

---

Posters and Presentations: Physical Therapy

Physical Therapy

---

2-6-2015

## Health Related Quality of Life in Persons with Type 2 Diabetes in a Rural Community Served by a Critical Access Hospital

Betsy J. Becker

*University of Nebraska Medical Center, [betsyj.becker@unmc.edu](mailto:betsyj.becker@unmc.edu)*

Terry F. Nelson

*St. Francis Memorial Health Center*

Robin High

*University of Nebraska Medical Center, [rhigh@unmc.edu](mailto:rhigh@unmc.edu)*

Pat Hauer

*University of South Dakota*

Tell us how you used this information in this [short survey](#).

Follow this and additional works at: [https://digitalcommons.unmc.edu/cahp\\_pt\\_pres](https://digitalcommons.unmc.edu/cahp_pt_pres)



Part of the [Physical Therapy Commons](#)

---

### Recommended Citation

Becker, Betsy J.; Nelson, Terry F.; High, Robin; and Hauer, Pat, "Health Related Quality of Life in Persons with Type 2 Diabetes in a Rural Community Served by a Critical Access Hospital" (2015). *Posters and Presentations: Physical Therapy*. 3.

[https://digitalcommons.unmc.edu/cahp\\_pt\\_pres/3](https://digitalcommons.unmc.edu/cahp_pt_pres/3)

This Conference Proceeding is brought to you for free and open access by the Physical Therapy at DigitalCommons@UNMC. It has been accepted for inclusion in Posters and Presentations: Physical Therapy by an authorized administrator of DigitalCommons@UNMC. For more information, please contact [digitalcommons@unmc.edu](mailto:digitalcommons@unmc.edu).

# Health Related Quality of Life in Persons with Type 2 Diabetes in a Rural Community Served by a Critical Access Hospital

American Physical Therapy Association  
Combined Sections Meeting  
Geriatric Section

February 6, 2015  
Indianapolis, IN

Betsy J. Becker, PT, DPT, CLT-LANA

Terry F. Nelson, PT, DPT

Robin High, MBA, MA,

Pat Hauer, EdD



## Background

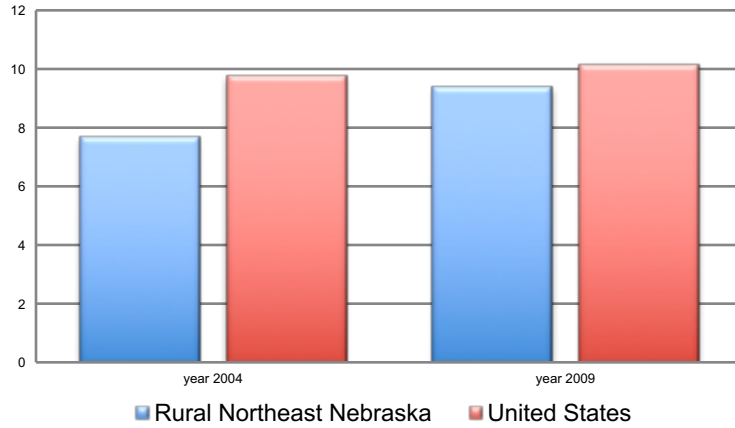
- Compared to urban settings, prevalence of Type 2 diabetes is higher in rural areas
- Life expectancy for an individual with uncontrolled Type 2 Diabetes is a reduced loss of 8-10 years of life.

