



# **DOCUMENTING HEALTH AND HEALTHCARE DISPARITIES IN THE UTMB PATIENT AND COMMUNITY POPULATION**

*THE 2<sup>ND</sup> DISPARITY DOCUMENTATION REPORT*

*FULFILLING DSRIP PERFORMANCE MEASURE I-11.1*

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The project that is the subject of this report was approved by Texas Health and Human Services Commission (HHSC) and conducted by members of Center to Eliminate Health Disparities with the assistance of Dr. Karl Eschbach from Department of Internal Medicine-Geriatric Medicine. The views presented in this report are those of CEHD and are not necessarily those of the funding agencies.

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## ABSTRACT

The REAL (Race, Ethnicity and Language) Data Project helps support UTMB's mission to improve health for the people of Texas and around the world. The project team, under the leadership of the Center to Eliminate Health Disparities, regularly analyzes and interprets UTMB electronic health record (EHR) data to identify health disparities in the UTMB patient population and suggests improvement plans to address them. The project is being implemented in close collaboration with relevant clinical departments (especially while developing the improvement plans), the Office of Waiver Operations, and the Clinical Data Management department.

This 2<sup>nd</sup> Disparities Documentation Report illustrates and discusses three health disparities in UTMB patients admitted across a three-year period (January 1<sup>st</sup>, 2012 to December 31<sup>st</sup>, 2014). In addition, it provides updates to the disparities reported in March 2015. The accompanying document (2<sup>nd</sup> Improvement Plan) suggests and discusses recommendations to address the three identified disparities in patients admitted with heart failure.

In the second cycle of data analysis, the REAL data project team chose to focus on one health condition/illness for which in-death analysis of EHRs would help meet the triple aim: improving the patient experience of care (including quality and satisfaction), improving the health of populations, and reducing the per capita cost of health care. Heart failure was selected for the second cycle of analysis, because it meets all three criteria.

Heart Failure is one of the leading causes of hospitalization and readmission in the US. It affects 5.7 million people with around half million new annual cases. It contributes to immature death of 55,000 annually. The economic burden of heart failure is high with a direct cost of \$34.4 billion. Hospitalization for heart failure accounts for half of the total costs for heart failure

Among five measures, there was no disparity found in direct cost and mortality. However, the analysis suggests that African Americans are more likely to have combined heart failure (both systolic and diastolic), longer length of stay, and higher 6-month readmission rates compared to White and Hispanic patients.

As a leading healthcare provider in Galveston and in Region 2, UTMB has been demonstrating the meaningful use of electronic health records to identify and then reduce health disparities. Taking advantage of this institutional support, CEHD aims to promote a culture of health equity at UTMB and expand to Galveston County as a whole. Since Affordable Care holds tremendous potential to improve access to care among racial minorities, equitable delivery of high quality care will be ready for newly insured individuals to sustain UTMB in a competitive marketplace.

## INTRODUCTION

### A) RACE, ETHNICITY, AND LANGUAGE: THE REAL DATA PROJECT

The UTMB Center to Eliminate Health Disparities (CEHD) chose the REAL Data project on Race, Ethnicity and Language disparities as one of its selected projects under the State of Texas 1115 Medicaid Waiver. The purpose of the project is to use the growing set of information resources in the hospital's electronic health record (EHR) and administrative data systems to identify disparities in health and health care in the UTMB patient population. The ultimate goal of this project is to improve the equitable delivery of high quality care to all racial and ethnic groups in our diverse patient population.

This is CEHD's second disparities report focusing on disparities in patients hospitalized with heart failure. Race, ethnicity (Hispanic Origin), and primary payer are assessed as potential sources of disparity. Data are presented on three racial and ethnic populations in the UTMB patient population: Non-Hispanic Whites, Non-Hispanic Blacks, and Hispanics along with four payer status: Commercial, Medicare, Medicaid and Indigent, and Other Type of Payers such as military plans.

In the first disparities report submitted last April, the REAL Data Project team has identified three areas of special focus for targeted intervention:

1. Elevated rates of low and very low birthweight among African American neonates,
2. Low rates of breastfeeding among Hispanic and African American mothers, and
3. High rates of ambulatory care sensitive admissions from UTMB's core service area in Galveston Island and Bolivar Peninsula.

In this current disparities report, the REAL Data Project team has highlighted another three disparities:

1. Higher percentage of African American patients admitted for combined heart failure (systolic and diastolic) than non-Hispanic white and Hispanic patients,
2. Higher percentage of African American patients readmitted within 6 months after the first discharge for heart failure, and
3. Longer length of stay per visit for African American patients with heart failure.

