

# PROGRAM EVALUATION

## Clinical Nurse Specialist-Led Program for Diabetes Health

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Elizabeth L. Kassulke, MSN, RN, AGCNS-BC



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# CONTENT

- Background and Problem
- Literature Review and Conclusions
- Program for Diabetes Health
- Program Evaluation Framework
- Results and Analysis
- Questions

## BACKGROUND

- 34.1 million adults in the United States diagnosed with diabetes
- 7.3 million adults met the laboratory criteria for diabetes
- 631,194 Virginians
- Seventh leading cause of death in the United States and Virginia in 2015

## BACKGROUND & PROBLEM

- Three-fold greater chance of hospitalization
- Over one-quarter of hospitalized Americans have diabetes
- Hyperglycemia has strong association with poor clinical outcomes

## REVIEW OF LITERATURE: SUMMARY

- Three main themes developed:
  - Comparison of diabetes care provided by CNSs and APRNs to physician colleagues
  - Effectiveness of nurse-led interventions
  - Patient experience

## REVIEW OF LITERATURE: CONCLUSIONS

- The current body of evidence supports the utilization of APRN led teams in the inpatient management of patients with diabetes

# PROGRAM FOR DIABETES HEALTH

- Mission
- Five CNSs in collaboration with an Endocrinologist
- Consult-based workflow
- An evaluation of the inpatient CNS-led Program for Diabetes Health (PDH) is beneficial to enhancing current understanding of how to optimize patient care

## DNP PROJECT: PROGRAM EVALUATION

- Aim: Evaluate the outcomes of the CNS-led PDH compared to diabetes outcomes prior to the program's implementation.
- Clinical Question: In hospitalized patients with diabetes how do consultations and recommendations from the PDH compared to prior clinical management affect diabetes-related care?
- This program evaluation was conducted using the Agency for Clinical Innovation (ACI) Program Evaluation framework

# AGENCY FOR CLINICAL INNOVATION FRAMEWORK





## STEP 1: ESTABLISH EVALUATION TEAM

- The role of the team is to facilitate the planning, implementation, analysis and reporting of the evaluation.
- Team members: DNP student, clinical mentor, CNSs from PDH, academic advisor, statistician

## STEP 2: PLANNING

- Development of a communications plan outlining stakeholder engagement, dissemination of results and reporting.
- Stakeholders:
  - Members of the PDH
  - Hospital administration
  - Providers and nurses in the hospital organization
- Communication Plan:
  - Weekly virtual meetings with Advisor
  - Updates on progress to PDH team members
- IRB Approval:
  - Approved as Program Evaluation

## STEP 3: PROGRAM LOGIC

- Illustrates a program and defines what should be measured and when this should occur in an evaluation.
- Inputs: CNS Staff, credentialing, salaries
- Activities: Advanced diabetes management (ADM) training, ADM certification
- Outputs: Increased knowledge, certifications, number of patients consulted on, hours of services billed
- Outcomes: Pre- and Post- implementation diabetic clinical metrics; five measures

## STEP 4: EVALUATION DESIGN

- Defines the specific questions that will examine the program objectives and desired outcomes.
- Questions:
  - 1) What is a patient's blood glucose level on admission?
  - 2) What is a patient's blood glucose level on discharge?
  - 3) What is the time to inpatient target blood glucose range?
  - 4) What is the number of patients with basal insulin ordered compared to number of patients with only correctional insulin ordered?
  - 5) How many patients had documented episodes of hypoglycemia?

## STEP 5: DATA PLAN

- Baseline (pre-implementation) data and PDH (post-implementation) data
- Source of Data: Electronic Health Record (EHR)
- Target is 160 patients for each group (80 Pre- and 80 Post-)

