

***TAFP Foundation Research Lecture –
Understanding How Social Determinant of
Health Impact Diabetes Management: A RRNeT
Study***

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Educational Objectives

By the end of this educational activity, participants should be better able to:

1. Discuss the relationship between increased exposure to negative social determinants of health (i.e., lower income, living in a food desert, reduced social support) and diabetes control, diabetes quality of life and diabetes distress.
2. Discuss the implications of provider awareness on diabetes management, diabetes quality of life and diabetes distress.
3. Discuss how living with a history of Adverse Childhood Experiences (ACEs) will impact diabetes outcomes, diabetes distress and quality of life when compared to counterparts living with the disease.

Speaker Disclosure

Dr. Green has disclosed that she has no actual or potential conflict of interest in relation to this topic.
Dr. Williamson has disclosed that she has no actual or potential conflict of interest in relation to this topic.

Dr. Cruz has disclosed that she has no actual or potential conflict of interest in relation to this topic.

Understanding How Social Determinants of Health Impact Diabetes Management: A RRNeT Study



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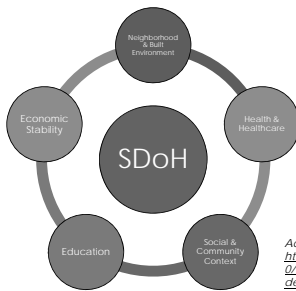


Impact of Uncontrolled Type II Diabetes

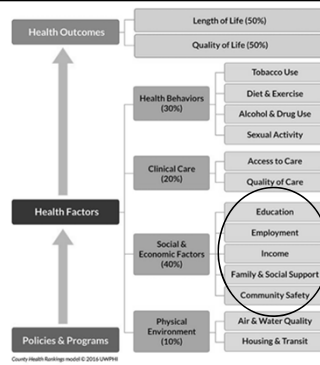
- 30.3 million people across the U.S.
- 11.4% of Texas population
- Cost = \$245 billion
- Future of Accountable Care Organizations & Value-Based Care



Social Determinants of Health (SDoH)

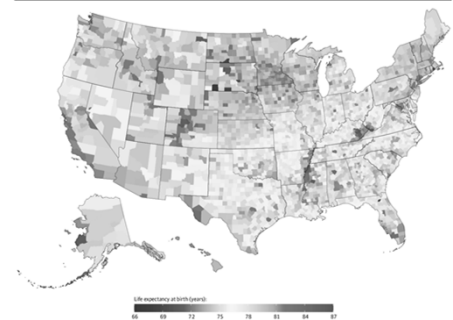


Adapted from Healthy People 2020
<http://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>

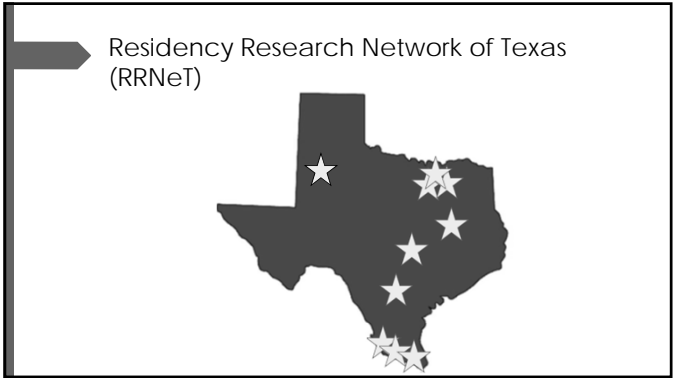
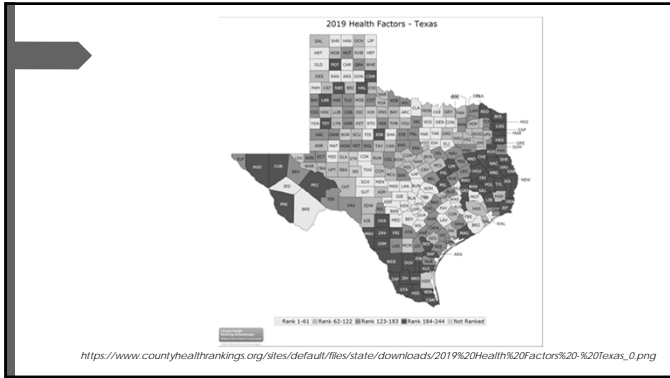


