A New Approach to Diabetes Navigation in Rural Appalachia

Elizabeth A. Beverly, PhD[1,2], Karie Cook, RN[1,2], Hollie Goodell[1]

1. Ohio University Heritage College of Osteopathic Medicine, Athens, OH
2. Ohio University Diabetes Institute, Athens, OH

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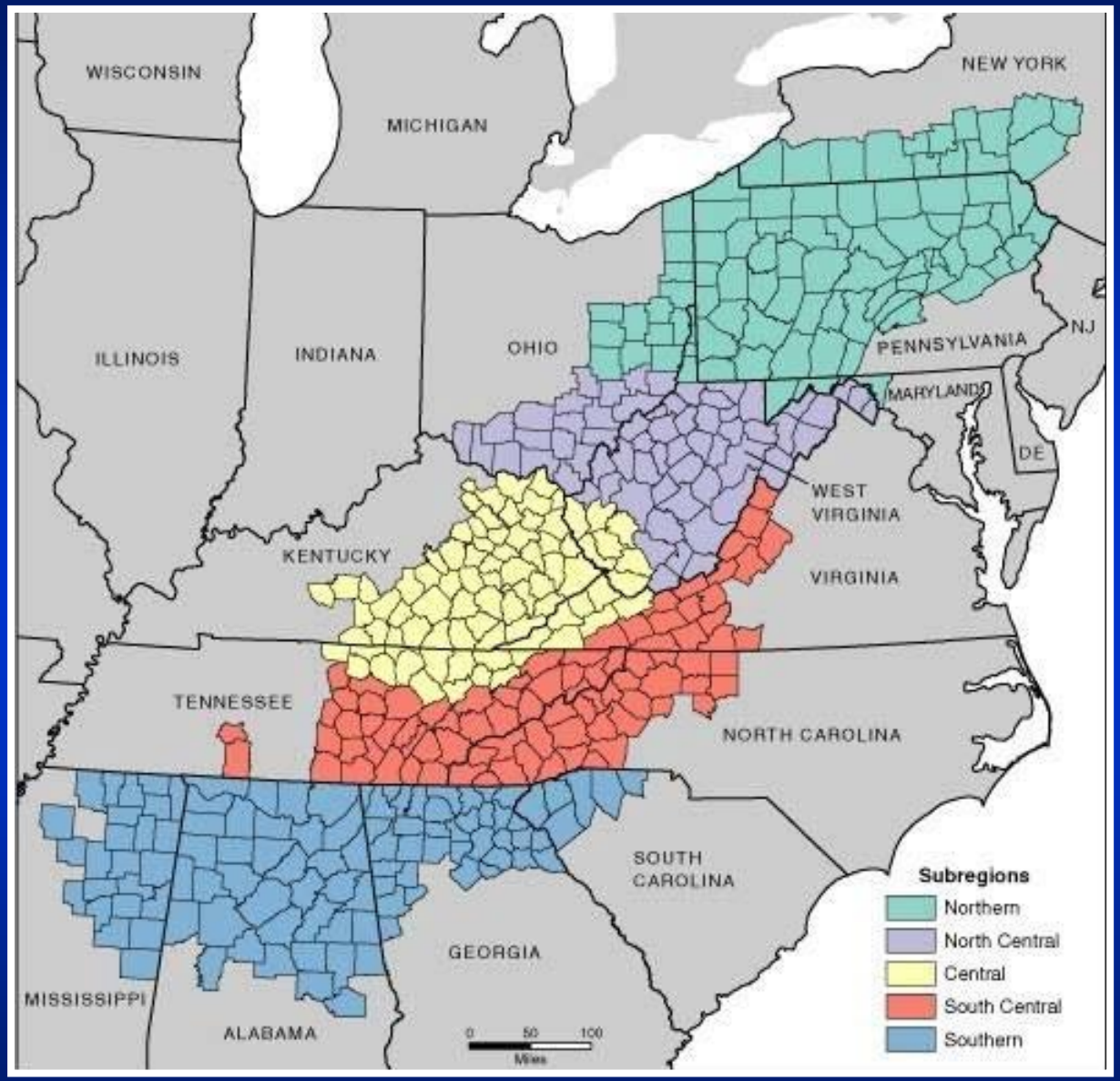
Outline

- New Diabetes Navigation Program
  - School Navigation Program
  - Peer Support Program
  - Community Health Workers
- Lessons Learned
- Future Directions



