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Improving Blood Pressure Control in Home Care Patients Through Implementation of ACC/AHA Hypertension Guidelines and Structured Blood Pressure Monitoring

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Walden University

College of Nursing

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee

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2026

Executive Summary: Clinical Practice Guideline
Improving Blood Pressure Control in Home Care Patients Through Implementation of
ACC/AHA Hypertension Guidelines and Structured Blood Pressure Monitoring

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Executive Summary Submitted in Partial Fulfillment
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Summary

This clinical practice guideline addressed the practice problem of the lack of standardized and consistent hypertension management in the home setting. Addressing this practice problem is important within nursing practice, as uncontrolled blood pressure increased the risk of hospitalizations, emergency department visits, and long-term cardiovascular complications. The practice question focused on translating evidence-based hypertension guidelines into clinical practice and evaluating their impact on patient outcomes in the home care setting. The purpose of the project was to engage three voluntary participants in evaluating the clinical practice guideline per the American College of Cardiology and American Heart Association hypertension guidelines within home-based primary care, using the AGREE II tool to appraise guideline quality. The 3-member expert panel appraised the clinical practice guideline, and all domains exceeded the 70% or greater threshold. Analytical strategies included descriptive and comparative analysis of data collected over an eight-week period. Findings suggested that standardized, nurse-led blood pressure monitoring supported evidence-based practice, enhanced clinical decision-making, and promoted equitable cardiovascular care in the home care setting. Key recommendations include incorporating standardized blood pressure monitoring into routine nursing practice, providing ongoing patient education, and supporting nurse-led guideline implementation to strengthen chronic disease management and patient-centered care.

Background

This project addresses a persistent practice gap in hypertension management among adult home care patients that contributes to poor blood pressure control and preventable cardiovascular complications. This gap has contributed to suboptimal blood pressure control, increased risk of cardiovascular complications, and preventable hospitalizations. The project evaluated whether implementation of American College of Cardiology and American Heart Association hypertension guidelines combined with structured home blood pressure monitoring improved blood pressure control over an eight-week period. The purpose of the project was to examine the effectiveness of integrating evidence-based guidelines into routine nursing practice to promote equitable, high-quality care, improve patient outcomes, and reduce unwarranted variation in hypertension management in the home care setting.

Evidence supported the identified practice gap in hypertension management and the proposed change to implement guideline-driven care with standardized home blood pressure monitoring. The American College of Cardiology and the American Heart Association hypertension guidelines emphasize the importance of accurate blood pressure measurement, home and ambulatory monitoring, and evidence-based treatment to improve blood pressure control and reduce cardiovascular risk (Whelton et al., 2018). Kario (2021) reported that home-based monitoring provided more reliable prognostic information than clinic measurements and reinforced guideline recommendations for out-of-office monitoring. Trefond et al. (2022) found that patients who consistently used home based monitoring demonstrated improved medication adherence and engagement in self-management. Rhee et al. (2023) observed that patients who measured and reported

home blood pressure readings to clinicians achieved better target attainment than those who did not report values. Shantharam et al. (2022) conducted a systematic review demonstrating that self-measured blood pressure monitoring, when paired with structured support, significantly improved blood pressure outcomes. Konlan and Shin (2023) identified self-care behaviors, including self-monitoring, medication adherence, and patient knowledge, as determinants of effective home-based hypertension management. Collectively, these studies provided strong evidence that integrating American College of Cardiology and American Heart Association guideline recommendations with standardized home blood pressure monitoring and nurse-led interventions addressed gaps in practice and improved hypertension outcomes in home care populations.

Clinical Practice Guideline Development

Three individuals were selected to serve on the expert panel, all of whom were board-certified nurse practitioners with at least 5 years of clinical experience and a primary focus on geriatric patient care. The experts were chosen based on their extensive knowledge and experience in managing hypertension within the geriatric population. The clinical practice guideline was appraised using the Appraisal of Guidelines for Research and Evaluation II (AGREE II) instrument by a three-member expert panel. The AGREE II tool consists of 23 items organized across six quality domains, with each item rated on a 7-point Likert scale ranging from 1 to 7. Domain scores were calculated by summing the individual item ratings within each domain for each reviewer. To allow for standardized comparison across domains with differing numbers of items, raw domain scores were converted to scaled domain percentage scores using the AGREE II recommended formula: (obtained score minus the minimum possible score) divided by