In partnership with the clinicians at UTMB, one core function of this report is monitoring and reporting disparity-related information. Moreover, the executive leadership of UTMB is committed to working collectively with communities we serve to invest in addressing the health disparities according the highlights in this report. Therefore, our focus on heart failure disparities was threefold. First, we believe that heart failure disparities are addressable by focused actions on the part of UTMB healthcare providers. Second, there are documented best practices addressing health failure that may have maximum impacts on assuring, promoting, and protecting the health of all people in the Galveston County. Third, addressing heart failure has the potential to improve the triple aim of improving health outcomes and quality of care at lower costs.

### B) CONTENTS AND ORGANIZATION OF THE REPORT

The report is organized into three sections. The first section describes patient demographics and clinical characteristics based on their race, ethnicity, and primary payer status. One of the key goals of 1115 Medicaid Waiver is transforming the health care delivery system to improve access and care for uninsured and Medicaid patients, and this report provides insight into the potential impact of delivery system on people of color.

The second section presents information about UTMB market share for heart failure services in different areas. Following that, we address three significant disparities found in patients who were hospitalized with heart failure from 2012 to 2014. We provide a summary of this discussion which will lead to specific improvement plans for patients with heart failure.

The third section provides an update of three disparities addressed in the DY3 report: (1) core measures, (2) low birth weight, and (3) ambulatory care sensitive conditions. The updated results cover the data in the most recent six months. In the improvement plans, we recommend initiatives to address these three disparities at UTMB. The major shortcoming of this update is that few measures have no more than 10 patients in the past six months. So the REAL Data Project team was unable to assess the change (improved or worsen) up to the most recent year. However, we intend to continue collecting data to provide meaningful information.

## SECTION 1: DEMOGRAPHICS AND MAJOR DIAGNOSTIC GROUP OF UTMB PATIENTS

This section aims to assess demographics and major diagnostic groups of UTMB patients by their race, ethnicity, and primary payer status.

Figure 1 shows the number of discharges by primary payer type by age for the period from January 1, 2015 through June 30, 2015. As can be seen, most hospitalizations for infants and for children are paid for by the Medicaid program. For older adults (age 65 or older), the Medicare program is the primary payer for almost all hospitalizations. For adults between the ages of 18 and 64, the primary payer varies sharply with respect to the reason for the hospitalization. This is shown in Figure 2.

Figure 2 shows the percentage of discharges in each diagnostic group by primary payer, for adults. Major diagnostic groups are shown from top to bottom in order of prevalence of discharges for each diagnostic group. The overwhelming majority of discharges for pregnancy and delivery are paid for by Medicaid, while for the diagnoses, the primary payer type varies sharply.

