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Optimizing CDEs and CHWs for Kentucky's Rural Diabetes Belt Counties

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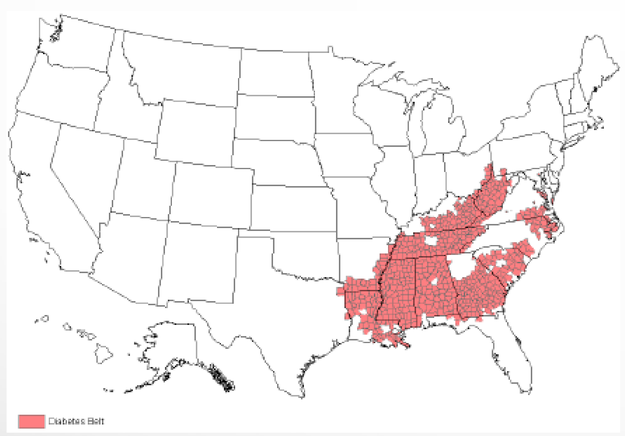
Background

CDC scientists have identified a diabetes belt located mostly in the southern portion of the United States. This diabetes belt consists of 644 counties in 15 states. Sixty-eight (68) of Kentucky's 120 counties are in this diabetes belt, which requires that ≥11% of adults aged ≥20 have been diagnosed as having type 2 diabetes.[1]

Certified Diabetes Educators (CDEs) are a major resource for health campaigns to prevent type diabetes, delay its onset, and to lessen its serious negative health outcomes. Unfortunately Kentucky has only 257 publicly listed CDEs and becoming a CDE is a long and arduous process. Further exacerbating this workforce problem is the mal-distribution of CDEs relative to the needs throughout Kentucky, with the majority of CDEs concentrated in urban areas and in the 52 Non-Diabetes Belt Counties.

Community Health Workers (CHWs) of the Kentucky Homeplace Program by contrast are located mostly in rural underserved counties that have some of the highest rates of type 2 diabetes.



Kentucky has 68 Diabetes Belt Counties, with rates from 11% to 12.6% .

Methods

Data were examined to determine the distribution of CDEs, CHWs, and adult type 2 diabetes rates by county. Ratios of CDEs and CHWs per 1,000 diabetics were calculated. These ratios were compared to the distributional mean for both CDEs and CHWs for each county to determine relative unmet need by level of rurality using the 2003 Rural-Urban Continuum Codes.

Distribution of CDEs

Table1: Kentucky Certified Diabetes Educators (CDEs) per 1000 Diabetics[1]

Category	Counties	Diabetics	CDEs	CDEs/1000
Diabetes Belt	68	137,229	48	0.35
Non-Diabetes Belt	52	224,888	209	0.93
Total	120	362,117	257	0.71

[1] ≥ 20 years old.

Table 2: Kentucky Certified Diabetes Educators (CDEs) per 1000 Diabetics[1]

Category	Counties	Diabetics	CDEs	CDEs/1000
Rural Counties	85	165,136	70	0.42
Non- Rural Counties	35	196,981	187	1.05
Total	120	362,117	257	0.71

[1] ≥ 20 years old.

Table 3: Diabetes, Obesity, and Physical Inactivity Rates[1]

		Diabetes		Obesity		Physical Inactivity
Category	Counties	Age Adj.	Est.	Age Adj.	Est.	Age Adj.
Diabetes Belt	68	11.4%	12.5%	32.3%	32.3%	35.1%
Non-Diabetes Belt	52	10.3%	11.5%	31.0%	31.2%	31.2%

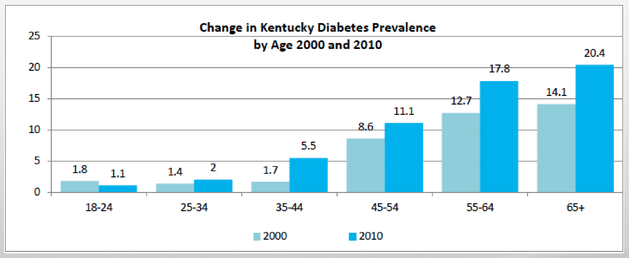
[1] ≥ 20 years old. CDC, 2008 data.

