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# COMMUNITY-BASED PARTICIPATORY RESEARCH

## ASSESSING A COMMUNITY'S HEALTH STATUS USING READILY AVAILABLE SECONDARY DATA

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- **Dr. Jane Bolin**, Co-PI, Diabetes Self-management Research Project [jbolin@srph.tamhsc.edu](mailto:jbolin@srph.tamhsc.edu)

# Background

## Role of CBPR in Addressing Community Public Health Issues

- The National Institutes of Health, AHRQ, CDC and numerous state public health offices have recognized the importance of *Community-based Participatory Research* (CBPR) in linking academic research to community health issues and priorities, translating research into locally relevant policy, and developing plans for community public health activities. (Israel, Schultz, Parker & Becker, 1998; Leung, Yen & Minkler, 2006).



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## Role of CBPR in Addressing Community Public Health Issues

- Establishing relationships and trust with communities is necessary before launching academic-community research partnerships .
- Academic-community partnerships can pose a challenge because of the length of time required to establish trust, build relationships and create infrastructure.
- Following the principles of CBPR can help researchers avoid the pitfalls of (1) promising too much, (2) moving too fast, and (3) disappearing when the funding stream dries up.



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## Role of CBPR in Addressing Community Public Health Issues

- True CBPR reflects a consensus between community and academic partners concerning priority issues for research. (Bolin & Ory, 2007).
- In order to insure that proposed research is relevant to community partners, academic researchers should engage in a community health status assessment “not only to prioritize health needs, but to measure and improve health status” (Burdine, Felix & Wendel, 2007 p 11.)



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## **CCHD's Process of Providing Baseline Health Status Assessment**

- These next series of slides describe the CCHD's process of carrying out a community health status assessment
- We will then focus on readily available secondary data that helped CCHD provide chronic disease statistics for our seven-county region.





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## The process of identifying a research agenda for the CCHD in Central Texas

In the Brazos Valley Region of Texas, the Center for Community Health Development (a CDC funded Prevention Research Center) met with community leaders before the grant submission to identify preventive health issues that would be of interest to community health leaders, researchers, and local practitioners.

# Community Health Status Assessment

- In 2002 and 2006, a regional health status assessment was conducted in the 7 county areas known as the Brazos Valley of central Texas.
- That assessment consisted of three components: (1) an analysis of existing data from state and federal sources... (2) forty Community Discussion Groups held in sites across the 7 counties, and (3) a random sample household survey completed by 2,591 residents of the Brazos Valley” (Burdine, Felix & Wendel, 2007)





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## Identification of chronic disease and type 2 diabetes as community focus areas

- The 2002 BVHP Community Health Status Assessment revealed that approximately 7% of respondents had been told by a doctor that they had diabetes.
- However we surmised that that this was a drastic undercount given the rapid increase in the incidence of diabetes, known under-reporting biases, and the population characteristics of the BVHP region.



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# State prevalence estimates showed different results

- In the Brazos Valley—a seven county, mostly rural region in Central Texas—recent data indicate 10.14% of all residents ages eighteen and older have diabetes, with some counties having as many as 14.8% of their residents with diabetes, compared to the national diabetes rate of 7.2% and Texas' diabetes rate of 7.7% ( 2006 BVHS; <http://www.dshs.state.tx.us/diabetes/PDF/diabetesfacts.pdf> (Prochaska, Ory, Bolin, 2007))



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## Identification of chronic disease and type 2 diabetes as community focus areas

- In discussions with community partners, we learned that there was very little diabetes-related community activity except for an annual health fair in one county.
- There is limited BRFSS or population data for our 7-county area.
- Thus it became necessary to devise strategies for documenting the numbers and types of persons receiving diabetes care, including preventive care in the community, and, if possible, the extent to which they are engaging in recommended lifestyle behaviors.

# Survey of local leaders and health care providers

- At the same time we investigated availability of secondary data, we concurrently conducted two surveys:
  - Survey of BVHP leaders and partners (See App. 1).
  - Survey of health providers with “admission privileges” to large local hospital, St. Joseph’s Medical Center (N = 280 with admit privileges).  
(See App. 2)



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# Exploration of secondary data

- 2003 Texas Hospital Discharge Data;
- Rural Health Clinic Data through St. Joseph's Health System;
- BVHP Region 211 Data;
- Texas Diabetes Council Synthetic Diabetes Prevalence Estimates for 2003.