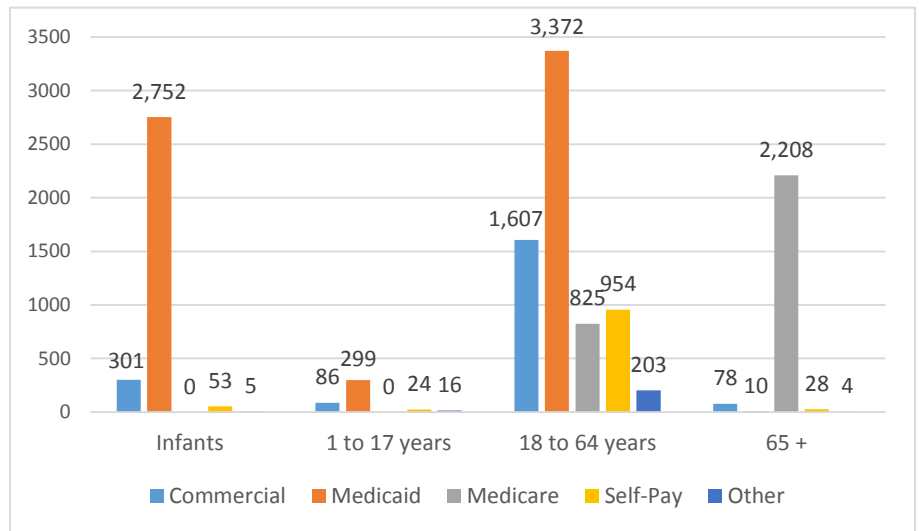


Figure 1. Primary payer by age