Hunt et. al 2014, Ablah et. al 2013, Duncan 1992

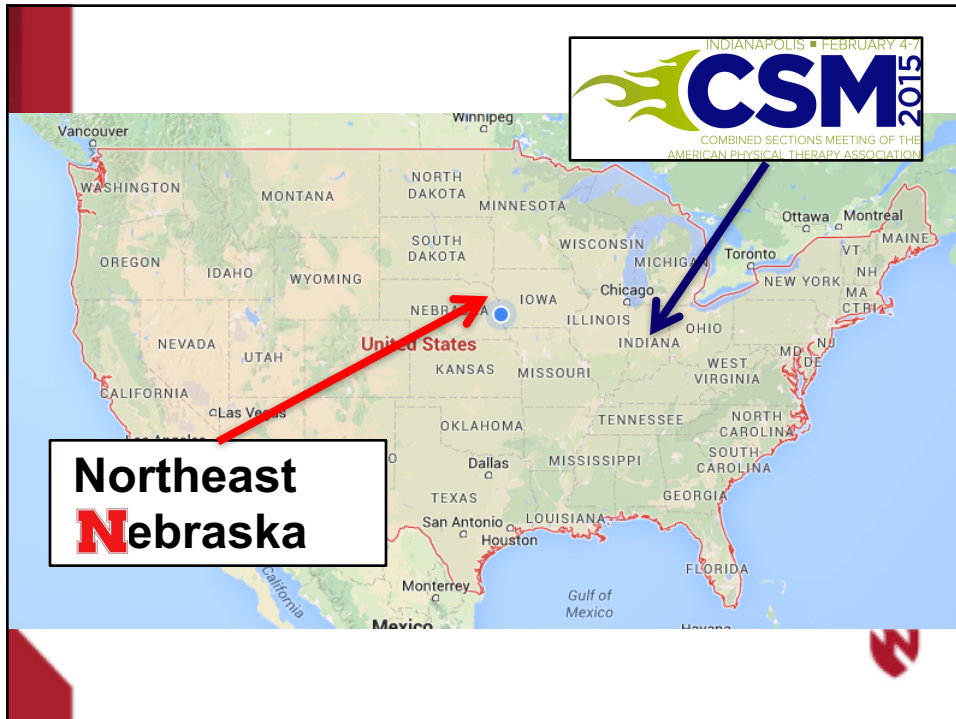


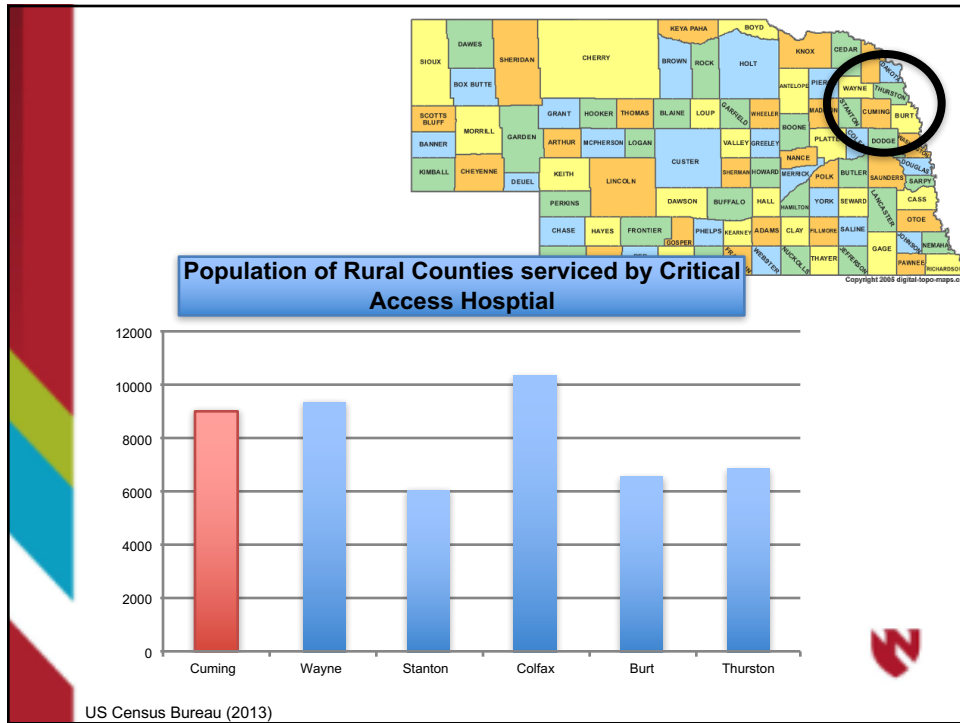
# Background

## Incidence of diabetes per county



Behavioral Risk Surveillance Survey of 2010





## Critical Access Hospitals

Designation created in 1997 to help rural health care infrastructure

in a rural area, no more than 35 miles from another hospital	provide 24-hour emergency care services	maximum of 25 acute care and swing beds	maintain an average length of stay of 96 hours or less for acute patients
--	---	---	---

The Flex Monitoring Program

## Study Purpose

To determine whether health related quality of life (QOL) varies by gender and diabetes control (A1C) in rural persons with type 2 diabetes.