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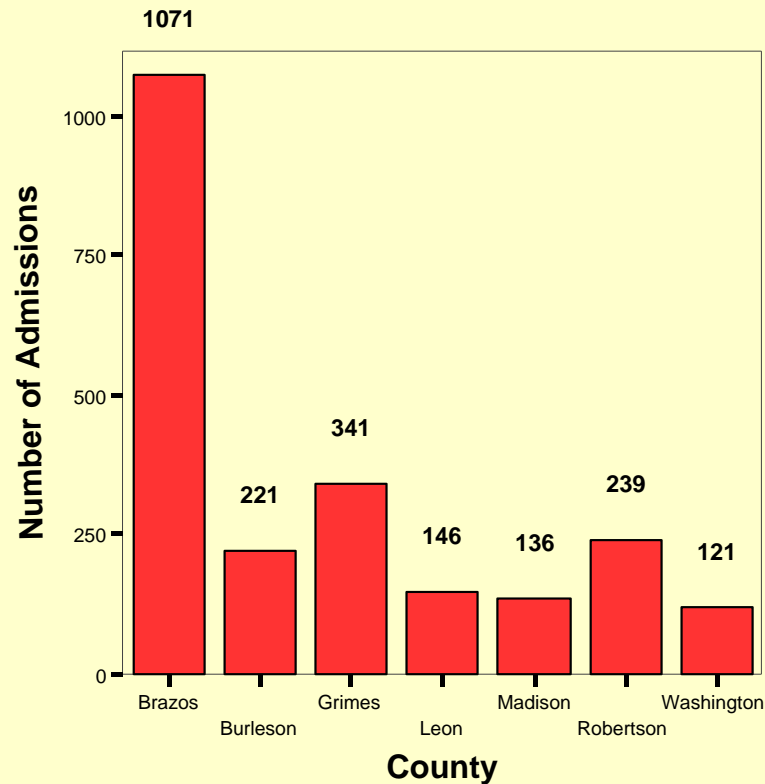
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# Description of Hospital Data

- 2003 Texas Hospital Discharge Data: acquired from the Texas Center for Health Care Statistics. Can also acquire hospital discharge data, by state, through HCUP at: <http://www.hcup-us.ahrq.gov/>
- Texas hospital discharge data allowed us to look at the following: (1) number of persons with diabetes in our region, admitted to any hospital; (2) disease severity; (3) age (4) race/ethnicity; (5) zipcode; (6) length of stay, and (7) county-by-county comparison of admissions, by race/ethnicity, age, hospital etc.



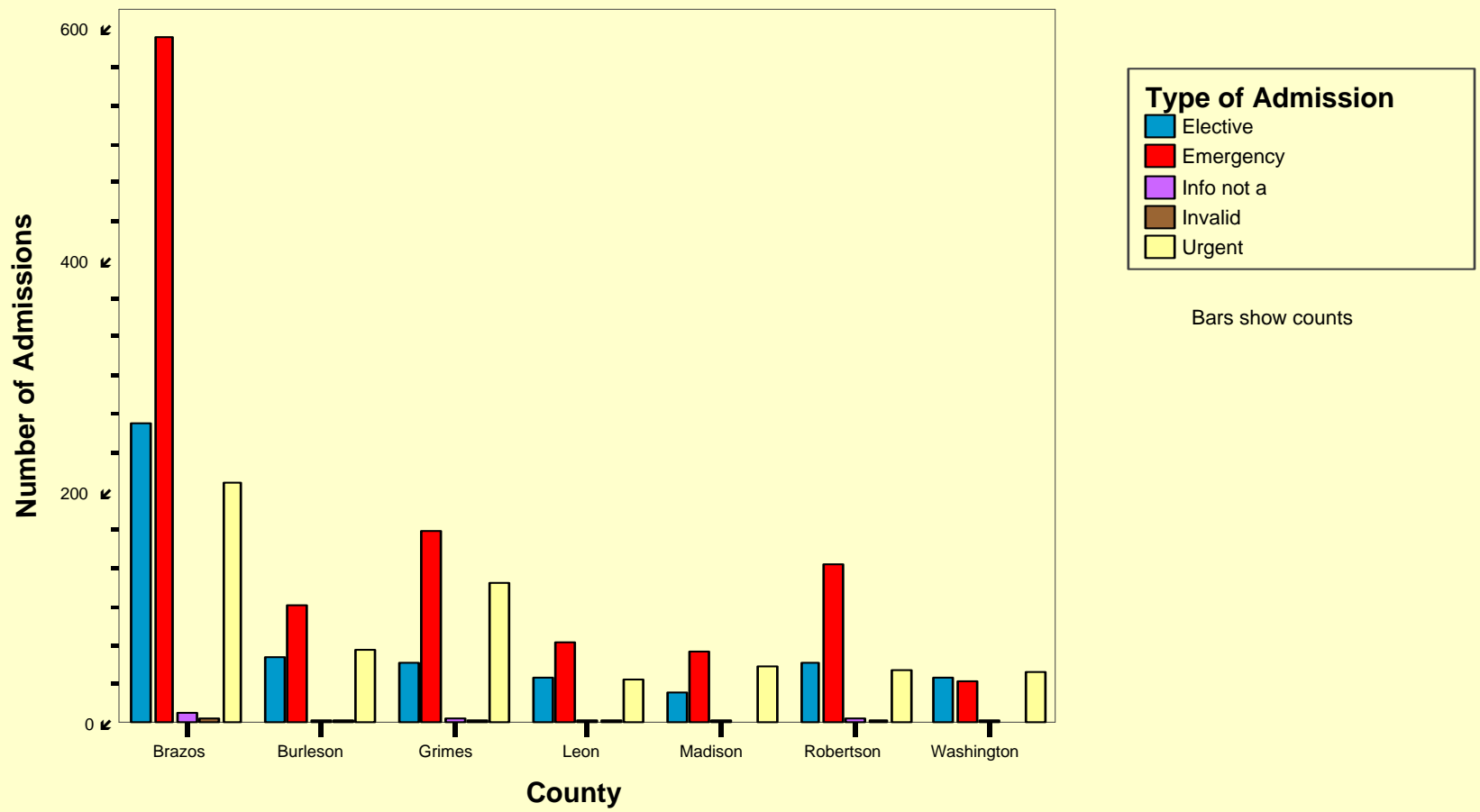
# Total Hospital Admissions in BVHP where diabetes is listed as one of the top four diagnoses.