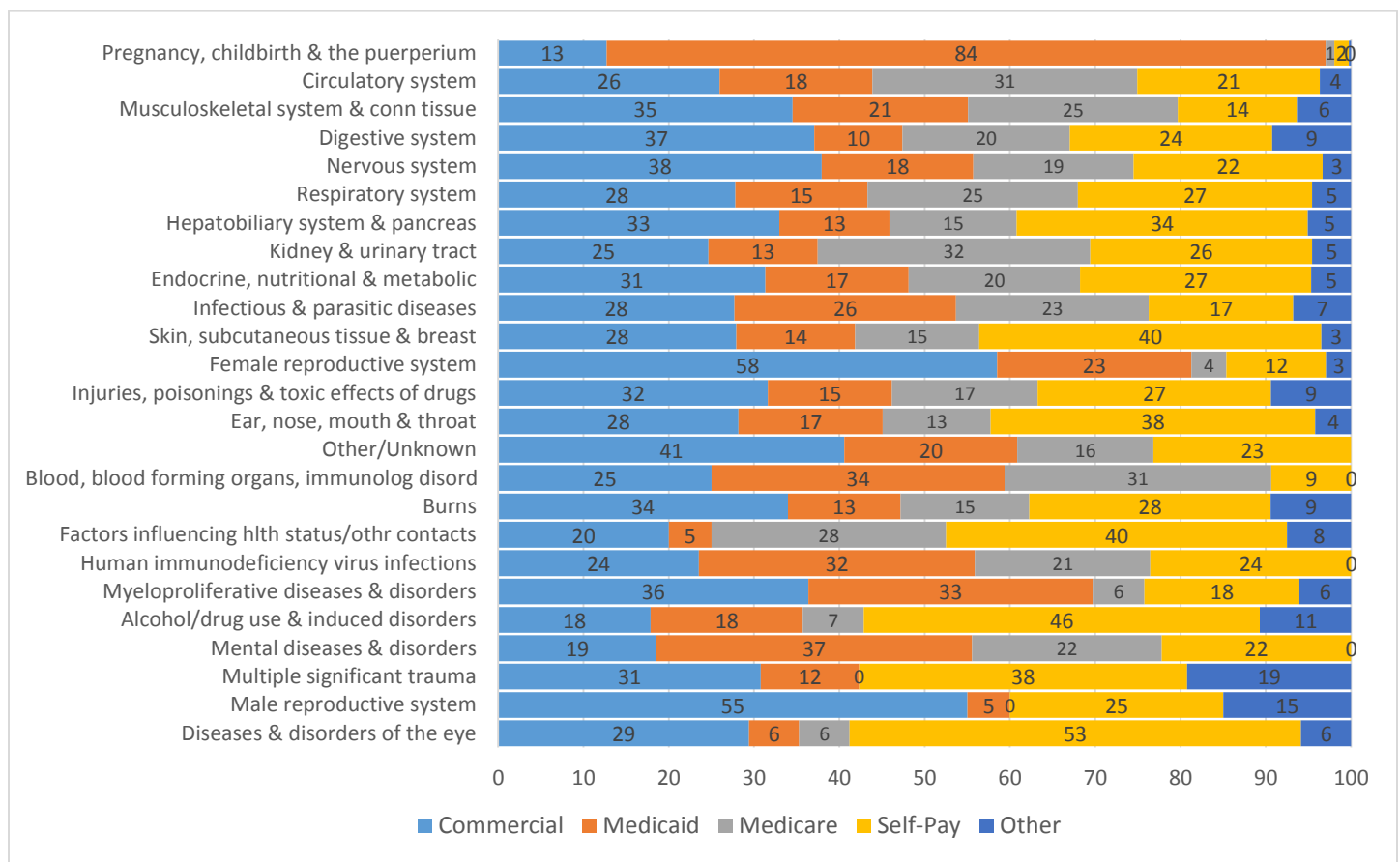
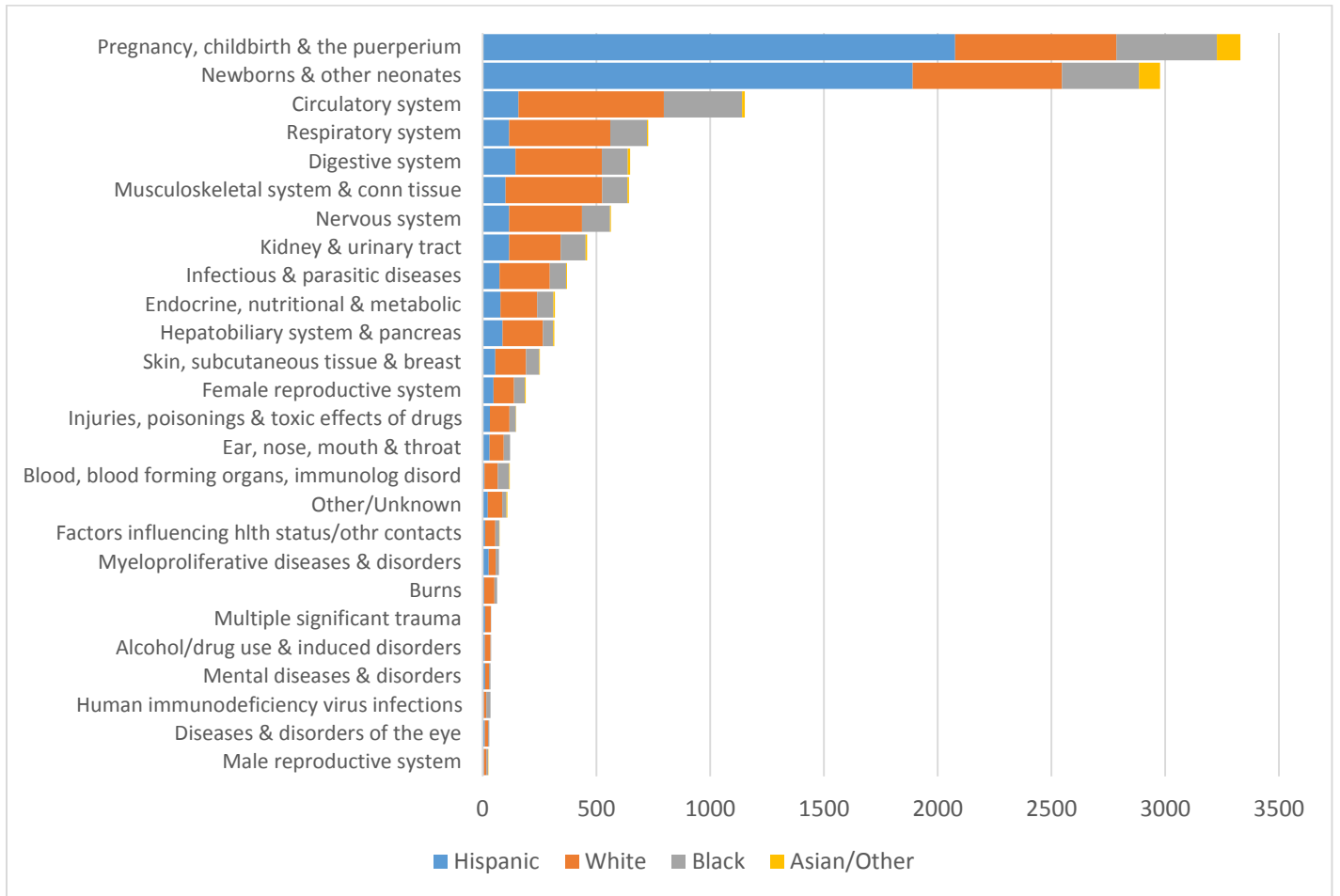


