

Sigma's 30th International Nursing Research Congress
The Effectiveness of an Interprofessional Ambulatory Care Health System
Redesign on Patient Outcomes

Nancy Johansen Madsen, PhD

Marcella Niehoff School of Nursing, Loyola University Chicago, Maywood, IL, USA

Diabetes is a lifelong debilitating and deadly chronic disease affecting nearly one out of every eleven Americans. This public health problem costs \$245 billion annually in the United States. Long term research trials have shown that diabetes complications can be prevented with good glycemic control, but it is difficult for patients to maintain control without much support from their healthcare team. U.S. healthcare remains fragmented. However, with the passage of the Affordable Care Act, there are opportunities to redesign health care delivery to minimize fragmentation and improve patient outcomes.

The goal was to determine if a redesigned care delivery model in an ambulatory care clinic affected patient outcomes for patients with type II diabetes. This new model which was based on the Wagner Care Model was a nurse-led interprofessional collaborative care-coordinated team model. Team members included a nurse care coordinator (APN or BSN), dietitian, social worker, primary care physician and the patient/family. The aim of the study was to determine if patient engagement, healthcare utilization and clinical indicators for adults with Type II diabetes improved with this new model of care.

This was a retrospective, longitudinal, matched design using secondary data from one year prior to the intervention to one year post intervention. The study sample included two groups: 204 patients with Type 2 diabetes who were care coordinated in the redesigned primary care clinic (pre/post intervention) and a propensity score matched sample of patients at the same health system receiving standard care. The propensity score match included the covariates of gender, race, ethnicity, language, age, insurance, baseline A1C, years diagnosed with diabetes, and all of the Charlson comorbidity index diagnoses (cancer, metastases, dementia, cerebrovascular disease, diabetes with chronic complications, HIV, peptic ulcer disease, rheumatic disease, renal disease, liver disease either mild or moderate/severe, myocardial infarction, hemiplegia or paraplegia, chronic pulmonary disease and peripheral vascular disease).

The independent variable was the intervention itself. The dependent variables included patient engagement (missed visits, influenza immunizations, and annual eye examinations); healthcare utilization (number of hospitalizations, hospital days and emergency room visits); and clinical indicators (Hgb A1C, weight, systolic and diastolic blood pressure).

Findings indicated both a clinically and statistically significant improvement in Hgb A1C for both the post-intervention group compared to the pre-intervention group and the intervention verses the matched group. There was also a clinically and statistically significant improvement in weight and change in diastolic blood pressure at goal (<90) for the post-intervention group compared to the pre-intervention group. However, eye examinations was significantly better in the propensity matched comparison group.

There was no difference in healthcare utilization for either the pre/post intervention group or the intervention group in comparison to the propensity matched group.

If the US healthcare system is going to move away from the current acute care focused system to one of prevention and health promotion, new models of care will be critical. This is one of few US studies to provide very specific details of an ambulatory

care redesign including interprofessional collaboration. It demonstrated that in a low socioeconomic community, patient centered interprofessional collaboration in a primary care clinic can improve diabetes clinical outcomes. This study provided an initial step to redesigning primary care to meet the needs of this Type 2 diabetes population.

Title:

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ambulatory care, health services research and interprofessional

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Abstract Summary:

This study aim was to determine if a nurse-led, interprofessional, collaborative, care coordinated primary care model (ICCCM) in a high need geographical area affected patient engagement, health care utilization and clinical indicators for an adult Type II diabetes population compared to pre-intervention and in comparison to a propensity matched sample.

Content Outline:

1. Introduction
1. Diabetes is a costly lifelong debilitating disease
2. US healthcare remains fragmented
3. US healthcare ill equipped to provide needed support to diabetes patients
2. Study design
1. Retrospective, longitudinal using secondary data
2. Independent variable: Interprofessional collaborative care coordinated primary care model was developed
1. Colocated practitioners
1. *Team Model: Nurse, Primary Care Physician, Dietitian, Social Worker & Patient/family*
2. *Based on Wagner Care Model*
2. Sample
1. *Intervention patients from 2 clinics in high need geographical communities that used ICCCM model (n=204)*
1. *Propensity Match (n=171)*
1. *Demographics*
2. *Charlson Comorbidity Conditions*
3. *Baseline A1C*
3. Dependent Variables
1. Patient Engagement
2. Healthcare Utilization
3. Clinical Indicators
4. Results
1. *A1C improved in pre/post and matched groups*
2. *Weight improved in pre/post*
3. *Diastolic b/p at goal improved in pre/post*
4. *Missed Visits*
1. *Unadjusted improved in Matched group*
2. *No difference when adjusted for renal disease/baseline A1C*

5. *Eye Examinations improved in Matched group*
3. Conclusion
1. ICCCM Model improved A1C, Wt & diastolic b/p in low SES patient group
2. *Paradigm is shifting in the US from one of acute care to prevention and health promotion*
3. Ambulatory models of care need to focus on care coordination, health promotion & population health

First Primary Presenting Author

Primary Presenting Author

Nancy Johansen Madsen, PhD
Loyola University Chicago
Marcella Niehoff School of Nursing
Student
Maywood IL
USA

Author Summary: Nancy Madsen successfully defended her doctoral dissertation and graduated with her PhD in May. This health services research study was the body of work for her dissertation.