Weekly Assignment

Name

University

Course

Professor

Date

Applying Epidemiology

As a DNP-prepared nurse, the ability to transform epidemiologic knowledge into evidence-based programs is essential for improving population health outcomes. The proposal will focus on developing a comprehensive, evidence-based program to improve glycemic control among veterans with Type 2 diabetes mellitus (T2DM) at the Community Living Center (CLC).

Chronic Health Issues and the Population

The chronic health issue selected for this proposal is Type 2 diabetes mellitus (T2DM). The target population consists of veterans receiving care at the ABC Medical Center, specifically those residing in the Community Living Center (CLC) and the surrounding community. This population is of professional interest due to the high prevalence of T2DM among veterans and its complex relationship with co-occurring mental health conditions like Post-Traumatic Stress Disorder (PTSD), which are also common in this group (Kohut et al., 2022).

Geographic Region and Population Characteristics

The geographic region for this program is ABC, and its surrounding areas, which fall within the radius of the ABC Medical Center. The veteran population in this region is diverse but shares common characteristics that make T2DM management a challenge. Many veterans also live with multiple chronic conditions such as PTSD, depression, chronic pain, and substance use disorders, which can complicate self-management of T2DM. Additionally, socioeconomic factors such as income, housing stability, and health literacy may significantly impact their ability to adhere to treatment plans and access necessary resources. A program designed for this population must be sensitive to these unique challenges and provide holistic, integrated care.

Patterns of Disease

Person

Type 2 diabetes mellitus (T2DM) in the veteran population exhibits distinct patterns. The disease disproportionately affects older veterans and is often linked to lifestyle factors that may be exacerbated by the physical and mental stressors of military service and the transition to civilian life (Kohut et al., 2022). The presence of co-occurring mental health conditions, such as PTSD, is strongly associated with worse health outcomes, highlighting a critical need for integrated care (Na et al., 2023).

Place

Geographically, the prevalence of T2DM among veterans is widespread, but a program focused on the ABC Medical Center can leverage localized data. The burden of T2DM is often concentrated in areas with higher veteran density, as well as in communities with limited access to healthy foods and safe physical activity spaces. This Medical Center serves a specific population with unique geographic and socioeconomic challenges that must be considered in program design and implementation.

Time

Both veterans and the general population have seen a worrying increase in new and existing cases of T2DM over the last several decades. This trend is connected to rising obesity rates, changes in diet, and less active lifestyles. Understanding this pattern is crucial to

demonstrating why a program is necessary for proactive, long-term T2DM management to prevent the health crisis from worsening.

Health Outcome to Improve

The health outcome this program aims to improve is glycemic control, as measured by a reduction in HbA1c levels. HbA1c is a reliable indicator of average blood glucose levels over the preceding two to three months, making it a primary target for T2DM management. Poor glycemic control is directly responsible for diabetic complications, and its improvement is central to preventing long-term morbidity and mortality.

Evidence Supporting the Importance of Improving This Outcome

Current evidence overwhelmingly supports the importance of improving glycemic control in T2DM. Poorly managed T2DM worsens cardiovascular disease and chronic kidney disease (Usman et al., 2021). Maintaining optimal HbA1c levels has been shown to reduce the risk of these complications, improve overall quality of life, and decrease healthcare utilization and costs (Huang et al., 2024). Therefore, a program focused on improving HbA1c levels directly addresses these critical health outcomes.

Program Description and Rationale

The proposed program is a multi-component, evidence-based initiative called "VETFIT: Veteran Engagement for T2DM Fitness and Informed Treatment." This program will provide veterans with T2DM at the ABC Medical Center with a comprehensive and complete approach to disease self-management. The program's core components will include structured dietary

counseling, tailored physical activity plans, and integrated mental health support such as motivational interviewing and stress-reduction techniques. This approach is designed to fit the unique needs of this population by addressing not only the physical aspects of T2DM but also the psychological and social factors that often hinder effective self-management. By combining these elements, VETFIT aims to empower veterans to manage their health actively, leading to sustainable behavior change and improved clinical outcomes.

Data Collection and Analysis

A mixed-methods approach will be used to collect and analyze data, combining primary and secondary data sources to ensure a comprehensive evaluation.

Primary Data Collection

The research will collect information both before and after the program starts, using surveys and clinical tests. The surveys will ask participants about their knowledge of Type 2 Diabetes, their confidence in managing it, their dietary habits, and their level of physical activity. Medical information, like HbA1c levels, weight, and blood pressure, will be taken directly from participants at the beginning and then again at 6 and 12 months. This new data will directly demonstrate how the program impacted their knowledge, behaviors, and health outcomes.

Secondary Data Collection

Electronic Health Record (EHR) data (without identification) from the ABC Medical Center will be used to follow clinical outcomes (like HbA1c trends), how often patients use healthcare for T2DM complications, and how well they stick to their medications. This existing

data provides us with objective, long-term information that complements the new data from surveys, creating a more comprehensive view of the program's effectiveness (Curley & Niedz, 2024).

Data Analysis

Quantitative data from surveys and EHRs will be analyzed using descriptive statistics to summarize participant characteristics and statistics (t-tests, ANOVA) to compare pre- and post-intervention outcomes. Qualitative data from participant interviews and focus groups will be analyzed using thematic analysis to identify patterns and themes related to their experiences, challenges, and successes in the program.