Figure 2. Primary payer by major diagnostic group for adults ages 18 to 64.

Figure 3 shows the number of admissions by major diagnostic group for all ages in the first two quarters of 2015. Pregnancy, childbirth & puerperium remains the largest service line of UTMB. In addition, the Hispanic population accounts for the most admissions of pregnancy and delivery-related services.



**Figure 3. Race by major diagnostic group, 1/1/2015 to 6/30/2015, all ages**

Figure 4 shows the share for each principal race and ethnic group of discharges by each major diagnostic group for the first two quarters of 2015. The shares vary sharply across different diagnostic groups, in part because of the different age structure of the patient base for each race and ethnic group.

Figures 5 through 7 show the same breakdowns for three age groups: children less than 18 (excluding infants), adults ages 18 to 64, and adults ages 65 or older. Even within age groups, there remain sharp differences in the race/ethnic mix for different diagnoses.

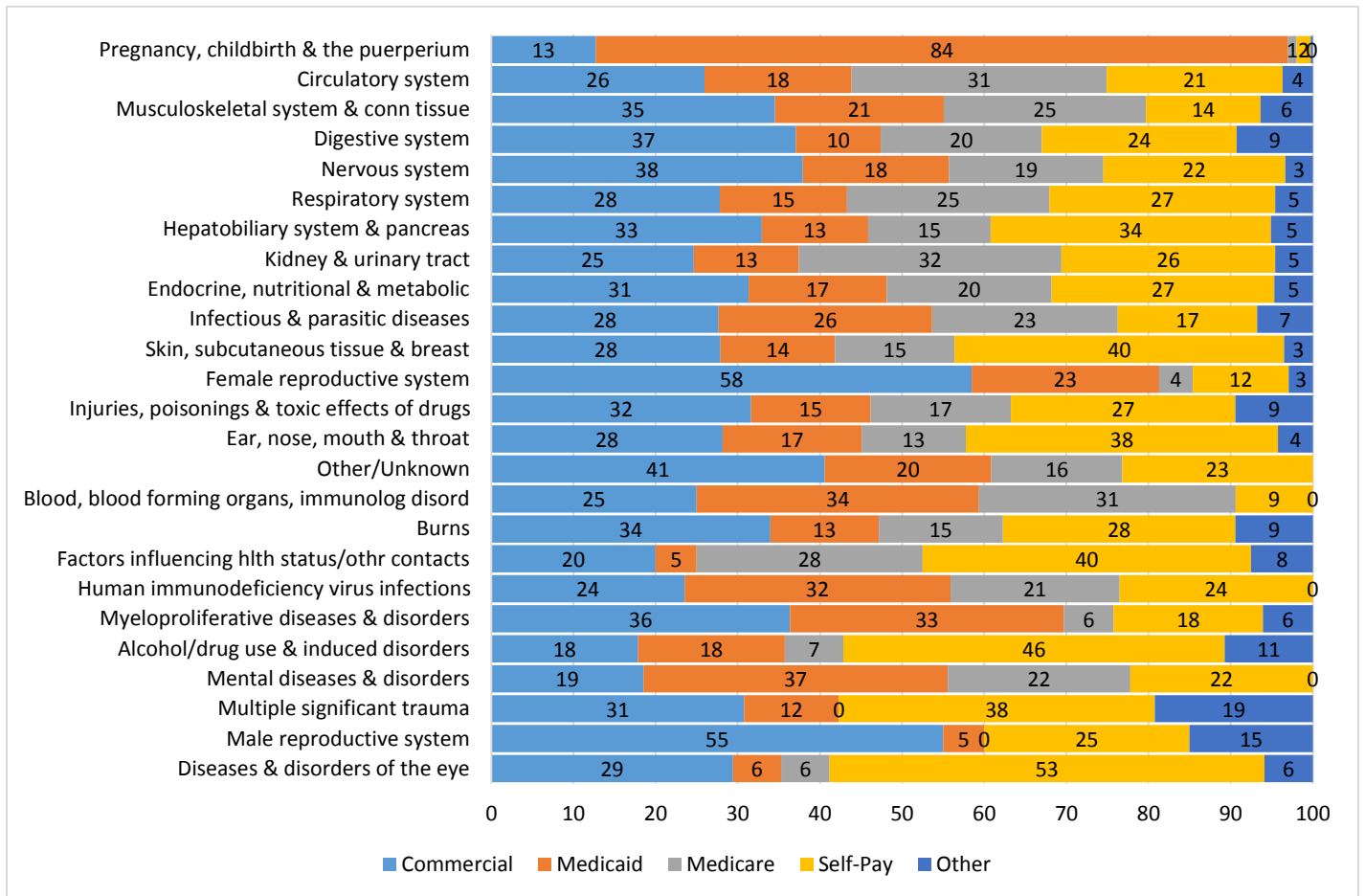


Figure 4. Race by Major Diagnostic Group, All Ages (Percent)



