



Lifecycles Health Center and Services, Inc.

Is there a difference in diabetes care provided
a new Nurse Managed Health Centers in
Camden New Jersey compared to the FQHC
Medical Model in Camden?

Tanya Bronzell-Wynder, DNP, CRNP, NP-C, ANP-BC, AGACNP-
BC, FNP-BC
CEO, Founder



Lifecycles Health Center and Services, Inc



Introduction

- ❖ Morbidity and mortality rates for Diabetes within the City of Camden remain high in the uninsured and vulnerable populations.
- ❖ Currently there are two types of Federally Qualified Health Centers utilized in the City of Camden by the underserved population
- ❖ This project evaluated if there was a difference in diabetes care by HB A1C offered between the two types of health centers.



Lifecycles Health Center and Services, Inc

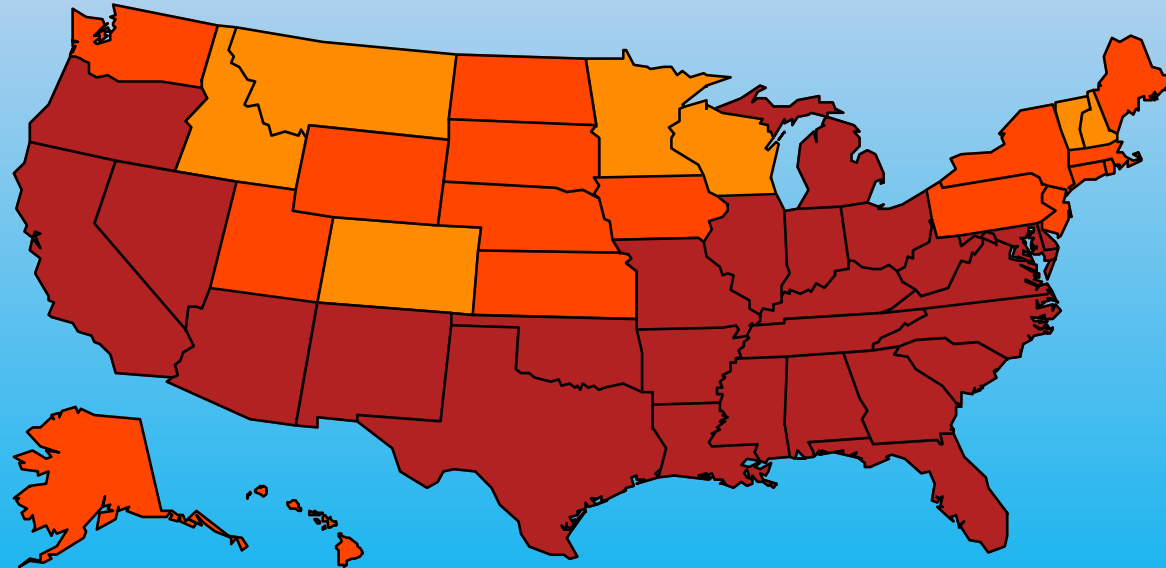
Importance of Topic

- The Centers for Disease Control and Prevention reported 117 million people in America have one or more chronic diseases (CDC, 2014).
- Diabetes is the leading cause of kidney failure and amputations in Americans.
- Over 30.3 million Americans (or 9.4 %) have diabetes, and 7.2 million Americans are unaware that they have diabetes (CDC, 2018).
- Health Resources and Services Administration (HRSA), by 2020, the projected primary care physician shortage will be over 20,000 providers
- Affordable Care Act has provided coverage for uninsured Americans, yet primary care physicians cannot meet the demand.
- HRSA states if nurse practitioners (NPs) and physicians assistants (PAs) are utilized to provide primary care services, this shortage could be alleviated (HRSA, 2013).



Lifecycles Health Center and Services, Inc

Age-Adjusted Prevalence of Diagnosed Diabetes Among US Adults



CDC's Division of Diabetes Translation.