## STEP 6: IMPLEMENTATION

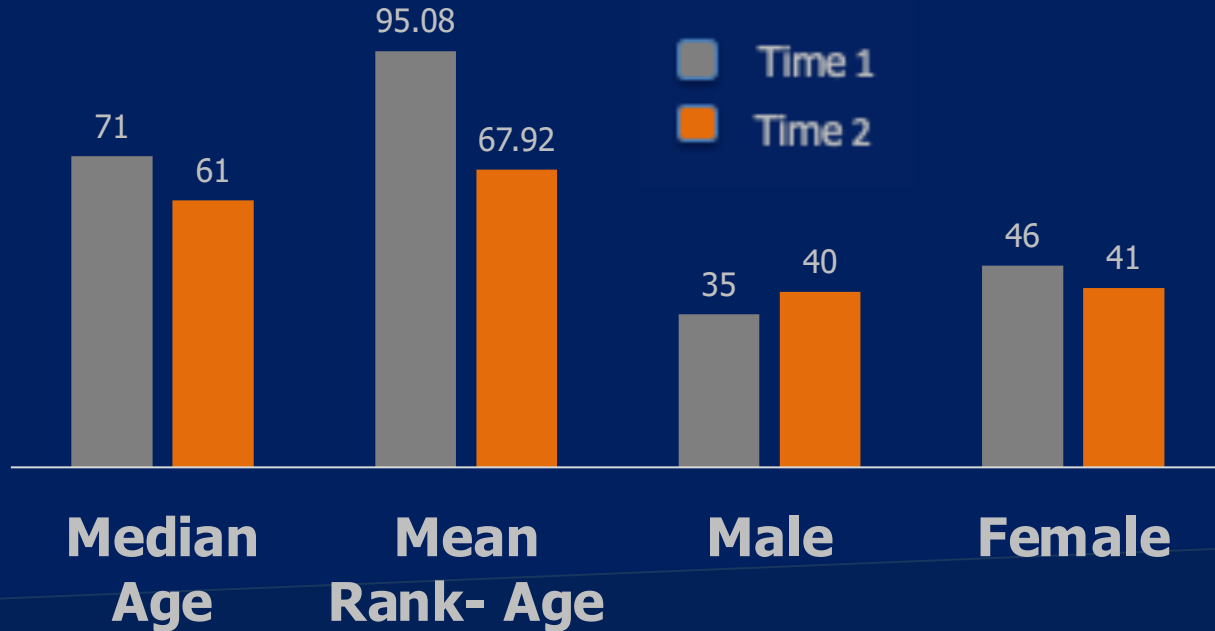
- Undertaking the evaluation involves the development of instruments, data collection, analysis and interpretation of results.
- Data management
- Statistical analysis ( $N = 81$  pre,  $N = 81$  post)

## STEP 7: COMMUNICATING RESULTS

- The communication plan defines how the results of the evaluation will be communicated.
- Informs evidence-based decision making and contributes to the learning and knowledge base of the organization.
- Executive summary to hospital organization and PDH leadership with full report available upon request
- DNP doctoral defense, UVA's Libra Database
- NACNS Conference, NACNS journal: *Clinical Nurse Specialist*