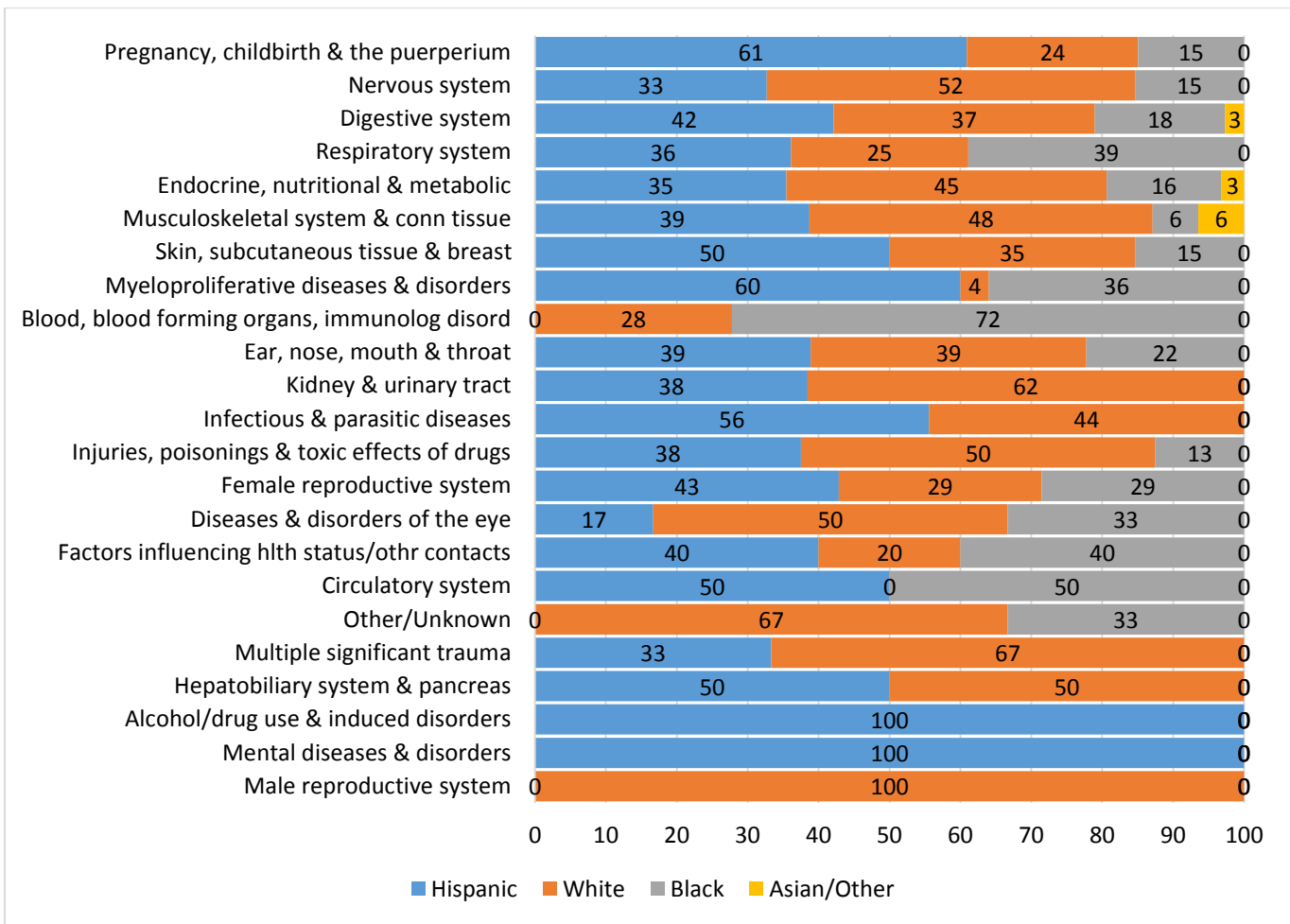