Appalachian Regional Commission, 2009

Prevalence of Diabetes

Fast Facts on Diabetes

30.3 million people or 9.4% of the U.S. population have diabetes

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Diagnosed

23.1 million people

Undiagnosed

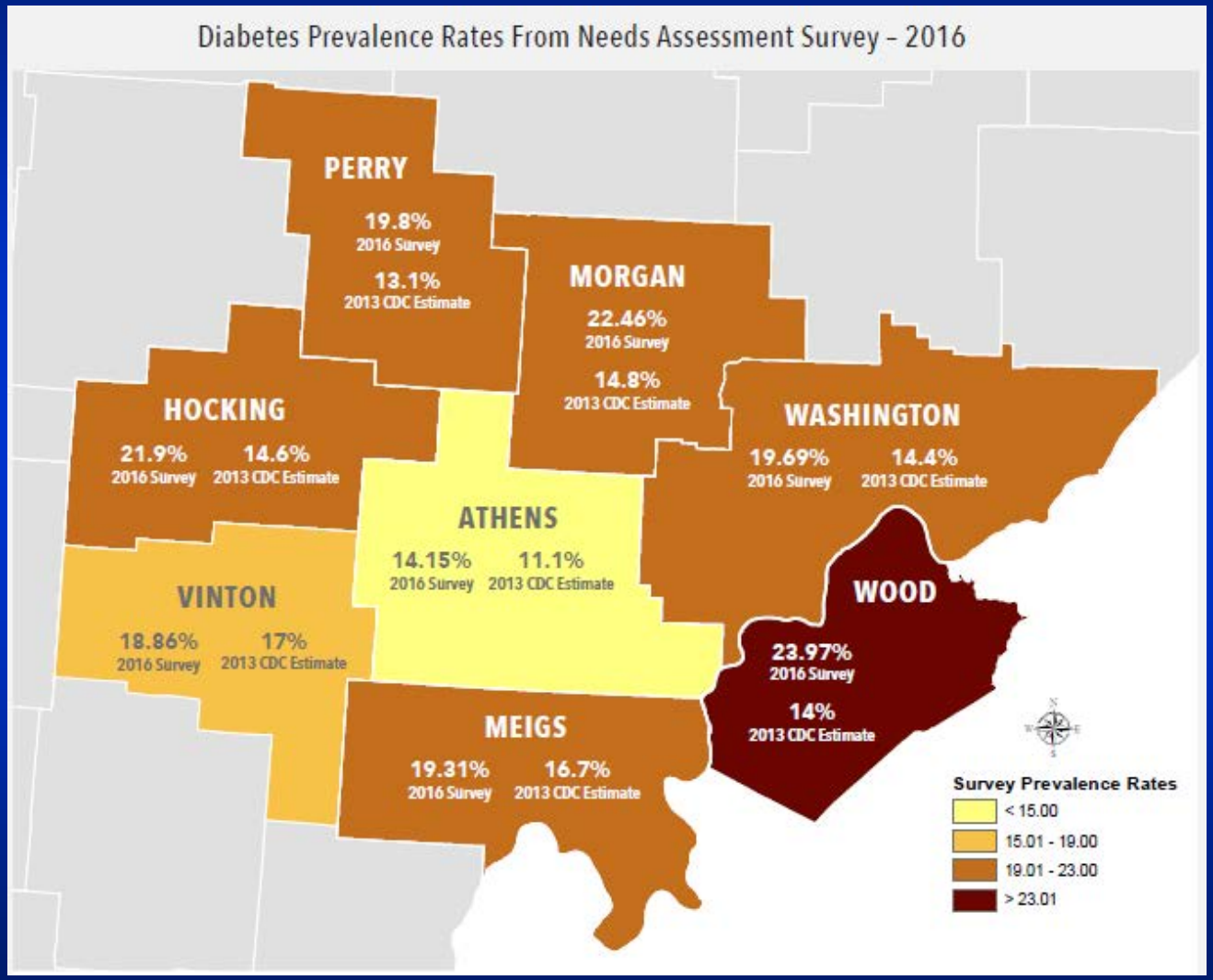
7.2 million people

Statement of the Problem

- **Diabetes has reached epidemic proportions and Appalachians have been disproportionately affected by this disease.**
- **Appalachia is 42% rural, compared to 20% of the United States (US) as a whole.**
- **Appalachians battle a poverty rate 1.5 times that of the US average, and suffer from higher unemployment, lower educational achievement, and lower access to health care.**

Appalachian Regional Commission, 2016

Rural Appalachian Ohio



Ruhil A, Johnson L, Cook K, Trainer M, Beverly EA, Olson M, Wilson N, Berryman DE. *What Does Diabetes Look Like in our Region: A Summary of the Regional Diabetes Needs Assessment Study.* Athens, OH: Ohio University's Diabetes Institute; 2017.