SDoH and Chronic Disease Management

- Evidence that SDoH have greater influence on chronic disease management than medical care
- Patient-Physician Health Beliefs
- Disparities related to SDoH

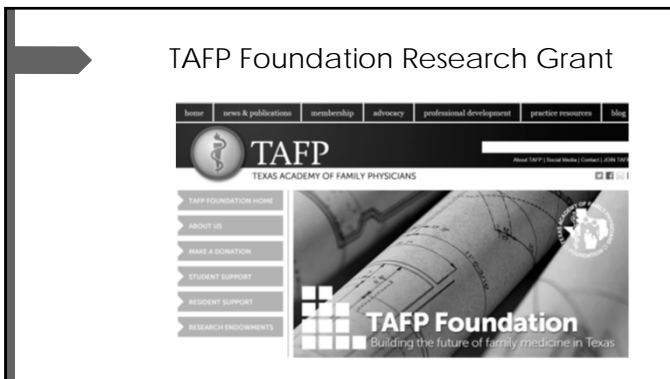


Dwyer-Lindgren et al. "Inequalities in Life Expectancy Among US Counties, 1980 to 2014: Temporal Trends and Key Drivers" JAMA Network (2017)



- Mission Statement
 - *To improve family physicians' skills and interest in research, and to find answers to clinical questions that are relevant to family medicine patients in Texas.*
 - Research projects conducted in RRNeT are driven by the interests of its members.
 - RRNeT research data and research findings belong to its members.
 - All RRNeT members who participate in a study are co-investigators and co-authors.

- Residency Research Network of Texas (RRNeT)
- 10 Program Sites
 - Austin
 - Bryan
 - Corpus Christi
 - Dallas
 - Edinburg
 - Fort Worth
 - Harlingen
 - Lubbock
 - McAllen
 - San Antonio
 - 120 family physician faculty
 - 300 family medicine residents
 - 300,000 patient visits/year



- Study Purpose
- To evaluate the impact of Social Determinants of Health (SDoH) on Diabetes management and determine its association with diabetes outcomes and provider awareness.
 - To measure the correlation between SDoH and diabetes management; Diabetes Distress (DD), Diabetes Quality of Life (DQoL) and diabetes management.
 - To measure the correlation between provider awareness and diabetes management, DQoL, and DD

Study Design

- Multi-site
- Cross-sectional study of type-2 diabetic patients
- 3 *anonymous* surveys: One for patients with diabetes, one for EMR data collected, and one for providers.
- 8 weeks of data collection

Study ID # _____

Circle of Domination

18. How often do you see or talk to people that you care about and feel close to?

19. How often do you attend religious or faith-based services?

Employment/Income:

20. Which best describes your level of employment? Choose one of the following:

21. How many jobs do you currently work? (not part-time)

During the past month, what was the total combined income for you and family members living with you? (includes unemployment, disability, child support, TANF, student loans)

22. Within the last 12 months, has someone taken your money without your permission, or stolen you out of your money?

Diabetes Self-care:

24. My diabetes self-care is _____

ADVERSE CHILDHOOD EXPERIENCES - ACES

What are Adverse Childhood Experiences (ACEs)? ACEs are potentially traumatic events that occur in a child's life.

Causing lifelong medical, mental & social suffering

American SPCC
The Huber Clinic for Children
Center for Disease Control

americanspcc.org
The Huber Clinic for Children
Center for Disease Control

<https://americanspcc.org/adverse-childhood-experiences/>

Study ID # _____

The following questions are about your childhood experience (before age 18):

23. Did you live with anyone who was threatened, mistreated, or ridiculed?

24. Did you live with anyone who was a problem drinker or alcoholic?

25. Did you live with anyone who used illegal street drugs or who abused prescription medications?

26. Did you live with anyone who committed some or was sentenced to some time in a prison, jail, or other correctional facility?