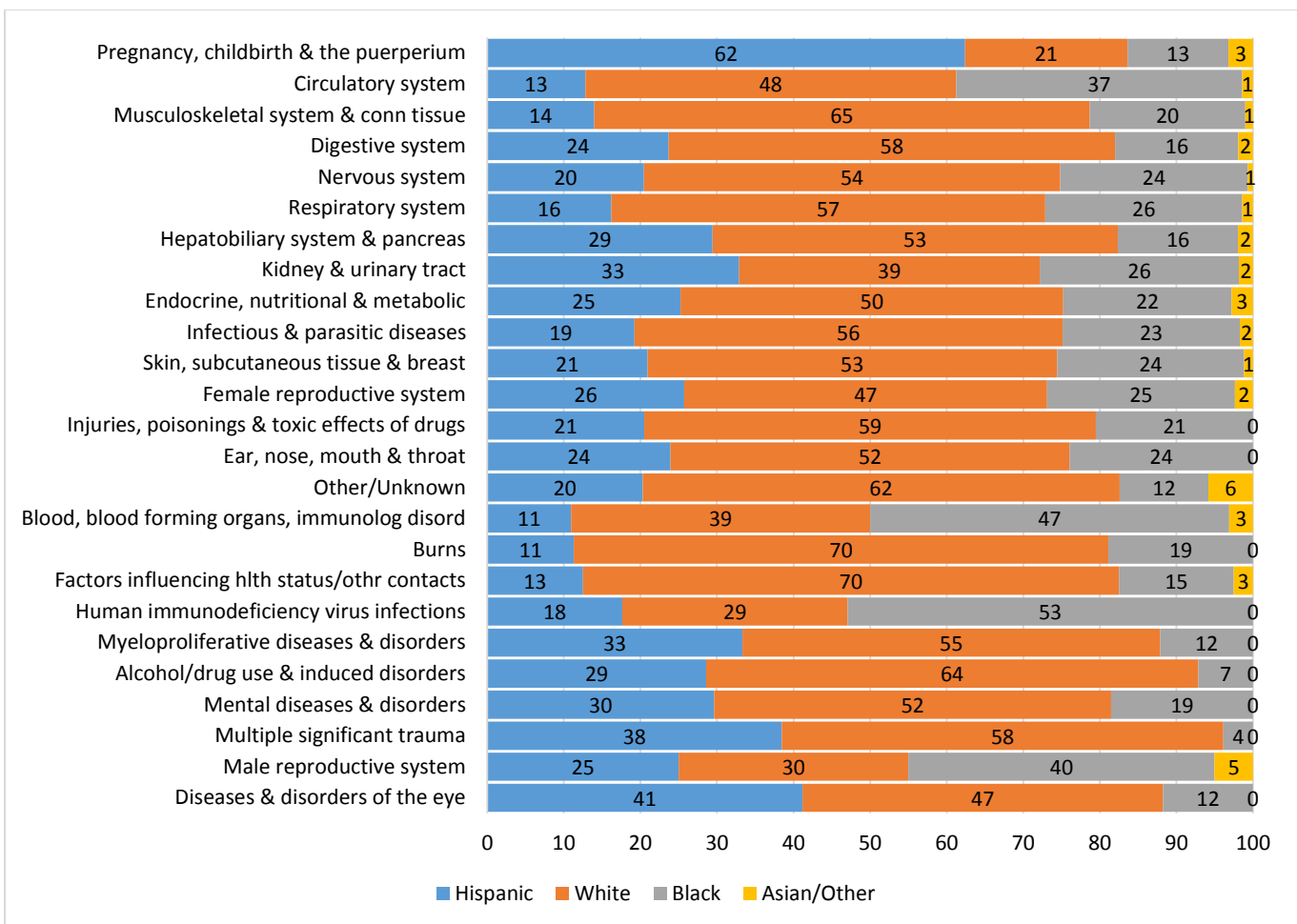