United States Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/data>



NJ Diabetes Statistics

- Eighth leading cause of death in New Jersey
- Diabetes rate is 9.2 % in the state of New Jersey affecting 640,000 people throughout the state
- 2,000 deaths occur in New Jersey each year. 18 in 100,000 is the death rate
- Blacks are affected more than any other race



Lifecycles Health Center and Services, Inc

Population Affected

Underserved, Vulnerable Population within Camden





Lifecycles Health Center and Services, Inc

Purpose of Study

Evaluate diabetes outcomes in a New NMHC that opened in the city of Camden and the FQHC Medical Model serving a comparable patient population in the Camden using data from the Uniform Data System (UDS).





Significance of Study

- More of the underserved, vulnerable population has insurance, but not enough providers
- Examine the effectiveness of a new NMHC on health care outcomes for this population of patients and compare these outcomes to those patients receiving health care in a Medical Model health care setting.



Lifecycles Health Center and Services, Inc

Research Question

Are diabetes-related outcomes comparable between the NMHC and the local Medical Model in Camden?





Lifecycles Health Center and Services, Inc

Objectives

- Determine NMHC outcomes of the underserved, underinsured that have diabetes in the City of Camden.
- Compare NMHC to the Medical Model to determine if there is a difference in the health outcomes.



Assumptions and Limitations

- Assumption: care provided by nurse practitioners is fundamentally different and may affect patient outcomes at NMHC compared to the Medical Model.
- Limitation: data could be inaccurate since data collection is from coding practices of the individual centers and as LHCS is a new NMHC that opened in Camden and their coding could be different from what UDS reports.



Definitions

- **Medically underserved**-individuals with limited resources, lack of financial resources including health insurance, barriers secondary to culture or language, and excessive health needs that come from their poor health status. Uninsured represents the people without insurance that has chronic illnesses (Wright, Andres, and Davidson, 1996).
- **Nurse Managed Health Center(NMHC)**- is a health center run by nurses typically in underserved, uninsured areas.
- **Medical Model**- clinic that services the uninsured, underserved population and is primarily managed by physicians
- **Diabetes**- the American Diabetes Association as having elevated blood sugars that are not changed into energy by the body (ADA, 2014). Diabetes, in this study, is defined by the UDS criteria of chronic disease management which is a hemoglobin A1C of $> \text{ or } = 9 \%$ (UDS, 2017).



Literature Review

- Nurse Practitioners spend more time providing education and explaining medication side-effects and disease processes
- No difference in care
- Decreased mortality and hospitalizations from diabetic complications
- Same quality of care as physician counter parts



Lifecycles Health Center and Services, Inc

Setting

- Camcare
- Project hope
- Lifecycles Health Center and Services





Methods

- UDS Diabetes data was analyzed by HB A1C between Medical Model centers in Camden versus data obtained from LHCS records.
- HB A1C of greater than or equal to 9 were evaluated from the year 2017.