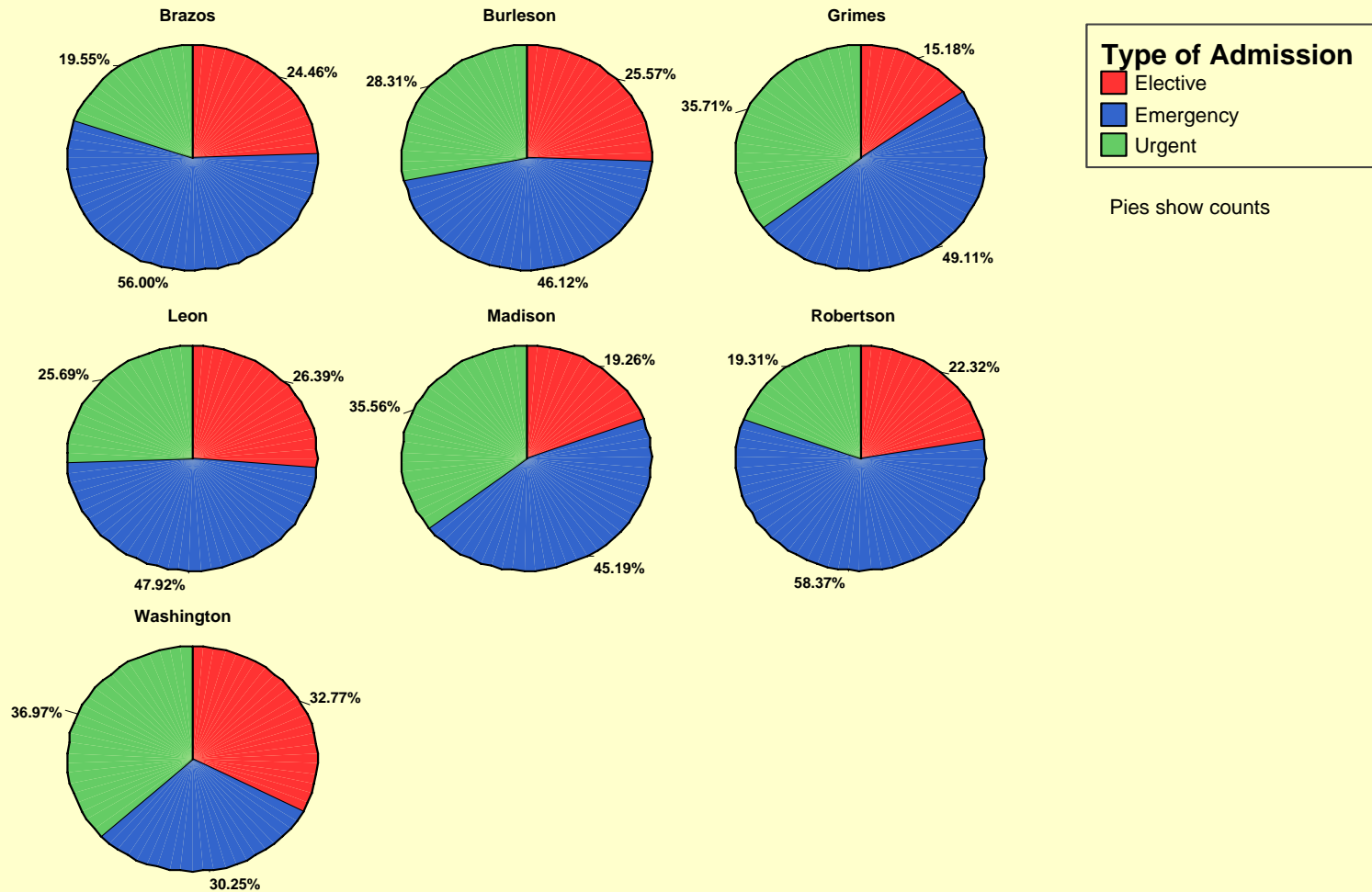
Bars show counts

County		Frequency	Percent
Valid	Brazos	1071	47.1
	Burleson	221	9.7
	Grimes	341	15.0
	Leon	146	6.4
	Madison	136	6.0
	Robertson	239	10.5
	Washington	121	5.3
	Total	2275	100.0