Statement of the Problem

- **Diabetes prevalence is 19.9%, more than double the national average of 9.4%.**
- **People are diagnosed late, have lower health literacy, and higher rates of complications.**
- **1/5th to 1/3rd of residents live below poverty line, have higher rates of unemployment, food insecurity, mental health issues, and less access to care.**

de Groot et al., 2007; Schwartz et al., 2009; Zaugg et al., 2014; Holben et al., 2006; Johnson et al., 2011; Johnson et al., 2010; Brown et al., 2012; Beverly et al., 2018; Corrigan et al., 2007; Perry et all. 2013

Statement of the Problem

Social determinants of health & health inequities

in southeastern Ohio contribute to health disparities in people with diabetes.

Building on Prior Programs

- Need to provide navigation services and peer support to children with diabetes.
- Need to lower costs of nurse-led diabetes navigation program.
- Need to provide behavioral health care to people with diabetes.

Purpose

To develop a New Approach to Navigation in rural Appalachia that consists of:

1. **School Navigation Program**
2. **Peer Support Program**
3. **Community Health Worker Program**

Objectives

To improve health outcomes and lower health care expenditures for children and adults with type 1 and type 2 diabetes.

Objectives

The health outcome objectives are:

1. **To improve glycemic control.**
2. **To improve diabetes self-care behaviors.**
3. **To improve quality of life.**

Measures

Health outcomes:

- **Hemoglobin A1c levels**
- **Blood pressure**
- **Body Mass Index (BMI)**
- **Self-Care Inventory (SCI)**
- **Problem Areas in Diabetes-5 (PAID-5)**
- **Patient Health Questionnaire-9 (PHQ-9)**

Objectives

The healthcare expenditure objectives are:

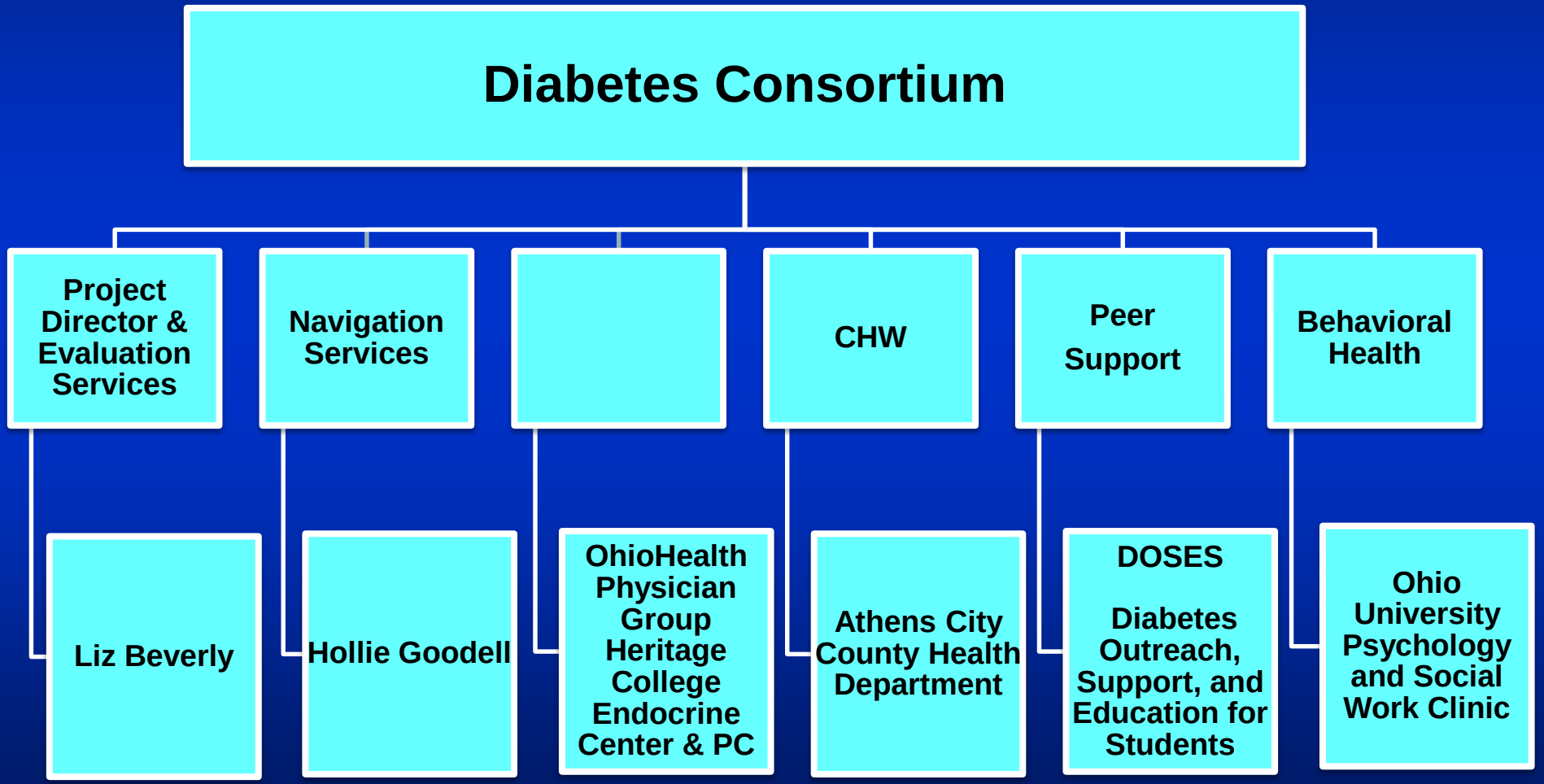
1. **To reduce emergency department utilization.**
2. **To reduce hospital admissions and hospital readmissions.**