Lifecycles Health Center and Services, Inc

RESULTS





Health Centers Analyzed

Medical Model

- Camcare
- Project Hope

NMHC

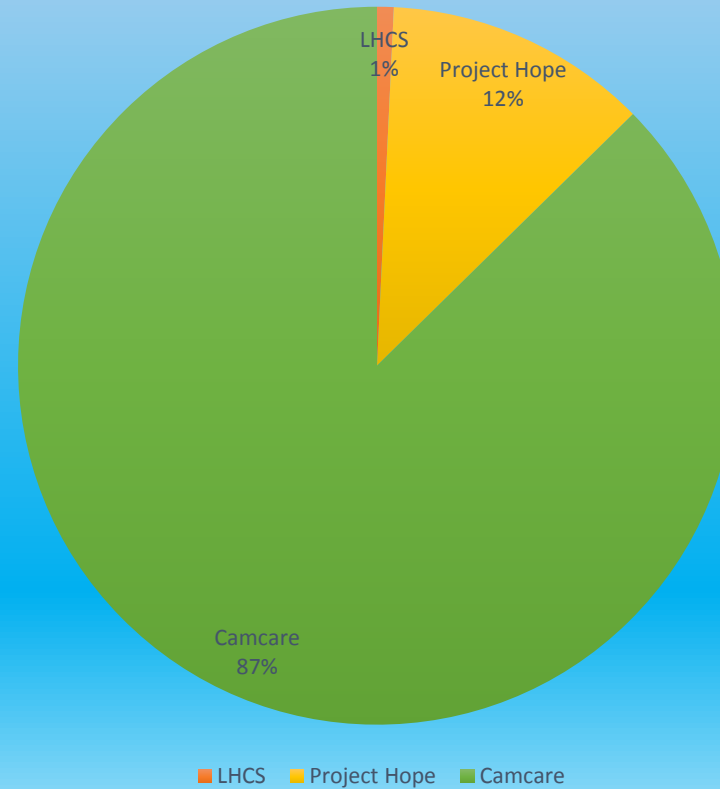
- Lifecycles Health Center and Services



Lifecycles Health Center and Services, Inc

Data Analysis

Population Served





Lifecycles Health Center and Services, Inc

Data Analysis

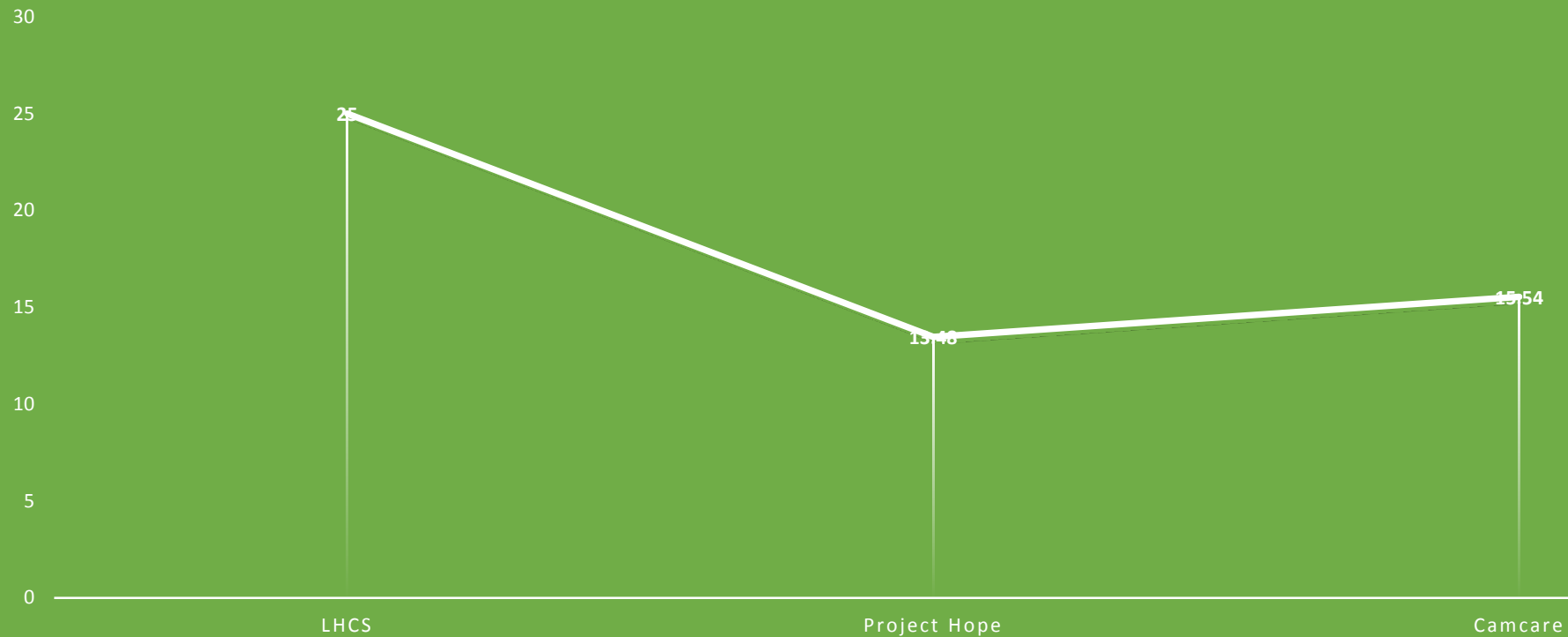
- Camcare clinics had 15.54% of their 36,168 patients were diagnosed with diabetes
- Project Hope had 13.48% of their 4921 patients has diabetes
- Lifecycles patients has 25% of 310 were diagnosed with diabetes.