27. Were your parents separated or divorced?

28. How often did your parents or adults in your home ever spank, hit, kick, punch, or beat each other up?

29. Before age 18, how often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way? Did not include spanking, whacking, or slapping.

30. How often did a parent or adult in your home ever swear at you, insult you, or yell at you?

31. How often did anyone at least 5 years older than you or an adult ever teach you sexually?

32. How often did anyone at least 5 years older than you or an adult have you to have sex?

33. In general, my quality of life is:

34. If I did not have diabetes, my employment/learner opportunities would be:

35. If I did not have diabetes, my worries about my future (e.g. health, independence, income) would be:

36. If I did not have diabetes, my social life would be:

37. If I did not have diabetes, my family relationships would be:

38. If I did not have diabetes, my friendships would be:

39. If I did not have diabetes, my sex life would be:

40. If I did not have diabetes, my worries about the future of my family and close friends (e.g. their health, independence, income) would be:

Doctor's Observations about Patient

During your visit with your patient, were you able to assess any of the following:

1. What do you think your patient's current housing situation is?

2. Do you think lack of transportation has kept your patient from medical appointments, meetings, work, or from getting things needed for daily living?

3. What is the highest level of education your patient has completed? Check one.

4. Are you aware of your patient's employment or ability to earn steady income?

5. Are you aware of your patient's neighborhood safety situation?

Electronic Medical Record (EMR) Survey

Medical Student Please Complete:

Patient Data

Height: _____ Weight: _____

Today's Blood Pressure: _____/_____

LDL: _____

Date of LDL: _____

Most recent A1C: _____ Date of A1C: _____

Prior (at least 3 months prior) A1C: _____ Date of prior A1C: _____

Number of Clinic Visits in the past year: _____ Number of ER Visits in the past year: _____

Number of Hospitalizations in the past year: _____

Chronic Kidney: Yes No Dialysis: Yes No

MI: Yes No Date of MI: _____

What is the patient's main insurance?

Medicare: Medicaid: County (Care Link or other): Private Insurance: Other:

Has the patient had any amputations? (Either by observation or patient report): _____ Date of Amputation: _____

Medications

Total number of diabetic medications: _____

Total number of medications: _____

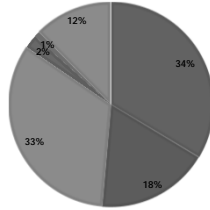
Is the patient on insulin? Yes No

Study Results

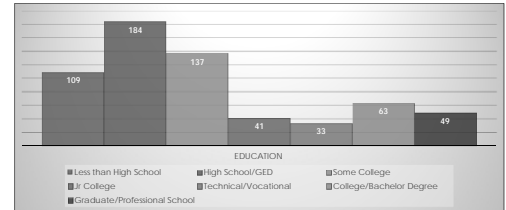
- 7 sites participated in the study
- Summer – Fall 2018
- 642 patient surveys
- 370 provider surveys

Ethnicity

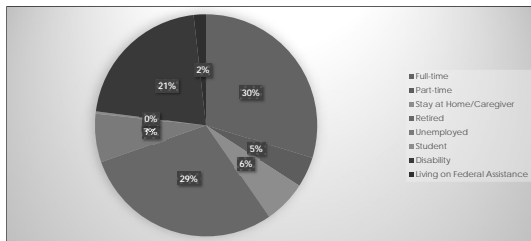
White Black Hispanic Asian American Indian Other/Prefer Not To Answer