## Subjects

We surveyed 615 persons with type 2 diabetes who receive care at a critical access hospital that serves a seven county rural area.

We surveyed the **entire population** of persons on this diabetic registry maintained by the critical access hospital. All of which had an A1c within the last 2 years.



# Methods

IRB Approved Study

Cross-sectional Mail Survey

Dillman's Tailored Design Method of Survey Administration

- up to 4 contacts with study subjects at 2-week intervals

Dillman, 2000



# Methods

Self-reported demographic characteristics, health related quality of life using the D-39 A1c from medical record

We analyzed associations between A1c levels and survey responses using descriptive statistics and Spearman correlations.



## Methods: D-39 Dimensions

- energy and mobility
- diabetes control
- anxiety and worry
- social burden
- sexual functioning
- 2 additional questions: severity, QOL



## Results

42%  
response rate

	Responses (n)	Age (yrs)
Total	257	73 (38-100)
Males	125 (50%)	72 (41-100)
Females	126 (50%)	76 (38-99)

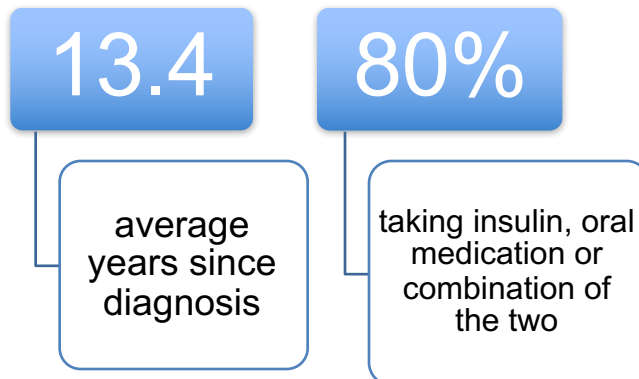


# Results

Race/Ethnicity		Responses (n)
White		245 (95%)
Hispanic		2 (1%)
Other		4 (2%)
Smoking history		
never		171 (69%)
current/former		76 (31%)



# Results





# Results

**Average A1c**  
6.3 mg/dL  
(range 4.9-12.4)






Without consideration of other factors, males, have a 0.321 higher median value of A1C than females in this study population (p=0.043).




# Results

Place an X in the box below to show **HOW SEVERE** you think your diabetes is.