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SMART Objectives

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Short-Term Objectives (within 6 months)

- Specific: To improve glycemic control among veterans with T2DM.

- Measurable: By decreasing the mean HbA1c level of program participants by at least 0.5% within six months of enrollment.

- Achievable: This is a realistic and attainable goal for a multi-component intervention.

- Relevant: Improved glycemic control is a key outcome for preventing T2DM complications.

- Time-bound: This will be measured six months after each veteran enrolls in the program.

Long-Term Objectives (within 12 months)

- Specific: To maintain improved glycemic control among program graduates.

- Measurable: By having 75% of program graduates sustain an HbA1c level below 7.0% one year after program completion.

- Achievable: This goal is realistic with ongoing support and education.

- Relevant: Long-term glycemic control is essential for reducing the risk of T2DM-related morbidity and mortality.

- Time-bound: This will be measured one year after each veteran completes the program.

Stakeholders

Key stakeholders who should be involved in the program planning, implementation, and evaluation include:

- **Veterans with T2DM and their families:** As the target population, their input is essential for ensuring the program is tailored to their needs and preferences.

- **VA primary care providers and specialists:** Their referrals are crucial for recruitment, and their collaboration ensures continuity of care.

- **VA mental health specialists and social workers:** Their expertise is vital for integrating mental health support and addressing social determinants of health.

- **Community partners and veteran service organizations:** These partners can help with recruitment, outreach, and providing additional resources.

Program Planning Model

The precede-proceed model will guide the program. This model is an excellent choice because it is a comprehensive, community-oriented framework that systematically moves from problem identification to program evaluation.

Justification for Model Selection

The precede-proceed model is ideal for this program because its structured, nine-phase approach ensures that the intervention is not simply implemented but is thoughtfully planned and grounded in a thorough understanding of the community (Kim et al., 2022). The model's emphasis on community participation aligns with the center's veteran-centered care philosophy, ensuring that the program is a collaborative effort involving veterans, their families, and other stakeholders. The model's focus on long-term evaluation is also critical for demonstrating the program's sustained impact on population health outcomes.

Planning (PRECEDE)

The initial phases of PRECEDE would involve a Social Assessment to understand the quality of life and T2DM-related needs of the veteran population. An Epidemiological Assessment would then use local data to identify the specific T2DM rates and patterns in the area. The Educational and Ecological Assessment would identify predisposing, reinforcing, and enabling factors that influence self-management behaviors. Finally, the Administrative and Policy Assessment would secure buy-in and resources from leadership.

Implementation (PROCEED)

This phase would involve implementing the VETFIT program, including training staff, recruiting veterans, and launching the intervention components.

Evaluation (PROCEED)

The final phases would involve three levels of evaluation:

- **Process Evaluation:** Did we conduct the sessions as planned?

- **Impact Evaluation:** Did participants' knowledge, self-efficacy, and behaviors change?

- **Outcome Evaluation:** Was there a sustained reduction in HbA1c and T2DM-related complications?

This systematic evaluation ensures continuous improvement and a precise measure of success.

Cultural and Ethical Considerations

Several important cultural and ethical considerations must be taken into account for this program. Culturally, the program should respect and utilize the unique aspects of military culture, such as the strong bonds and focus on group goals. For this reason, the program is named "VETFIT" and uses a peer-support model. Ethically, we must get informed consent from all participants, especially those with mental health issues who might have trouble making decisions. Patient health information must be kept private and confidential, adhering to strict rules such as HIPAA and VA regulations. The program also has a plan to help participants who become distressed and will refer them to appropriate resources for support. This is important because talking about chronic health can be sensitive, especially for veterans with PTSD. The program will also strive to be fair, ensuring all veterans have an equal opportunity to join, regardless of their age, race, or income.

Program Funding and Marketing

Funding

Funding for this program would be sought from multiple sources to ensure sustainability. Primary funding would come from internal VA grants and appropriations designated for chronic disease management and veteran health. This is a crucial source given the program's alignment with the VA's mission. Additional funding could be sought from federal grants from agencies such as the National Institutes of Health or the Health Resources and Services Administration, which often fund programs that address health disparities in specific populations. Philanthropic support could also be explored through partnerships with veteran-focused foundations.

Marketing

Marketing strategies would be tailored to the veteran population to maximize program enrollment and engagement.

- **Direct Referrals:** Primary care providers and specialists at the ABC Medical Center would be trained to identify and refer eligible veterans to the program.
- **Outreach through Veteran Service Organizations:** Partnerships with local and national VSOs would be established to promote the program through their communication channels, building on existing networks of trust.
- **VA-Internal Communication:** The program would be marketed through VA newsletters, internal television monitors in waiting areas, and digital platforms accessible to veterans.
- **Digital and Social Media:** Targeted social media campaigns on platforms popular with veterans would be used to raise awareness and drive enrollment.

- **Community Events:** The program would be promoted at local health fairs, veteran support groups, and community events to directly engage with the target population and their families.

Conclusion

This proposed program, VETFIT, is a carefully designed, evidence-based initiative aimed at improving glycemic control among veterans with Type 2 Diabetes at the ABC Medical Center. By leveraging the precede-proceed model, the program ensures a collaborative approach with veterans and their families, moving systematically from problem identification to long-term evaluation. Through a combination of internal and external funding and targeted marketing, VETFIT aims not only to improve individual health outcomes but also to contribute to a healthier, more resilient veteran community.

References

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