Lifecycles Health Center and Services, Inc

Data Analysis

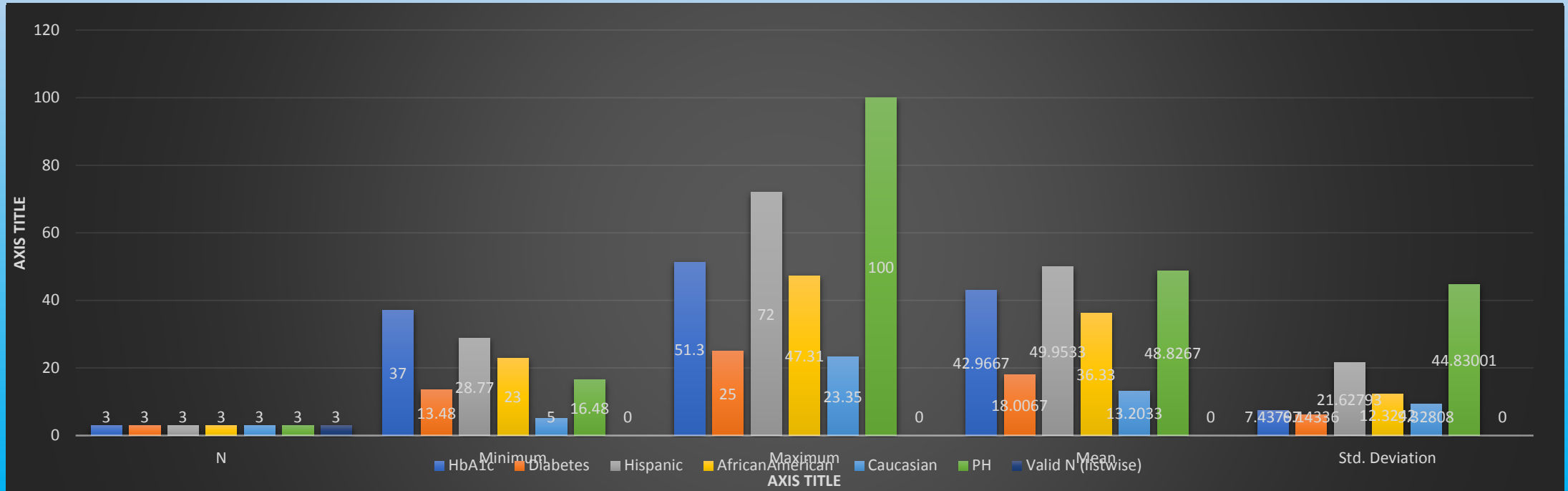
PATIENTS DIAGNOSED WITH DIABETES





Lifecycles Health Center and Services, Inc

Data Analysis



Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	
HbA1c	3	37	51.3	42.9667	7.43797	
Diabetes	3	13.48	25	18.0067	6.14336	
Hispanic	3	28.77	72	49.9533	21.62793	
AfricanAmerican	3	23	47.31	36.33	12.3242	
Caucasian	3	5	23.35	13.2033	9.32808	
PH	3	16.48	100	48.8267	44.83001	