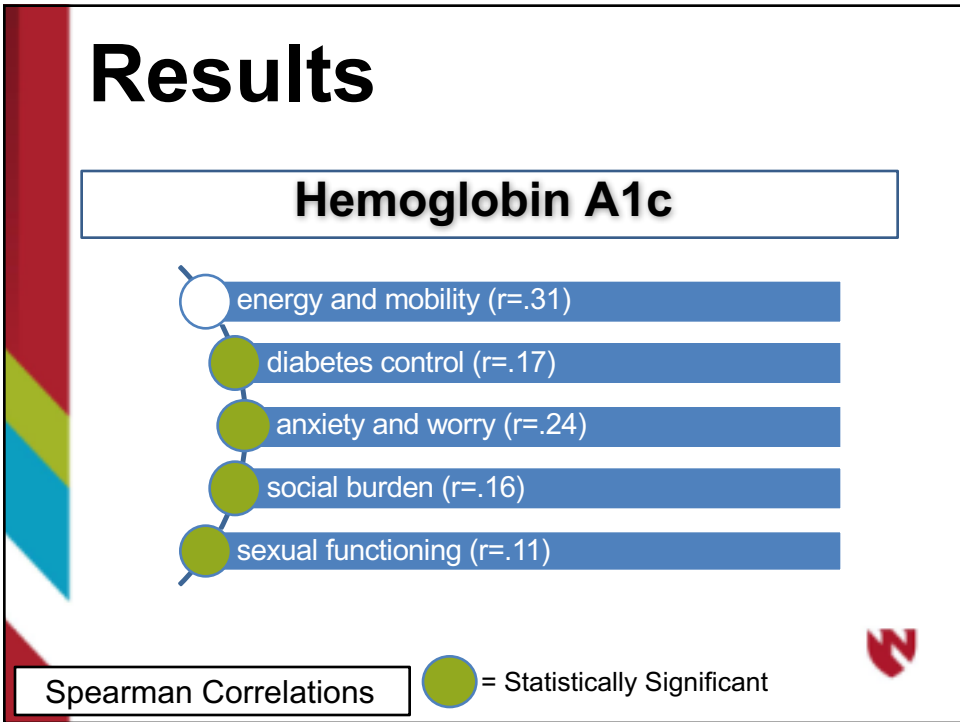
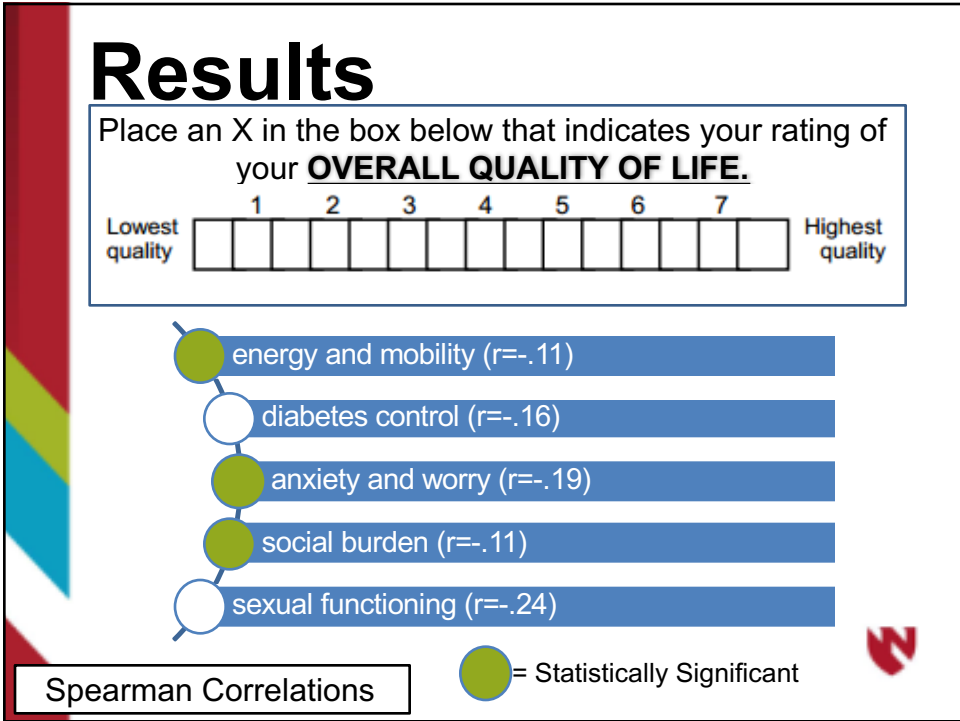
	1	2	3	4	5	6	7		
Not severe at all	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Extremely severe

-  energy and mobility (r=.46)
-  diabetes control (r=.66)
-  anxiety and worry (r=.51)
-  social burden (r=.52)
-  sexual functioning (r=.38)