# Number of Emergency Admissions in BVHP where diabetes is listed as one of the top 4 diagnoses.

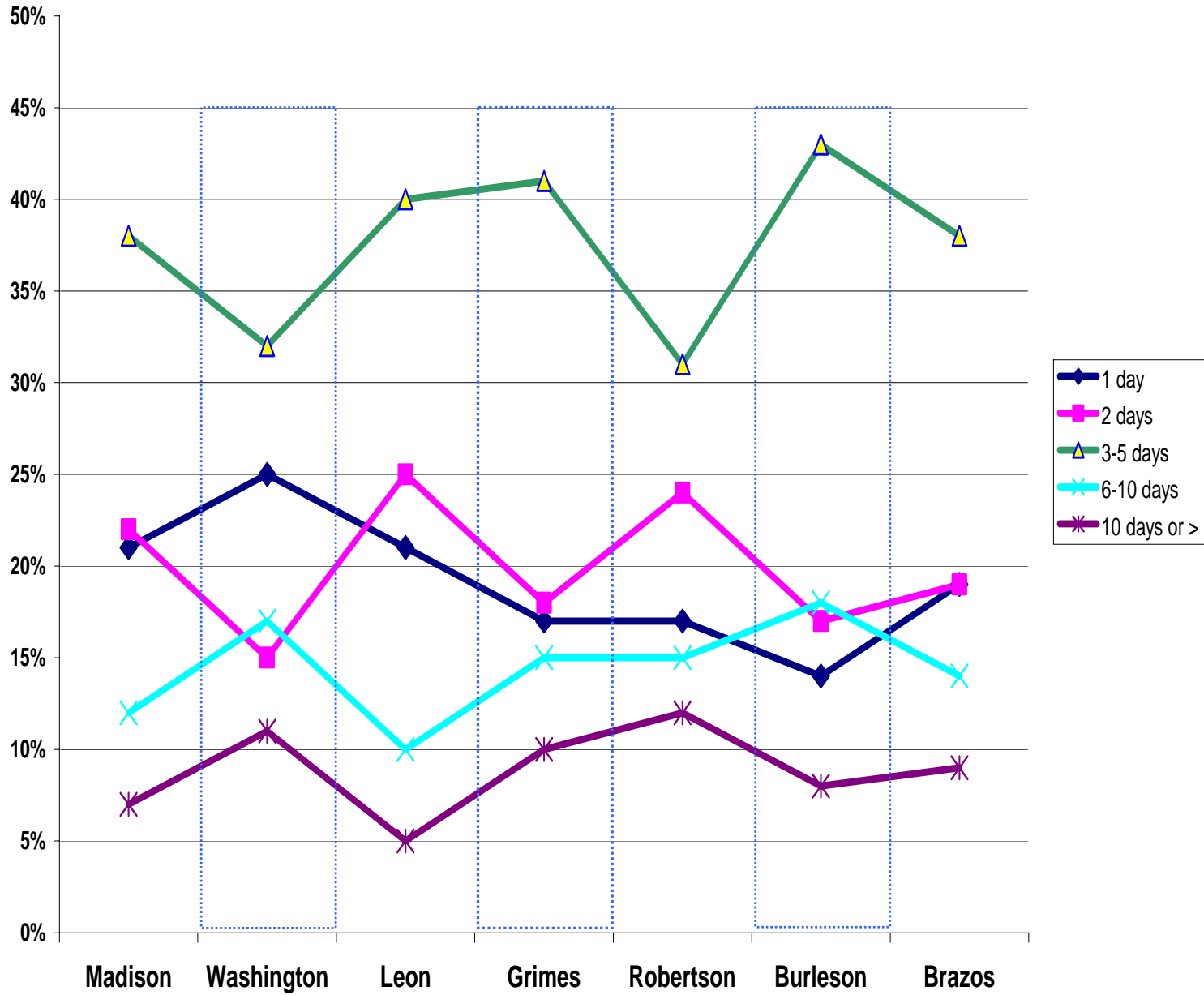


## Percent of Admission Type in each of the BVHP counties and where diabetes is listed as one of the top 4 diagnoses.

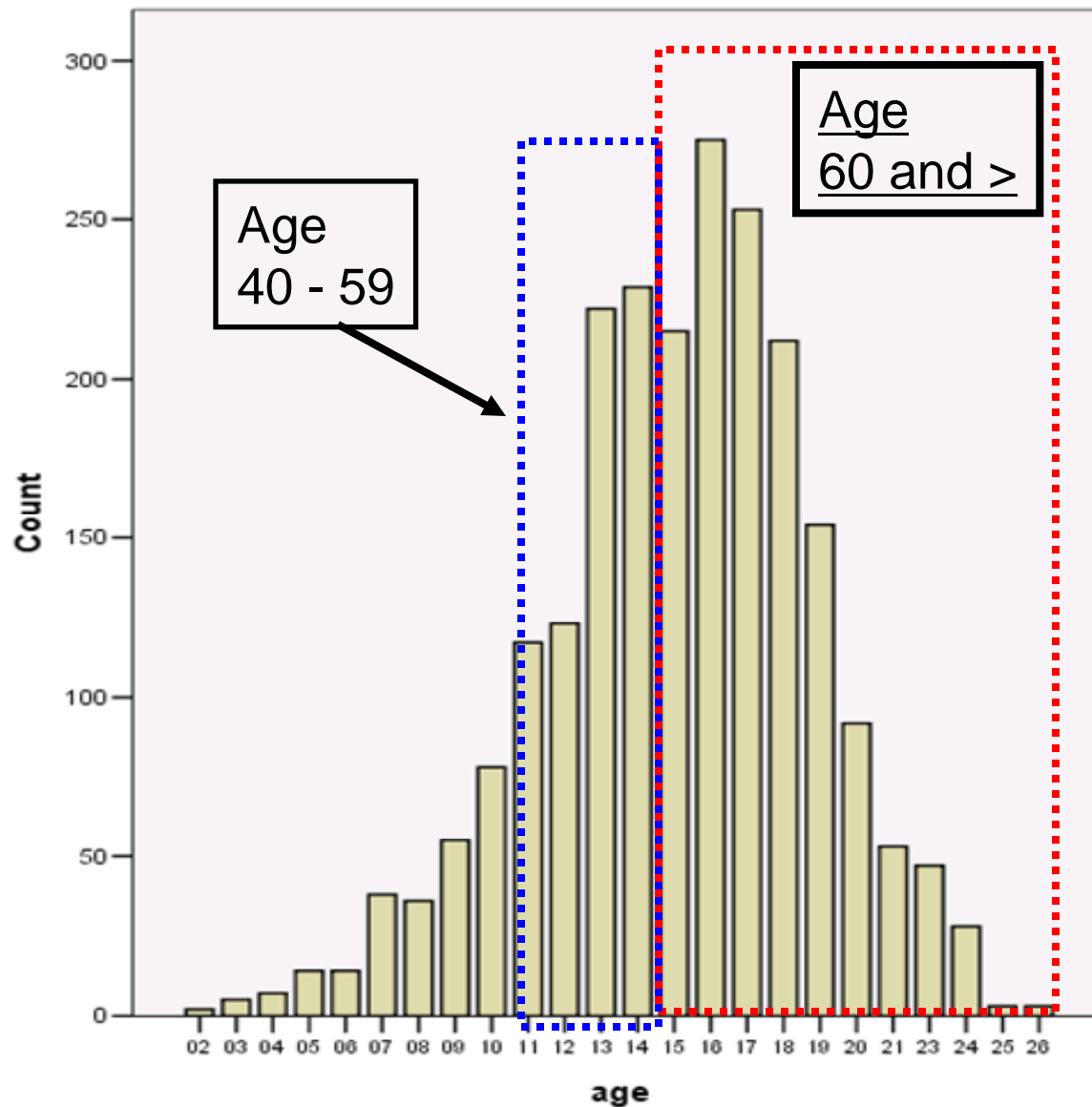


Data does not contain numbers that were classified as 'invalid' or not information "available."

Relative Severity of Diabetes Related Admissions as Measured by Hospital Length of Stay



# Total number of Diabetes Related Admissions in BVHP by Age



- 02 = 1-4 years
- 03 = 5-9 years
- 04 = 10-14 years
- 05 = 15- 17 years
- 06 = 18-19 years
