand options for participants.

REFERENCES

1. **United States Department of Agriculture Economic Research Service (2013). *Rural Urban Continuum Codes (RUCC)* [Data set]. https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/**
2. **University of Wisconsin Population Health Institute (2023). 2023 County Health Rankings Data [dataset]. https://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation**