Rural vs Urban DPP Participation and Outcomes in Montana: Does participant location matter?

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  - Please refer to learning goals and objectives
  - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours

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Objectives:

- Describe factors contributing to increased rates of chronic conditions and diseases in rural areas
- Describe differences in rural vs urban outcomes, based on participant location
- Describe considerations in designing and implementing DPP programs in rural communities that promote success
Population = about 300

Montana Diabetes Statistics

- About 65,000 Montana adults currently have diagnosed diabetes.¹
- The percentage of Montana adults with diagnosed diabetes increased from 2.8% in 1990 to 7.9% in 2017.¹
- Diabetes is more common among American Indians/Alaska Natives than White non-Hispanics in Montana.
  - In 2017, 18.9% of American Indian/Alaska Natives in Montana reporting having diagnosed diabetes compared to 7.4% of White non-Hispanics.²
Montana Prediabetes Statistics

- In 2017, 7.4% of Montana adults reported having prediabetes.¹
- In the US, it is estimated that 84.1 million adults (33.9% of the adult US population) aged 18 years or older have prediabetes.²

Data sources:

What does the future hold???

CDC: Diabetes is more prevalent in disadvantaged groups, including rural zip code

- Remote counties
- Populations that have less education
- Populations with higher rates of unemployment
- Diabetes prevalence is 15-17% higher in rural areas than in urban areas (CDC MMWR data)
- Rural America has a disproportionately high number of diabetes-related hospital deaths compared to urban America (most pronounced in the South and Midwest)

Can we make the same assumptions about prediabetes???

Factors contributing to higher rates of chronic disease in rural areas

- Aging population
- Social determinants of health – poverty, lack of food security, housing/homelessness
- Health behaviors related to chronic disease
- Environmental and occupational factors
- Healthcare access barriers
Rural barriers to accessing healthcare and health education:
• Shortage of physicians and providers in rural areas
• Low health literacy of residents
• Inadequate access to health insurance to cover medical appointments, medications and diabetes supplies
• Low incomes that result in deferring care for financial reasons
• Limited access to transportation to travel to appointments with primary or specialty care providers

Factors influencing foregoing medical care amongst those with diabetes & (maybe) prediabetes
• Place-based disparities
  – Those that live in the South
  – Those that live in rural areas (vs urban areas)
• Those with lower incomes
• Those from several racial/ethnic groups
  – American Indian or Alaska Native
  – Black or African American


Possible barriers to DPP in rural areas:
– Fewer DPP programs due to shortage of CDC recognized service providers
– Laborious process to maintain recognition – outcomes based (participation, weight loss)
– Newly reimburseable service by Medicare (2018) – “learning”
– A DPP lifestyle coach that leaves that position can result in the closure of the program
– Times of classes may not be convenient for the participants’ schedule (ex: agriculture families)
– Year-long program for participants may not be conducive for participation in many rural families’ schedules
– Transportation issues/distance to service
Barriers to DPP in rural areas:

- Healthcare facilities and environment is intimidating to people
- "Independent nature" of people in rural areas – hardy, resilient, independent, wary of outsiders, private, loyal to neighbors …?? (note: this may or may not describe your local community)
- Culturally diverse populations
- Close-knit communities and privacy issues

Montana Diabetes Prevention Program (DPP)

Montana DPP - Eligibility

- Be at least 18 years old AND
- Be overweight (body mass index ≥25; ≥23 if Asian) AND
- Have no previous diagnosis of type 1 or type 2 diabetes AND at least one of the risk factors below:
  - Have a blood test result in the prediabetes range within the past year:
    - Hemoglobin A1C: 5.7%–6.4% or
    - Fasting plasma glucose: 100–125 mg/dL or
    - Two-hour plasma glucose (after a 75 gm glucose load): 140–199 mg/dL or
  - Be previously diagnosed with gestational diabetes
- Score 5 or more on prediabetes screening test at doihaveprediabetes.org
Montana DPP – Lifestyle Coaches

• Lifestyle Coaches
  – RN
  – Dietitian
  – CDE
  – exercise specialist, or other health professional with training and experience in nutrition and/or physical activity.

• Lifestyle coaches must attend at least one, 2-day lifestyle coach training, provided by a CDC approved training entity such as DTTAC or AADE.

Montana DPP Outcomes
Total pounds lost (since 10/2015) = 39,182

Participant Stories
Taking the class made me realize what I ate was making me what I was.

I learned that exercise is not a punishment. Now it feels like punishment when I have to miss my favorite exercise class.

I lost almost 50 pounds and I’m down from a size 20 to a size 12.

The best part? Knowing I did all of this for me!
Participant Stories

“What I like best is that it is a structured program. It is a defined program. People know what it is they will be doing. They know what it will cost them in time, effort, perhaps money. I think most people will find those are things they can do. They can get their hands around it and say ok if I follow this, I am going to be in better shape.”