- 07 = 20-24 years
- 08 = 25-29 years
- 09 = 30-34 years
- 10 = 35-39 years
- 11 = 40-44 years
- 12 = 45-49 years
- 13= 50-54 years
- 14 = 55-59 years
- 15 = 60-64 years
- 16 = 65-69 years
- 17 = 70-74 years
- 18 = 75-79 years
- 19 = 80-84 years
- 20 = 85-89 years
- 21 = 90 +

## BRFSS-TDC synthetic diabetes estimates using the BRFSS

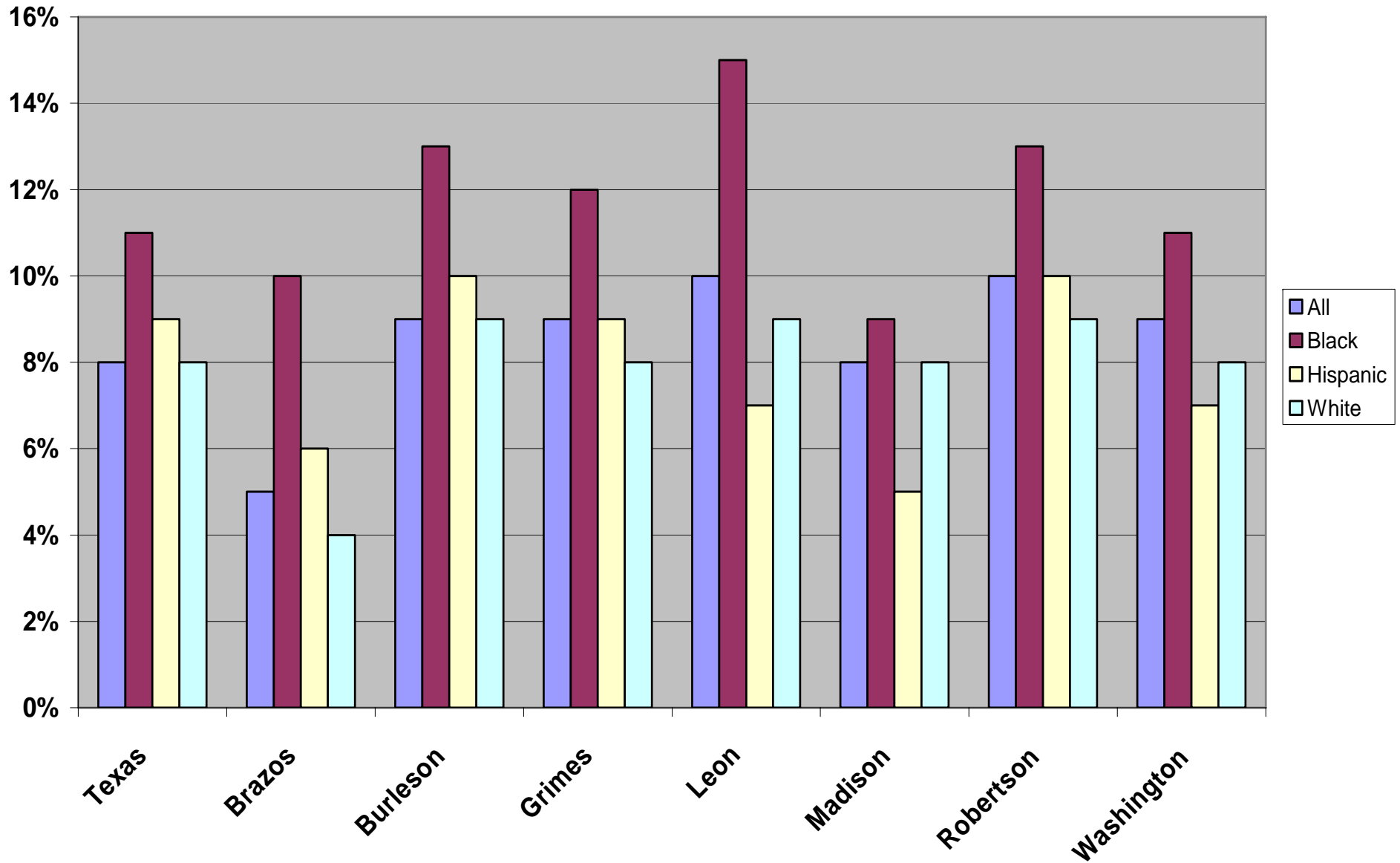
- We acquired the Texas Diabetes Council's synthetic diabetes estimates—extrapolated from state-level BRFSS survey
- Source: *Texas Behavioral Risk Factor Surveillance System, Statewide BRFSS Survey, 2003.*
- *The Texas BRFSS estimates provide county by county estimates.*