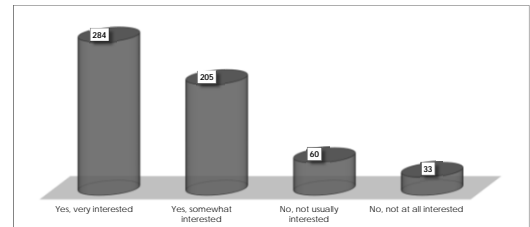
Highest Education Level



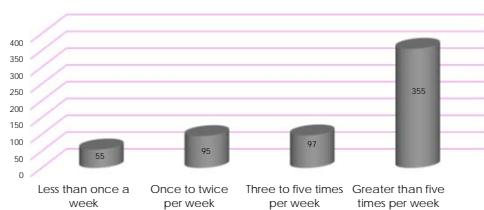
Employment Status



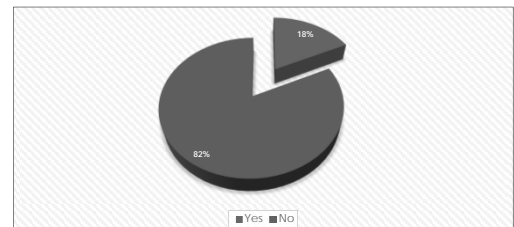
My doctor shows interest in my life, outside of my medical health.



How often do you see or talk to people that you care about and feel close to?



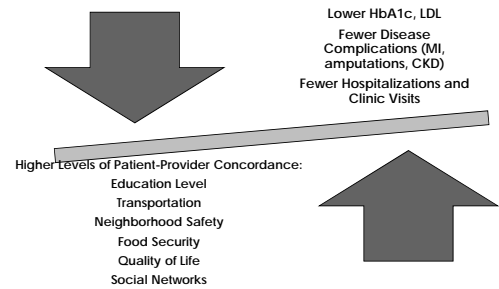
Do you have any concerns about safety in your neighborhood?



Patient-Provider Concordance

- Physician awareness of patients' environmental, social, and financial status
- May also include awareness of patients' health beliefs
- Major driver of patient centered care
- Previously implicated in improved outcomes

Concordance and Diabetes Outcomes



	Patient-Provider Concordance	HbA1c	Disease Complications	Number of Clinic Visits (past year)
Education Level	Positive		4% * (MI)	
	Negative		10%	
Transportation Status	Positive		20% * (CKD)	6.5
	Negative		30%	7.7
Neighborhood Safety	Positive		22% * (CKD)	
	Negative		39%	
Food Security	Positive	8.03 *		
	Negative	8.55		
Quality of Life	Positive			6.2*
	Negative			7.4
Social Networks	Positive	7.8*		6.0**
	Negative	8.3		7.5

* p<0.05
** p<0.01

What Does Lack of Concordance Mean?

- Physician
 - History Taking Skills
 - Impaired Trust
 - Imposter Syndrome
- Patient
 - Shame
 - Fear of Rejection
 - Impaired Trust

What is Diabetes Distress (DD)?

- DEFINED:
 - Diabetes Distress is the unique, often hidden, EMOTIONAL BURDEN that people with diabetes experience when managing their chronic disease
- DD = the worry created by complexity of DM self management
- DD is CAUSED by feeling OVERWHELMED without coping skills, knowledge, resources or support systems

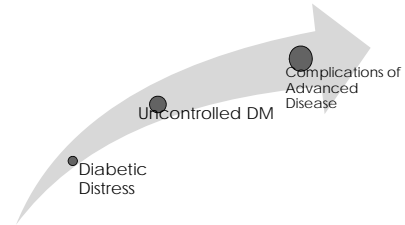
The 4 Components of Diabetes Distress

- Emotional Burden
 - Feeling overwhelmed by the demands of living with diabetes
- Physician Related Distress
 - Feelings that the provider is not addressing your care
- Interpersonal Distress
 - Feeling that other people do not appreciate your struggle
- Regimen related Distress
 - Feeling as if you cannot adhere to the lifestyle modifications
 - Regimen-related distress is the most common challenge for patients which why we didn't assess this

Prevalence of Diabetes Distress (DD)

- High levels of Diabetes Distress are Common
 - Approximately 35% of patients have DD (low estimate)
 - Persists over time
 - Does not go away but rather ebbs and flows
- High levels of DD are associated with:
 - Poor glycemic control, self-care, diet and quality of life
 - Low diabetes self-efficacy

Diabetes Distress and Diabetic Outcomes



INQUIRING
MINDS WANT
TO KNOW

Resources to Address Negative SDoH

- Medical Transportation
- Local Food Bank
- Accountable Care Organization Social Services
- Aunt Bertha
- Electronic Medical Record

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