Lifecycles Health Center and Services, Inc

Data Analysis

Results of Independent T-Test





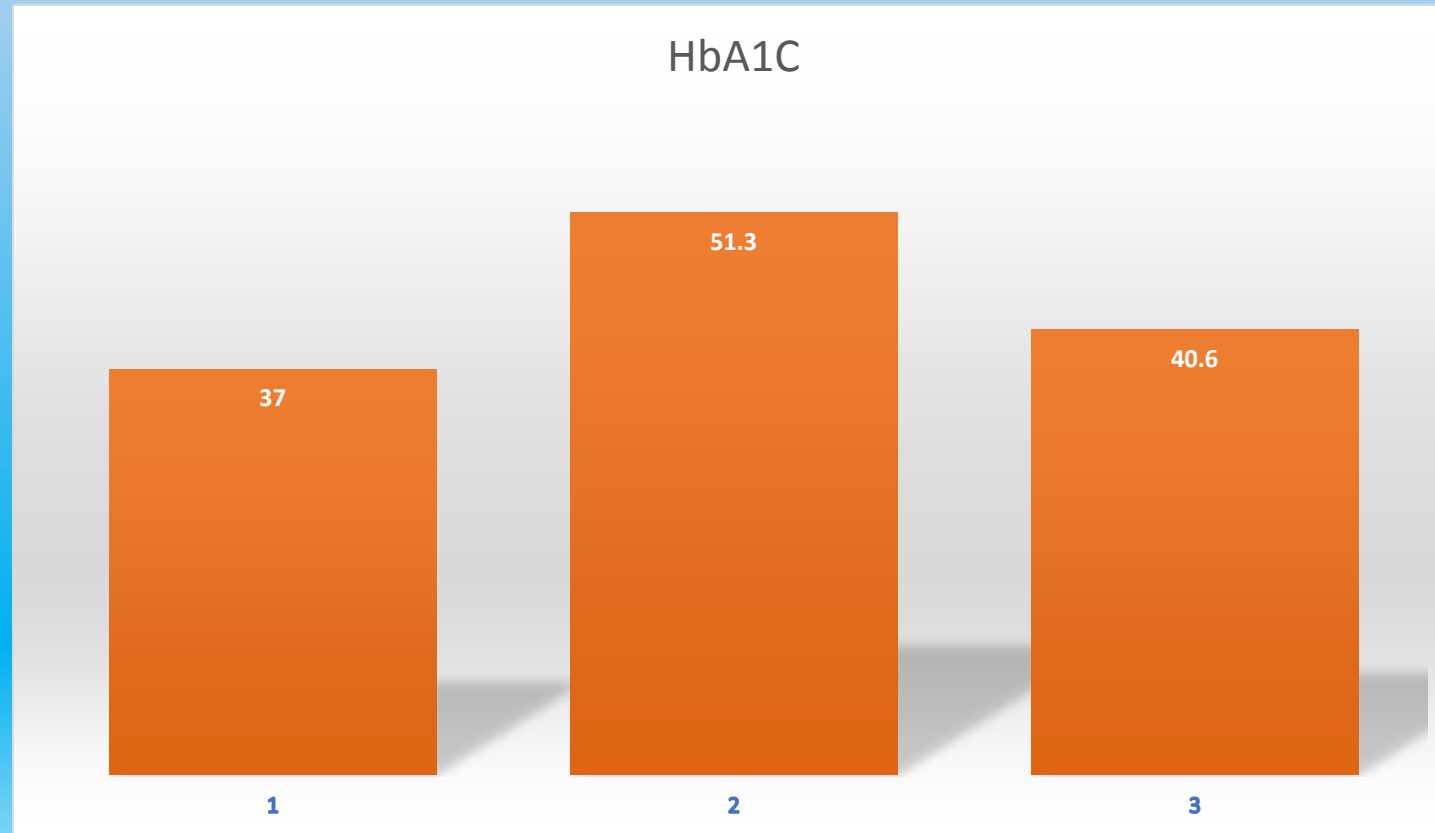
HB A1c Data Analysis

- An independent t test was run on the data with a 95% confidence interval for the mean difference
- The t -value is -1.42538.
- The p -value is .290119.
- The result is *not* significant at $p < .05$.



Lifecycles Health Center and Services, Inc

Data Analysis (continued)





Lifecycles Health Center and Services, Inc

Population Affected

Hispanic Population had the highest rate of diabetes

African Americans were second





Clinical Questions Answered?

A New NMHC diabetes results were no different than the medical model.