# According to the TDC web site

- Includes only persons who report diabetes include those that have ever been told by a doctor that they have diabetes.
- Women with gestational diabetes were not counted as diabetic.
- \*Prevalence rates with sample sizes less than 50 are not reported.
- All reported rates (%) are weighted for Texas demographics and the probability of selection.

Estimated Prevalence of Diabetes Prevalence in BVHP Region in 2003, by County



**Diabetes, Texas Adults (Age 18 and Older), Texas BRFSS, 2003 (with 95% confidence intervals)**

<b>Adults</b>	<b>Have been told they have diabetes (2003)</b>				
	<b>Total</b>			<b>95% CI</b>	
	<b>Sample Size</b>	<b>Yes</b>	<b>%</b>	<b>Lower</b>	<b>Upper</b>
<b>Total</b>	<b>6,030</b>	<b>524</b>	<b>8.1</b>	<b>7.3</b>	<b>8.8</b>
<b>Sex</b>					
<b>Males</b>	<b>2,294</b>	<b>192</b>	<b>7.9</b>	<b>6.7</b>	<b>9.1</b>
<b>Females</b>	<b>3,736</b>	<b>332</b>	<b>8.2</b>	<b>7.3</b>	<b>9.2</b>
<b>Age group</b>					
<b>18-29</b>	<b>1,006</b>	<b>12</b>	<b>1.1</b>	<b>0.4</b>	<b>1.8</b>
<b>30-44</b>	<b>1,877</b>	<b>80</b>	<b>4.7</b>	<b>3.6</b>	<b>5.8</b>
<b>45-64</b>	<b>2,014</b>	<b>256</b>	<b>13.3</b>	<b>11.5</b>	<b>15.1</b>
<b>65+</b>	<b>1,083</b>	<b>172</b>	<b>16.3</b>	<b>13.8</b>	<b>18.7</b>
<b>Race group</b>					
<b>White</b>	<b>3,836</b>	<b>310</b>	<b>7.9</b>	<b>6.9</b>	<b>8.8</b>
<b>Black</b>	<b>514</b>	<b>68</b>	<b>10.5</b>	<b>7.8</b>	<b>13.3</b>
<b>Hispanic</b>	<b>1,440</b>	<b>128</b>	<b>7.8</b>	<b>6.2</b>	<b>9.4</b>
<b>Other</b>	<b>201</b>	<b>14</b>	<b>7.3</b>	<b>3.1</b>	<b>11.5</b>

## Diabetes Prevalence Table: Showing prevalence by BVHP county, by race and ethnicity. 2003.

	White			Black			Hispanic			Total		
County	Adult Population	Estimated Number Diagnosed with Diabetes	Estimated Prevalence (%)	Adult Population	Estimated Number Diagnosed with Diabetes	Estimated Prevalence (%)	Adult Population	Estimated Number Diagnosed with Diabetes	Estimated Prevalence (%)	Adult Population	Estimated Number Diagnosed with Diabetes	Estimated Prevalence (%)
Brazos	91,870	4,132	4%	11,198	1,118	10	20,469	1,259	6	123,537	6,509	5
Burleson	9,224	789	9%	1,692	213	13	1,676	164	10	12,592	1,166	9
Grimes	12,154	1,007	8%	3,595	443	12	2,806	259	9	18,555	1,709	9
Leon	10,077	924	9%	1,178	171	15	810	59	7	12,065	1,154	10
Madison	6,409	534	8%	2,454	221	9	1,590	80	5	10,453	835	8
Robertson	7,703	688	9%	2,541	320	13	1,587	163	10	11,831	1,170	10
Washington	17,571	1,468	8%	3,949	443	11	1,936	129	7	23,456	2,040	9
<b>Total or average</b>	<b>155,008</b>	<b>9,541</b>	<b>8%</b>	<b>26,607</b>	<b>2,929</b>	<b>12</b>	<b>30,874</b>	<b>2,113</b>	<b>8</b>	<b>212,489</b>	<b>14,582</b>	<b>9</b>