- Dr. Corsi, Physician Champion
  (Missoula, Montana)

Provider Perspective

Rural DPP site characteristics and strategies (Montana)

- Rural programs are typically housed in clinic/hospital setting
  - Provider connections and referrals
- Word of mouth is a valued marketing strategy
- Challenges include:
  - Limited exercise opportunities, but getting creative can solve this issue!
- Telehealth as a means to reach rural communities
Montana Telehealth Studies

• Participants receiving the DPP remotely (n=256) are as successful in maintaining attendance, participating in physical activity, and achieving weight loss as those participating at an on-site (n=638) location.
  – No statistically significant differences among TH and OS participants in achievement of ≥5% weight loss goal, 150 minute physical activity goal, and mean attendance.¹

• Between 2010 – 2015, 667 participants were enrolled in a study comparing outcomes between one Montana face-to-face urban site and 15 rural communities which received the DPP simultaneously via telehealth delivery.
  – The urban and rural interventions were comparable with 33.5% and 34.6% of participants achieving 7% weight loss, respectively.²


Telehealth Logistics

• Technology – telemed equipment (Polycom) or web based
  • Web-based telehealth
    – WebEx
    – DPP is considered education – HIPAA is not relevant
  • Telehealth (TH) can be delivered simultaneously with the on-site (OS) group or as stand-alone delivery
  • Selecting the telehealth site
    – Access to appropriate technology, meeting space, establish service agreement with facility and TH site coordinator.

Telehealth Site Coordinator

• Room reservations and set-up
• Minimal technology management
• Weigh participants at start of class
• Collect previous week’s food and PA trackers and distribute class session materials
• Mail food/PA trackers to coach
• Assist with TH participant engagement and group discussions
Telehealth Delivery

- Helpful if coach can make an in-person visit to TH location
- TH site - Place camera so the coach can see the entire TH group on the monitor
- OS - Place camera so TH site can see the slide presentation as well as the coach
- Be careful with visuals (i.e. food examples)
- Schedule time for TH site to have its own group discussion and then share with the OS group
- Technology problems happen, have a backup plan – hardcopies of PPT, ability to FT, cell numbers

Telehealth Challenges

- Lack of personal contact between telehealth participants and coach
- Community buy-in
- Technology

Implications of Telehealth Delivery

- May ↑ geographic access to DPP
- May allow large number of participants at the same time
- May improve cost effectiveness of delivering DPP
- Could reduce participant travel cost
- Reduce barriers to accessing the DPP in remote/rural areas where there can be a shortage of team-based obesity, diabetes and self-management support services


The ‘rural patient experience’ – providing a DPP program in rural areas of need and what works:

- Find resources that target the needs of low-income populations – poverty in rural areas is a huge challenge
- For culturally diverse populations, employ bilingual and/or culturally competent staff
- Provide education appropriate to age, culture, and literacy level
- Possibly create an advisory or stakeholder group that represents the diversity of the community

Engaging Rural Providers

- Establish personal rapport with providers
- Meet with them in a convenient manner
  - 1:1 meeting
  - Board meetings
  - Morning team meetings
- Invite them to speak to the class
- Close the referral loop – provide patient updates
Recruiting Rural Participants

• Word of mouth is the big one!
• Provider referrals
• Utilize EMRs when possible
• “DPP prescription pad” in exam rooms
• Community newspaper ads
• Flyers – post office, senior centers, provider’s office, grocery store, library
• Radio

Retaining Rural Participants

• Invite a spouse/partner
• Culturally relevant
• Friendly competitions
• Raffle drawings each session
• Host guided exercise sessions or create access to an exercise space all year
• Assess a potential participant’s readiness to change
  – Confidence and motivation around the areas of physical activity and nutrition

Rural vs Urban DPP Outcomes – MT

Study objective: To identify differences in outcomes and participation by location – in urban versus rural settings in the MT DPP
NCHS Urban-Rural Classification Scheme*

US Counties and County Equivalents

- Metropolitan
  - Large Metro: 1,000,000+
  - Medium Metro: 250,000–999,999
  - Small Metro: 10,000–249,999

- Nonmetropolitan
  - Large central metro
  - Large fringe metro
  - Micropolitan: 10,000–49,999
  - Noncore

* [http://www.cdc.gov/nchs/data/series/sr_02/sr02_166.pdf](http://www.cdc.gov/nchs/data/series/sr_02/sr02_166.pdf)

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Montana County Classification

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DPP Locations in Montana

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Study Inclusion Criteria

1,259 Total Participants
445 (35%) Rural
814 (65%) Urban

* Participants categorized by their zip code

No statistically significant differences were detected in the mean in attendance between study groups.

Weight
Participants from the Urban group weighted more at baseline but on average lost the same number of pounds as those living in the Rural areas.
≥5% Weight Loss and ≥7% Weight Loss Goal

At 10 months, significantly more participants living in Rural areas achieved the ≥7% weight loss goal compared those living in Urban areas.

Lab Results

At 10 months, significant percentage of participants living in Rural areas improved their cardiometabolic risk factors (6 out of 10) from baseline. *Statistically Significant, P<.05

Lab Results

At 10 months, significant percentage of participants living in Urban areas improved their cardiometabolic risk factors (4 out of 10) from baseline. *Statistically Significant, P<.05
Factors Associated with Achieving ≥7% Weight Loss Goal

The Logistic Regression Model showed that participants who Self-Monitored Fat for at least 14 weeks and met the Physical Activity Goal were more likely to achieve the 7% weight loss goal.

- Self-monitored fat for 14+ weeks
- At least 150 minutes of physical activity per week

DPP in rural settings- implications for implementation:

- It’s happening/can be done!
- Participants are successful
- Opportunity for innovation in program delivery
  - Maximize marketing via word of mouth
  - Partner with your providers and gain champions
  - Look for opportunities to find alternative physical activity
  - Utilize the ‘strengths’ of rural individuals and communities

Thank you! Marci Butcher, RD, CDE - Montana DPHHS
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