Evaluating Community Chronic Disease Prevention Efforts in a Rural Midwest County

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PURPOSE AND BACKGROUND

One in three adults has prediabetes and almost 30% have hypertension. Early identification and lifestyle changes can prevent disease progression. In rural populations, however, rates of chronic disease are higher and resources are limited. In 2013, a rural Midwest county formed a team with public health leadership and representation from three competing healthcare organizations to increase awareness of and screenings for prediabetes and hypertension. The purpose of this community-based research project was to conduct a five-year evaluation of their efforts.

THEORETICAL FRAMEWORK

The Health Belief Model guided this project on the premise that several concepts explain people’s decisions about disease screening. Media and educational strategies were used to increase perceived disease susceptibility and seriousness specific to prediabetes and hypertension. Free annual health screenings were offered to provide cues to action.

METHODS

Media and educational strategy data were collected through a survey of team members and observations in facilities and on websites. Results were categorized by format and topic. Five years of deidentified health screening data were analyzed descriptively using fasting glucose levels, blood pressure readings, and demographic variables.

RESULTS

DEMOGRAPHIC DESCRIPTION

Screening participation averaged 618 adults per year and trended upward over the five years evaluated (N = 3090).

- Average participant age was 60.3 years (SD = 14.3)
- More participants were women (69.6%) than men (30.4%)
- Most were overweight or obese (70.3%)
- Almost 28% reported ≥ 2 years since their last preventative exam

FASTATING GLUCOSE CATEGORY

Fasting glucose screening results among participants:

- Normal range under 100 mg/dL: 63.2% (n = 1937)
- Prediabetes range of 100 - 125 mg/dL: 30.2% (n = 924)
- Diabetes range of over 125 mg/dL: 6.6% (n = 203)

Blood pressure screening results among participants:

- Normal range of <120/80: 23.1% (n = 637)
- Elevated or Stage I hypertension range: 43.4% (n = 1198)
- Stage II hypertension range of ≥ 140/90: 33.5% (n = 925)

Among them, 10% had no regular healthcare provider and 28% reported ≥ 2 years since their last preventative exam.

RESULTS

- Results indicated 27.8% of participants may have been newly identified with prediabetes (n = 796) or diabetes (n = 63) pending follow-up testing.

- Results indicated 12.8% (n = 354) of participants may have been newly identified with hypertension (Stage II).

BLOOD PRESSURE CATEGORY

- Normal range of <120/80: 23.1% (n = 637)
- Elevated or Stage I hypertension range: 43.4% (n = 1198)
- Stage II hypertension range of ≥ 140/90: 33.5% (n = 925)

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CONCLUSIONS

- Media strategies and free health screenings attracted mostly older, overweight adults, a group at high risk for diabetes and hypertension.
- Public health nurses are optimally positioned to promote population-level, collaborative chronic disease prevention efforts that generate cooperation among competing healthcare organizations and help leverage resources in rural areas.