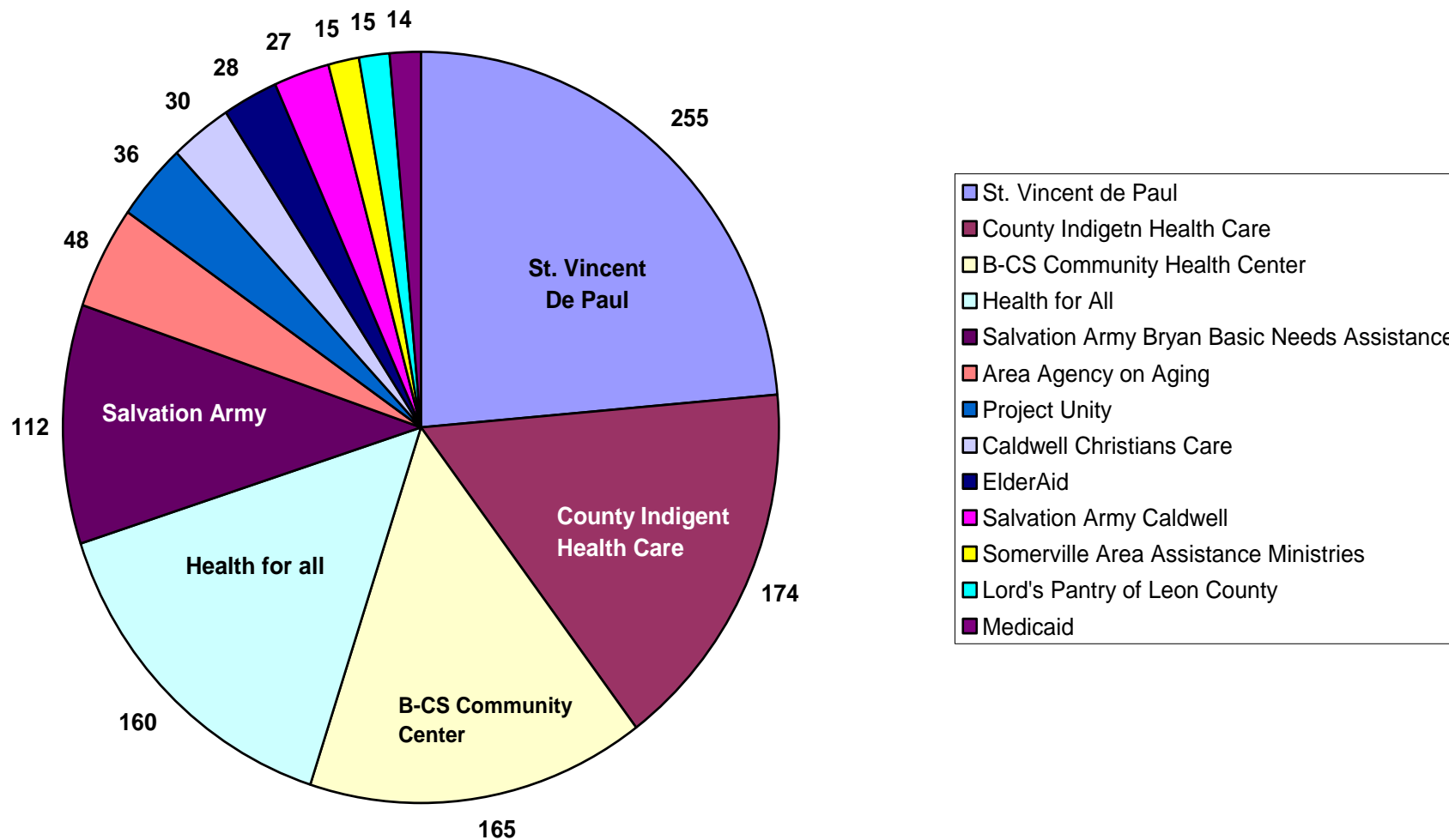
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# 211 Data and Charts