Spearman Correlations

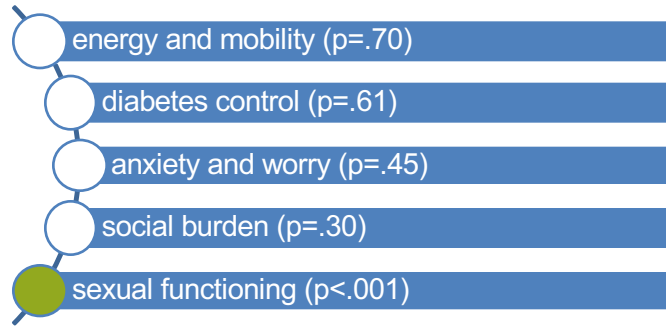
 = Statistically Significant





# Results

## Gender Differences

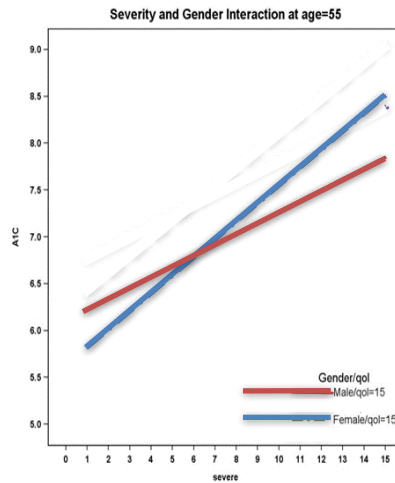


 = Statistically Significant



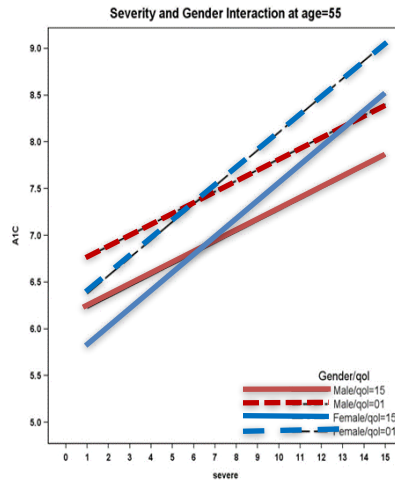
# Results

## Gender Differences



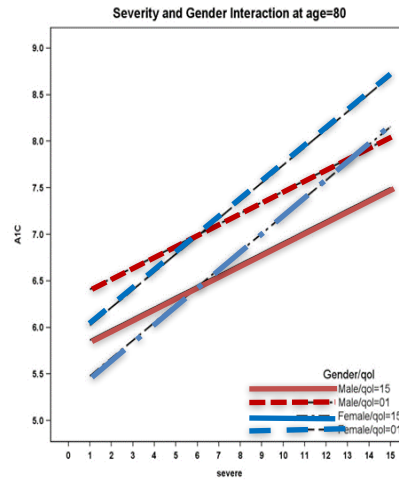
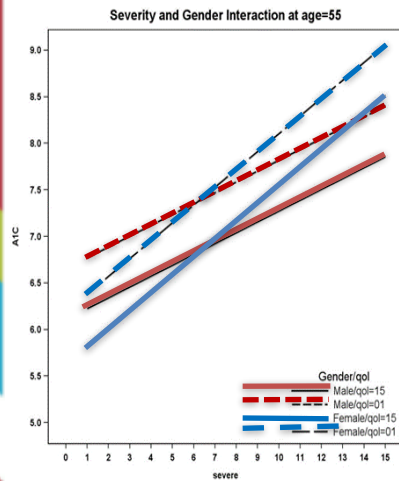
# Results

## Gender Differences



# Results

## Gender Differences



## Conclusions

Since diabetes control is largely due to **self-management**, it is important to consider the associations between the QOL dimensions, diabetes control (A1C) and gender.

Important for implementing successful **intervention strategies** for glycemic control in rural critical access hospitals



## Clinical Relevance

Although **gender** is commonly reported in published studies about diabetes, differences have not been routinely analyzed.

A **better understanding of the relationship** of QOL and the impact on diabetes control and gender differences can assist the physical therapist in their role in providing optimal care for older adults with type 2 diabetes in rural communities.



### Funding provided by:

- Franciscan Care Services, West Point, NE
- University of Nebraska Medical Center, Omaha, NE



## References

1. Hunt C, Grant JS, Palmer JJ, Steadman, L. Facilitators of Diabetes Self-management Among Rural Individuals. *Home Healthc Nurse*. 2014;32(3):154-166.
2. Ablah E DF, Cupertino AP, Konda K, Johnston JA, Colliins T. PRevalence of Diabetes and Pre-Diabetes in Kansas. *Ethn and Dis*. 2013;23:415-429.
3. Duncan C. An audit of non-insulin-dependent diabetics attending a district general hospital diabetic clinic: implications for shared care between hospital and general practice. *Health Bull* 1992;50(4):302-308.
4. The Flex Monitoring Program. <http://www.flexmonitoring.org/about/the-flex-program/>. Accessed March 28, 2014.
5. Dillman DA. *Mail and internet surveys: The tailored designed method*. New York: John Wiley & Sons; 2000