NMHC can aid in decreasing the rate of diabetes in an underserved population



Limitations

- LHCS is a new NMHC and they have a low patient population compared to the Medical Model Health Centers
- Types of Education provided at the other centers is not published by HRSA/UDS



Lifecycles Health Center and Services, Inc

Relevance

LHCS provided the same level of care that was comparable to the Medical Model

APNs can deliver the same quality level of care with Diabetes





Recommendations

Study should be repeated across all of New Jersey's FQHCs and Look a Likes

Data should be evaluated for methods used that led to lower Hgb A1c



References

- Kuo, Y. F., Chen, N. W., Baillargeon, J., Raji, M. A., & Goodwin, J. S. (2015). Potentially preventable hospitalizations in Medicare patients with diabetes: a comparison of primary care provided by nurse practitioners versus physicians. *Medical care*, 53(9), 776.
- Katerndahl, D., Wood, R., & Jaén, C. R. (2015, June). Complexity of ambulatory care across disciplines. In *Healthcare* (Vol. 3, No. 2, pp. 89-96). Elsevier.
- Swan, M., Ferguson, S., Chang, A., Larson, E., & Smaldone, A. (2015). Quality of primary care by advanced practice nurses: a systematic review. *International Journal for Quality in Health Care*, 27(5), 396-404.
- Bodenheimer, T., & Bauer, L. (2016). Rethinking the primary care workforce—an expanded role for nurses. *New England Journal of Medicine*, 375(11), 1015-1017.
- Perloff, J., DesRoches, C. M., & Buerhaus, P. (2016). Comparing the cost of care provided to Medicare beneficiaries assigned to primary care nurse practitioners and physicians. *Health services research*, 51(4), 1407-1423.
- Martínez-González, N. A., Djalali, S., Tandjung, R., Huber-Geismann, F., Markun, S., Wensing, M., & Rosemann, T. (2014). Substitution of physicians by nurses in primary care: a systematic review and meta-analysis. *BMC health services research*, 14(1), 214.
- Barkauskas VH, Pohl JM, Tanner C, Onifade TJ, Pilon B. Quality of care in Nurse-managed health centers. *Nurse Administrator Q*. 2011 Jan-Mar;35(1):34-43. doi:10.1097/NAQ.0b013e3182032165. PubMed PMID: 21157262.



References

- Clark, C. E., Smith, L. F. P., Taylor, R. S., & Campbell, J. L. (2011). Nurse-led interventions used to improve control of high blood pressure in people with diabetes: a systematic review and meta-analysis. *Diabetic Medicine*, 28(3), 250-261.
- Condosta, D. (2012). Comparison between nurse practitioner and MD providers in diabetes care. *The Journal for Nurse Practitioners*, 8(10), 792-796
- Hebert PL, Sisk JE, Tuzzio L, Casabianca JM, Pogue VA, Wang JJ, Chen Y, Cowles C, McLaughlin MA. Nurse-led disease management for hypertension control in a diverse urban community: a randomized trial. *J Gen Intern Med*. 2012 Jun;27(6):630-9. doi: 10.1007/s11606-011-1924-1. Epub 2011 Dec 6. PubMed PMID:22143452; PubMed Central PMCID: PMC3358388
- Robertson, C. (2012), The role of the nurse practitioner in the diagnosis and early management of type 2 diabetes. *Journal of the American Academy of Nurse Practitioners*, 24: 225–233. doi: 10.1111/j.1745-7599.2012.00719.x
- Thompson, C., Monsen, K., Wanamaker, K., Augustyniak, K. & Thompson S. (2012) Using the Omaha System as a Framework to Demonstrate the Value of Nurse Managed Wellness Center Services for Vulnerable Populations. *Journal of Community Health Nursing* 29:1, 1-11, DOI:10.1080/07370016.2012.645721



References

- Watts, S. A., Gee, J., O'Day, M. E., Schaub, K., Lawrence, R., Aron, D. and Kirsh, S. (2009),
- Nurse practitioner-led multidisciplinary teams to improve chronic illness care: The unique strengths of nurse practitioners applied to shared medical appointments/group visits. *Journal of the American Academy of Nurse Practitioners*, 21: 167–172. doi: 10.1111/j.1745-7599.2008.00379.x



Lifecycles Health Center and Services, Inc