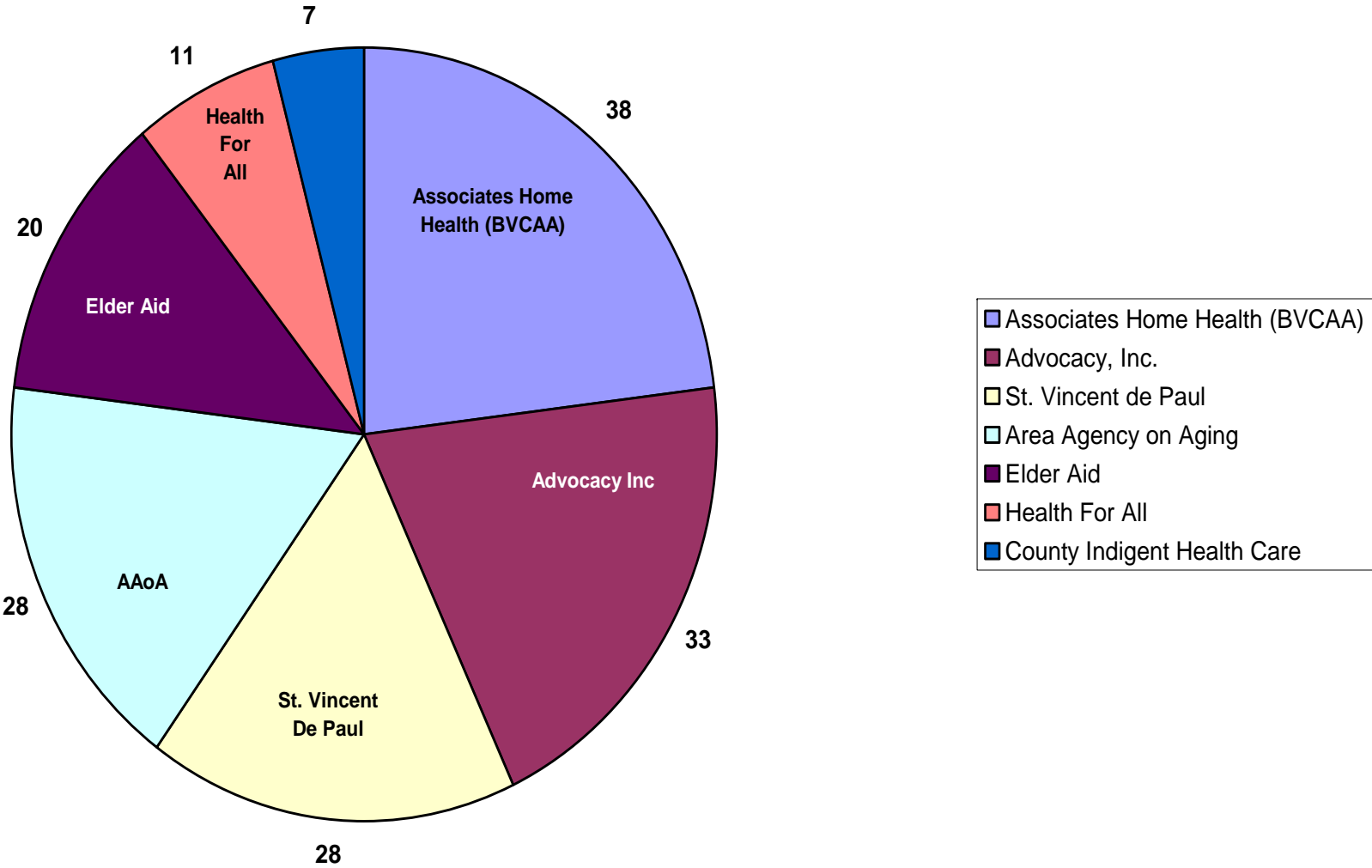
- In 2004 we met with the Brazos Valley United Way 211 Data System.
- The 211 data system collects data from persons who contact the system seeking assistance and referrals.
- The methods of collecting 211 data are not uniform across all 211 call centers, and therefore a meeting with 211 call center employees is advisable before collecting.

**Prescription Assistance Provided by BVHP Organizations**  
*[Type of Prescription Assistance Unknown]*





**Instances of Medical Assistance (Equipment & Supplies) Provided by BVHP Partners**  
[Disease specificity not indicated in 211 data]



# Rural Clinic Health Data

- St. Joseph's Health System provides rural hospital and rural health clinic assistance in the rural areas of the Brazos Valley.
- St. Joseph's maintains data on persons with diabetes, CHF and asthma (and other chronic diseases).
- As a partner and participant on the PRC project St. Joseph's shared data with CCHD.

**Diabetes, CHF and hypertension seen in ERs and Rural Health Clinics in BVHP Region, 2004**

	Acute Care Facilities				Rural Health Clinics						
	St.Jsph Bryan/CS	St.Jsph Madison	St.Jsph Burleson	St.Jsph Navasota	RC Caldwe	RC JBH	RC Norm	RC Hearne	RHC Frankl	RHC -IR-NI	RHC Somer
<b>Diabetes</b>	755	449	268	88	481	176	25	661	325	56	95
<b>CHF</b>	614	101	176	114	47	14	2	37	37	20	1
<b>Hypertension</b>	261	694	147	63	624	555	75	1179	533	111	136
<b>Total</b>	<b>1630</b>	<b>1244</b>	<b>591</b>	<b>265</b>	<b>1152</b>	<b>745</b>	<b>102</b>	<b>1877</b>	<b>895</b>	<b>187</b>	<b>232</b>

Source: BVHP Partners from St. Joseph's Regional Medical Centers, Central Texas

# Summary and Conclusions

- The results of our analyses of existing or readily available statistical data provided the CCHD Core research project team with valuable information on existing baseline health status of the seven-county BVHP region.
- These results were used in preliminary discussions with Madison County Community Partners, and other counties following, in determining which diabetes chronic disease management protocol would be most valuable in implementing first.



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# Summary & Conclusions

- Based on the analyses, community and academic partners agreed upon a proposed strategy of implementing the “Chronic Disease Self-Management” (CDSM) program in Madison County.
- Key personnel were sent to Stanford University for “Master CDSM Trainer” classes. In turn, the “Master Trainers” have begun implementing CDSM in local community hospitals, seeking to train lay leaders in teaching CDSM methods for the benefit of the community.



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# Summary & Conclusions

- Secondary data, if available, provides researchers and their community partners with potentially valuable health status information in a relatively cost-effective and efficient manner.
- Creative use of such data may facilitate the translation and diffusion of innovative best practices.
- CBPR research methods and research-community partnerships can be carried out more efficiently and strengthened through utilization of existing or readily available data sources.



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Thank you!

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