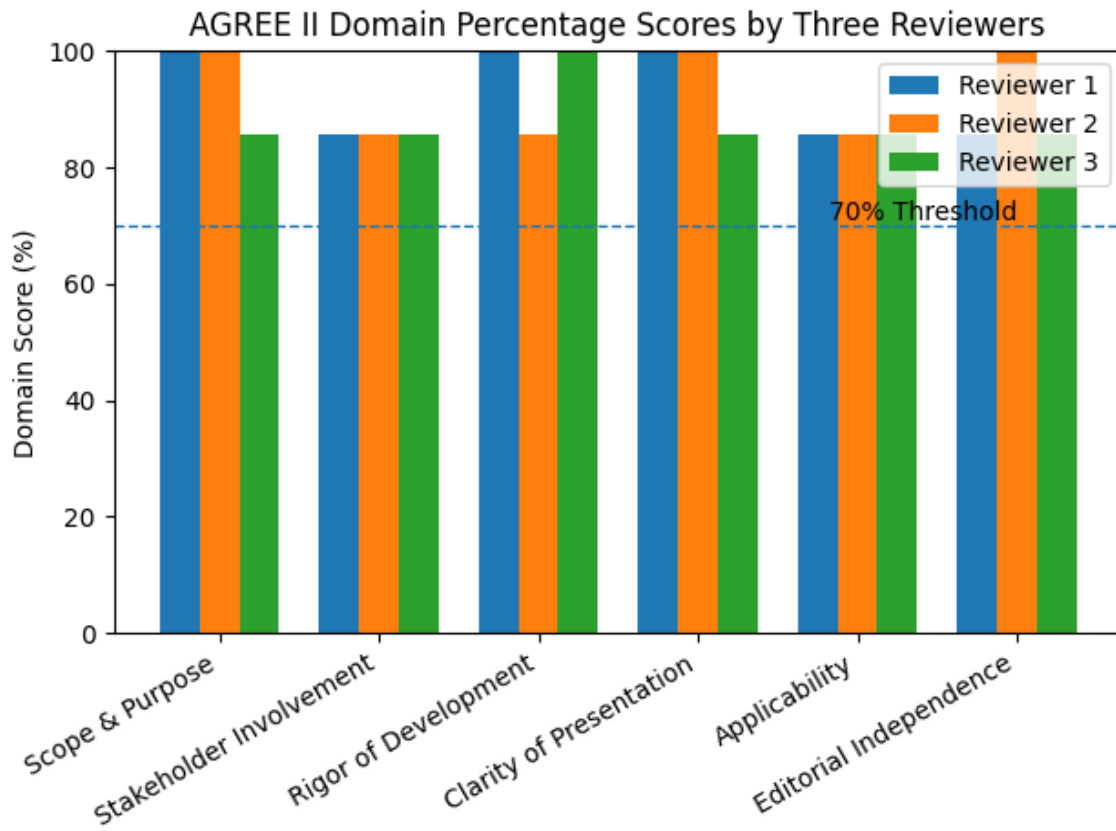
(maximum possible score minus the minimum possible score), multiplied by 100. Scaled domain scores of $\geq 70\%$ were interpreted as indicative of acceptable guideline quality (Brouwers, et al, 2010). This approach ensured methodological rigor, enhanced interpretability, and supported transparent reporting of guideline quality across reviewers and domains.

Results

The clinical practice guideline was evaluated by the three-member expert panel using the AGREE II instrument. Domain scores were converted to percentage scores based on the maximum possible score of 7 to facilitate interpretation and comparison. As illustrated in Appendix Figure A1, all six AGREE II domains exceeded the $\geq 70\%$ threshold commonly used to indicate acceptable guideline quality. The highest domain scores were observed in scope and purpose, rigor of development, and clarity of presentation, with reviewer ratings ranging from 86% to 100%, reflecting clear guideline objectives, strong linkage to evidence, and well-organized, actionable recommendations. Slightly lower scores were noted in stakeholder involvement and applicability, with ratings ranging from 86%, which may be attributed to limited direct patient involvement and anticipated organizational resource constraints. Overall, reviewer agreement was high, with only minor variation across domains, supporting the methodological rigor, clarity, and overall quality of the clinical practice guideline. Reviewer comments highlighted the guideline's strong evidence base and clarity of blood pressure targets; however, they also noted the need for continued patient education and additional organizational resources, which had the potential to strain the organization due to low staffing levels.

Proposed adoption of the clinical practice guideline was also reviewed by key stakeholders, including home care nurses and leadership, who identified the guideline as clinically relevant. Stakeholders reported that standardized guidance improved consistency of blood pressure measurement, enhanced nurse confidence in clinical decision-making, and supported timely communication with providers. Adoption of the guideline had the potential to positively impact the organization by improving blood pressure control, reducing preventable hospitalizations, and aligning practice with national standards. Limitations of the review included the small size of the expert panel, the small sample size of the project, and the need to adapt certain recommendations to the home care environment. These limitations may have slightly influenced applicability scores but did not significantly affect the overall assessment of guideline quality.

Beyond the local site, this project is important because uncontrolled hypertension remained a widespread public health issue, particularly among community-dwelling and underserved populations. Demonstrating successful implementation of a nationally recognized clinical practice guideline in the home care setting provided a guideline-driven model for other organizations seeking to improve hypertension outcomes, advance health equity, and strengthen evidence-based practice across diverse care environments.

Figure 1*AGREE II Domain Percentage Scores by Three Reviewers***Table 1***AGREE II Individual Domain Scores by Three Reviewers*

AGREE II Domain	Item Number	Reviewer 1	Reviewer 2	Reviewer 3
Scope and Purpose	1-3	7,7,7	7,7,7	6,7,6
Stakeholder Involvement	4-6	6,6,6	6,6,6	6,6,6
Rigor of Development	7-14	7,7,6,7,7,7,6,6	6,7,6,6,6,7,6,6	7,6,6,7,6,6,6,6
Clarity of Presentation	15-17	7,7,7	7,7,7	6,7,6
Applicability	18-21	6,6,6,6	6,6,6,6	6,6,6,6
Editorial Independence	22-23	6,6	7,7	6,6

Conclusions

In conclusion, this DNP project addresses a critical gap in hypertension management among adult home care patients by promoting the consistent use of evidence-based American College of Cardiology and American Heart Association hypertension guidelines combined with standardized home blood pressure monitoring. Uncontrolled hypertension remains a major contributor to preventable cardiovascular morbidity, hospitalizations, and health care costs, particularly among vulnerable home care populations with complex comorbidities and social determinants of health (Whelton et al., 2018). By implementing a structured, guideline-driven approach and evaluating its impact on blood pressure outcomes, the project supports improved clinical consistency, patient engagement, and quality of care. The use of the AGREE II tool ensured that the selected guidelines were methodologically sound and appropriate for practice implementation (Brouwers et al., 2010). Ultimately, this initiative reinforces the vital role of nurses in evidence-based chronic disease management, promoted health equity, and contributed to positive social change by improving cardiovascular outcomes for diverse home care populations.

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