Measures

Healthcare expenditure outcomes:

- **Medication profile**
- **Hospital admissions**
- **Hospital readmissions**
- **Emergency department utilization**

A New Approach to Navigation



School Navigator

- School Navigator is a person from the community who knows the school system and health care system.
- School navigator focuses on the diabetes care needs of the child during the school day.
- Navigator is the interface between the child's medical appointments, school, and family.

School Navigator Vignette

T.B. is a 14-year old child with type 1 diabetes. He was diagnosed at age 2 years. His current A1C is 12% and his average blood glucose numbers are in the 300s mg/dl. He is having problems with the school nurse. The school nurse is there only half a day and is not giving T.B. the proper amount of insulin to cover his carb intake. As a result, he is often sent home from school due to high blood glucose levels.

School Navigator Vignette

T.B. met with the School Navigator multiple times:

- **Talked to T.B. about making better food choices and checking blood glucose levels consistently.**
- **Reviewed carb counting to lower blood glucose levels. Changed his insulin to carb ratio.**
- **Met with family and shared nutrition information so that T.B. can eat healthier foods to lower blood glucose.**
- **Talked to school nurse about following the Endocrinologist's diabetes management plan.**
- **Talked to T.B. about getting an insulin pump and discussed this with Endocrinologist.**

Lessons Learned


A
Glucagon Demonstration Kit
FOR PRACTICE ONLY
Lilly
Eli Lilly and Company
Indianapolis, IN 46285, USA
Glucagon for Injection (rDNA origin)
Does Not
Contain Glucagon
B
Hypoglycemia Kit
Austin
Cheddar
Cheese
LUNA
BAND-AID
Calorie
FAT &
CARBOHYDRATE
Counter
200
Fast-Food
Chains
TRUEplus
test strips

Diabetes Emergency Care Training

- 1-hour hypoglycemia and glucagon training program.
- School personnel completed pre- and post-surveys to measure diabetes-related knowledge.
- Following the training, participants significantly improved their total diabetes knowledge score.
- Show value of training school personnel on how to treat hypoglycemia in children with diabetes.

Peer Support Program

- Peer Support Model demonstrates effectiveness of peer support in diabetes management.
- Success of peer support is the relationship formed with peers sharing similar experiences.
- Asked the DOSES students to serve as peer support mentors.
- Trained DOSES students in peer-to-peer program to mentor children with diabetes.

Peer Support Program

Peer Support Program

2019 CAT Camp—

A Type 1 Diabetes Day Camp

7 Campers
Ages 8-15

140
Volunteer
Hours

6
Counties
served

Community Health Workers

- CHWs provide a cost-effective strategy to help underserved populations managing diabetes in the home and community.
- Ohio University has a CHW Training Program curriculum, which we used in Year 1.
- We are working with an established group of CHWs at our local health department.
- Our CHW program launched in Year 2.

Future Directions

- **Fulfillment of Years 2 and 3 of the grant.**
- **Conduct a systematic program evaluation to assess the effectiveness and replicability of the program.**
- **Negotiate pay-for-performance contracts with managed care by documenting improved health outcomes and reduced health care expenditures.**

Thank you!

beverle1@ohio.edu