# RESULTS & ANALYSIS

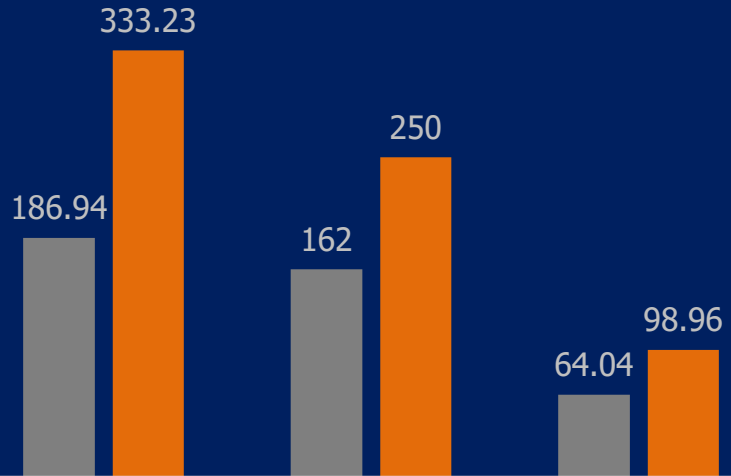
## Age and Gender Data



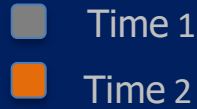


# RESULTS & ANALYSIS

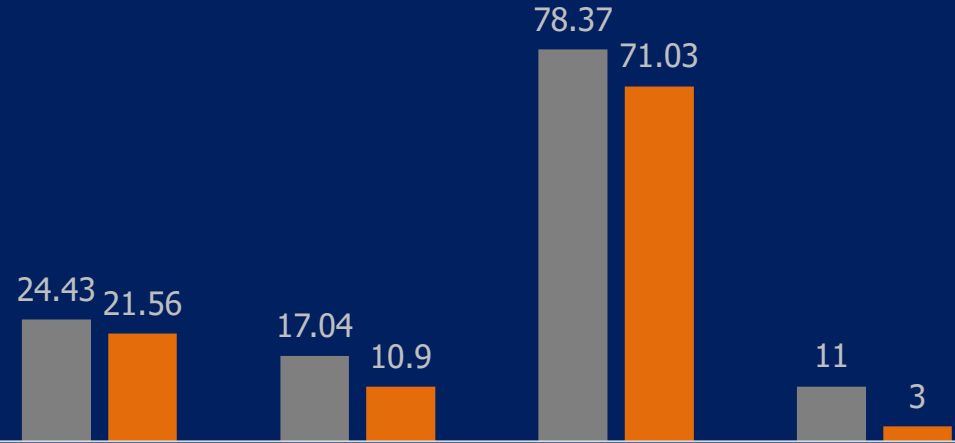
## Admitting Blood Glucose



**Mean    Median    Mean Rank**



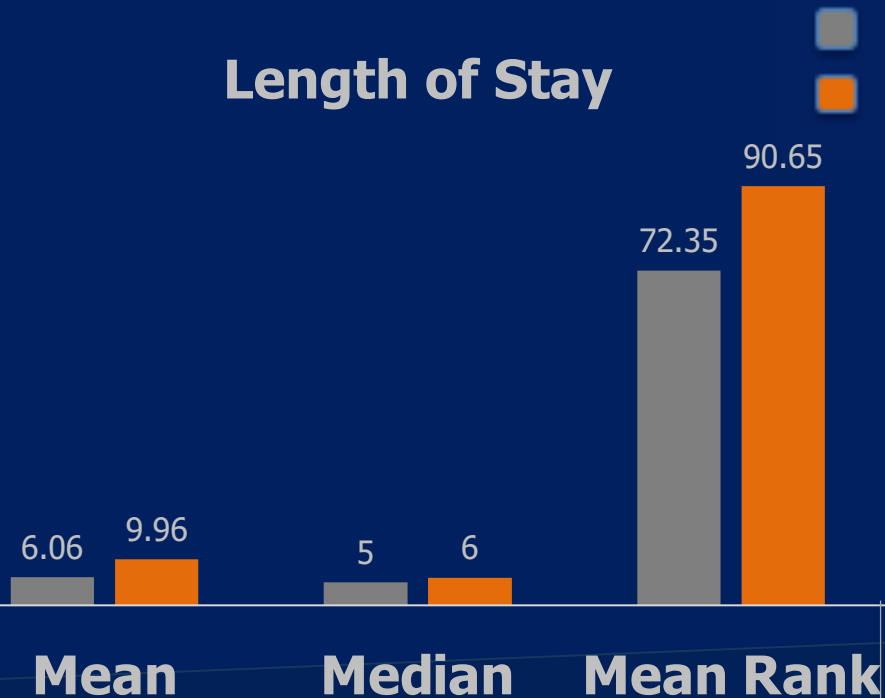
## Time to Target



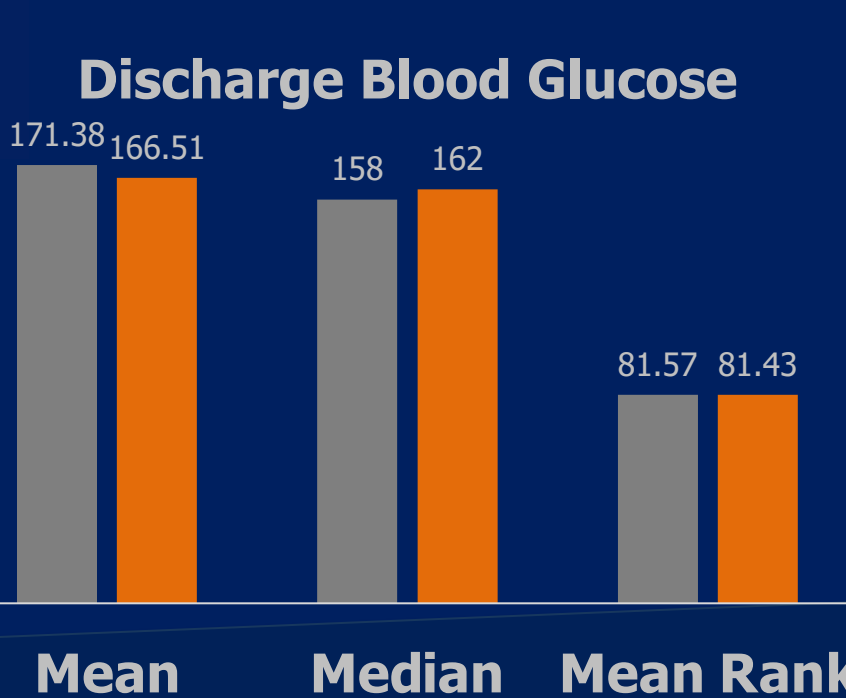
**Mean    Median    Mean Rank    Did Not Achieve**

# RESULTS & ANALYSIS

## Length of Stay

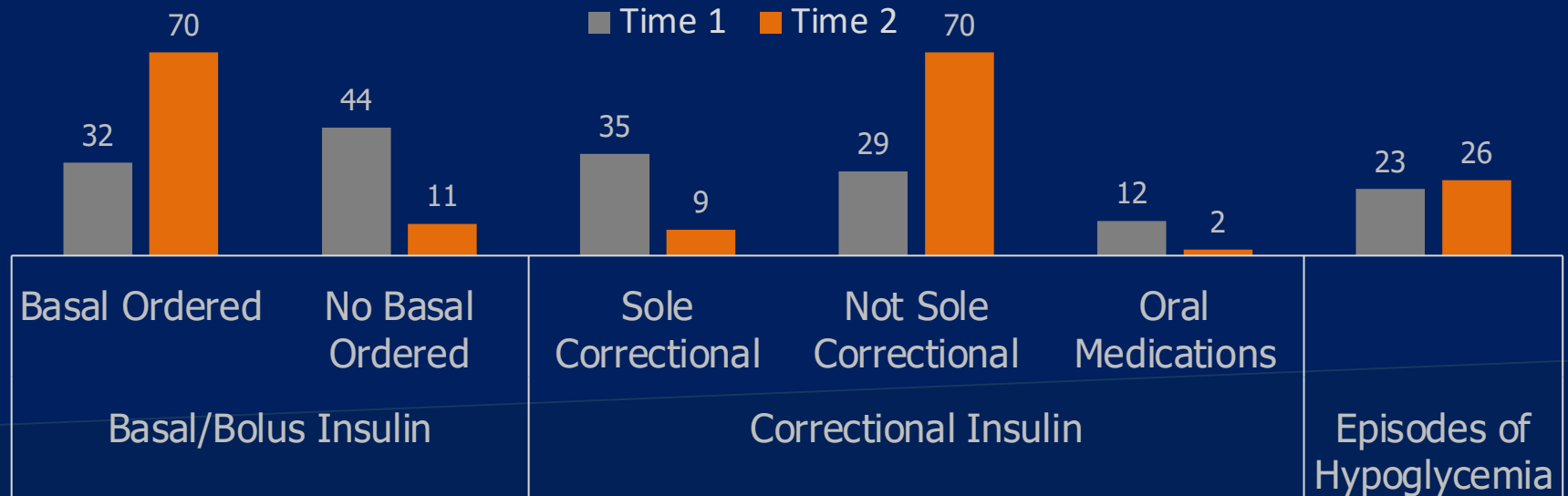


## Discharge Blood Glucose



# RESULTS & ANALYSIS

## Use of Basal/Bolus Insulin, Correctional Insulin and Episodes of Hypoglycemia



## ANALYSIS HIGHLIGHTS

- Time to target
- Use of basal
- Use of sole correctional
- Hypoglycemic
- Consult-Based program

## STEP 8: INCORPORATE FINDINGS

- Evaluation results are used to support and contribute to evidence based decision making and ultimately influence the future aspects of a program through redesign, expansion or discontinuation.
- Results of Program Evaluation
- Future of PDH



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# QUESTIONS?