Table 4: Diabetes, Obesity, and Physical Inactivity Rates[1] by Rural-Urban

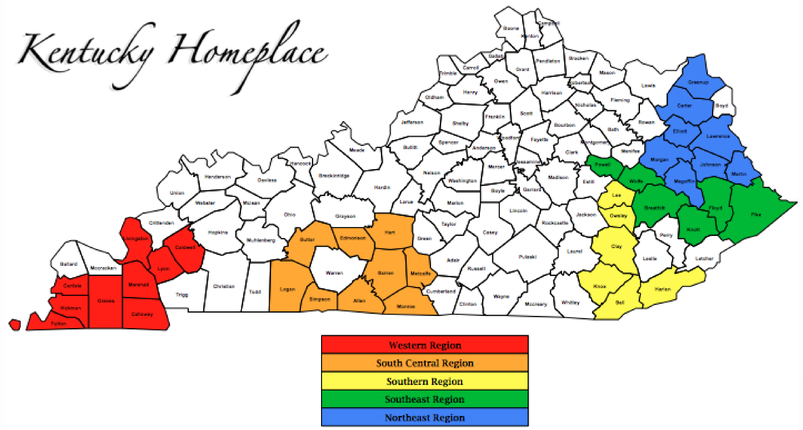
		Diabetes		Obesity		Physical Inactivity
Category	Counties	Age Adj.	Est.	Age Adj.	Est.	Age Adj.
Rural	85	11.1%	12.1%	32.1%	32.1%	34.5%
Non-Diabetes Belt	35	10.6%	11.2%	30.9%	31.1%	30.8%

[1] ≥ 20 years old. CDC, 2008 data.

In 2000, only 6.5% of adult Kentuckians had been told by a health professional that they had diabetes compared to a rate of 6.1% nationwide. By 2010, 10% of Kentucky adults were estimated to have diabetes compared to 8.7% nationwide. The rate of diabetes is increasing across the spectrum of age and social classes, including children and senior citizens. While still much is to be learned about the causes of these trends, increasing rates of obesity and physical inactivity are strongly correlated with higher diabetes rates.



Kentucky Diabetes Fact Sheet
Kentucky Diabetes Prevention and Control Program, November 2011



Kentucky Homeplace covers 38 counties and concluded June 30, 2012 a study in which CHWs played a key role in support for nurse-led DSME with high risk clients in 26 Appalachian Kentucky counties, all of which are in included in the Diabetes Belt.

Conclusions

It is desirable that more effective linkages be established between CDEs and CHWs, who have demonstrated their ability to enroll hard-to-reach clients in research and service and to support DSME programs. CHWs have been shown to help increase the knowledge and self-management behavior of type diabetics.[2] This relationship could optimize DSME in rural Kentucky counties underserved by CDEs.

We recommend much greater use of CHWs in DSME throughout Kentucky, especially in our 85 rural counties and our 68 Diabetes Belt counties. CHWs are very competent and highly respected individuals who come from the communities they serve. They are sensitive to the cultural and other influences of the persons they serve. They are very effective in conveying and reinforcing basic health education, including DSME with a focus on glycemic control and the reduction in behavioral risk factors associated with diabetes, obesity, and other health conditions. CHWs can help expand the benefit of DSME services provided by CDEs, physicians, and other health professionals. They can more quickly be selected and trained, with initial training lasting no more than six months.

Acknowledgements

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References

1. Kentucky Diabetes Fact Sheet 2011
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2. Norris, SL, Chowdhury FM, Horsely K, Brownstein JN, Zhang X, Jack L, Satterfield DW. Effectiveness of community health workers in the care of persons with diabetes. 2006 Diabetes UK. Diabetic Medicine, 23, 544–556.