Figure 5. Race by Major Diagnostic Group, Ages 1 to 17 (Percent)



**Figure 6. Race by Major Diagnostic Group, Ages 18 to 64 (Percent)**

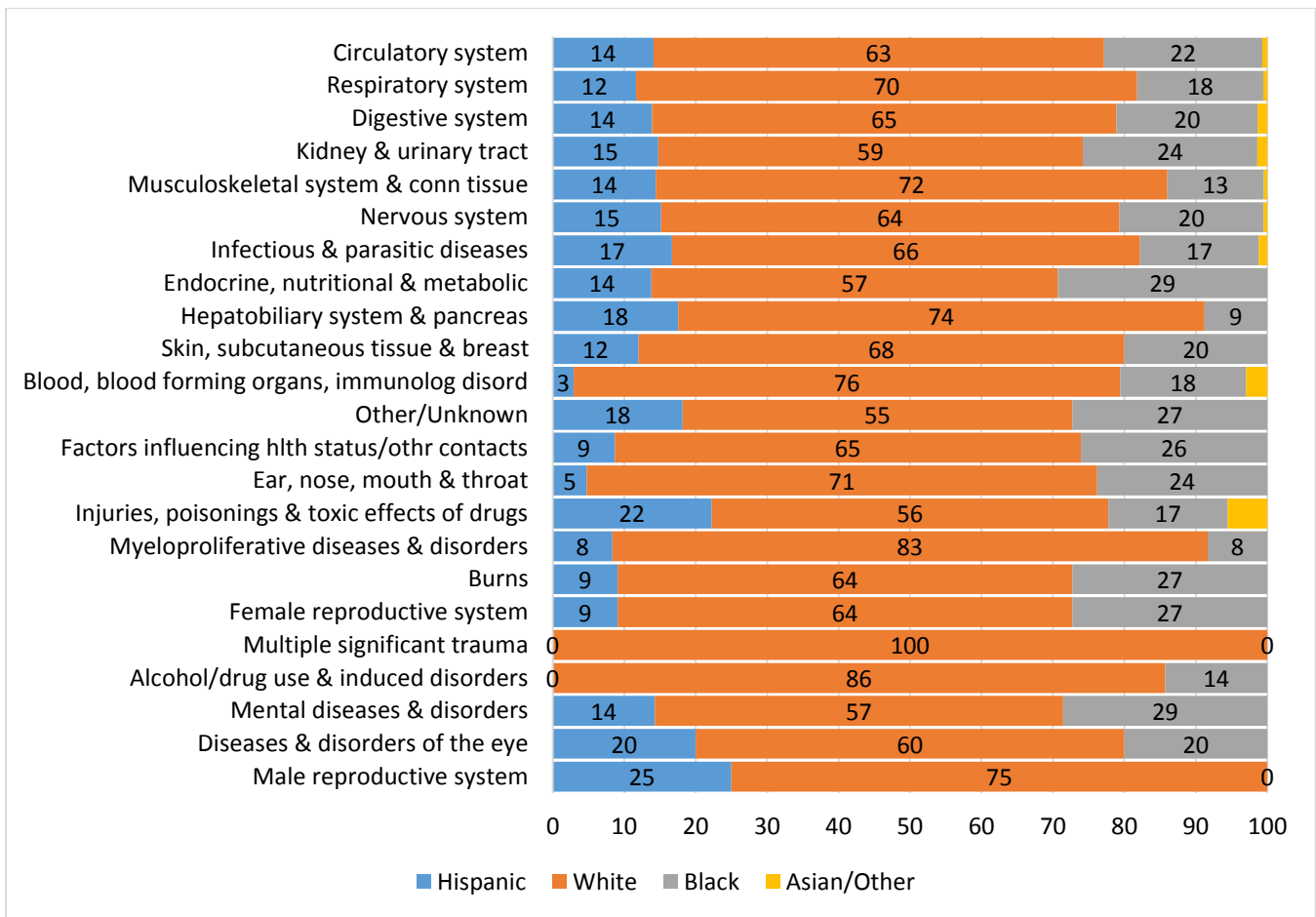


Figure 7. Race by Major Diagnostic Group, Age 65+ (Percent)

## SECTION 2: DISPARITIES IN UTMB PATIENTS HOSPITALIZED WITH HEART FAILURE

### A) MARKET SHARE OF HEART FAILURE PATIENTS

The UTMB patient population is part of another population—the larger community from which the patient population is drawn. Membership in the patient population is fluid. Many members of a community population may not seek health care services in a given year from any institution. We conducted the market share analysis to understand geographic areas in relation to racial and ethnic health disparities. Racial and ethnic differences in the patient population may reflect in part differences in who chooses to become a patient at UTMB.

The data that we used for the analysis of market share was the most recent Texas Health Care Information Collection (THCIC). The THCIC is a mandatory hospital discharge reporting system for most Texas hospitals with zip codes of patients. In Texas, the geographic area for which UTMB’s patient population forms a majority of the larger community population is restricted to the four Island/Peninsula Zip codes. Within this area, UTMB had a lower market share of heart failure services for Hispanics and Asians/Others compared to Whites and African Americans. Table 1 shows the places of residence of the UTMB patient population by race and ethnicity. Whites accounted for half of all inpatients (=173/342) and blacks accounted for one third (=117/342). Hispanics (=41/342) and Asians/Others (=11/342) only have small contributions of inpatient visits within the past nine months.

**Table 1. Residence by race/Hispanic Origin of UTMB In-patients admitted with a primary diagnosis of heart failure (1/1/2014-9/30/2014)**

Race/ Hispanic Origin	Island/Bolivar	Remainder of County	Outside of County*	Total
Hispanic	18	6	17	41
White	67	53	53	173
Black	48	46	23	117
Asian/Other	2	5	4	11
Total	135	110	97	342

- Excludes patients admitted from law enforcement\courts from outside Galveston County, and all patients admitted from Walker County

Table 2 depicts the percentage of heart failure admissions stratified race and ethnicity. A large majority of patients admitted to any hospital (93%) for a principal diagnosis of heart failure from Coastal Galveston County (Galveston Island or Bolivar Peninsula) receive their care at UTMB. Patients from all race/Hispanic Origin groups from the island are equally likely to seek care at UTMB. UTMB’s share of admissions from mainland Galveston County is just under 20%. African American heart failure patients from mainland Galveston County are twice as likely to receive care from UTMB as patients from other groups.

**Table 2: Share of Patients Admitted for a Primary Diagnosis of Heart Failure (1/1/2014-9/30/2014), by race/Hispanic Origin and Area, Galveston County**

Race/Hispanic Origin	Island/Bolivar	Remainder of County
Hispanic	94.7	13.3
White	91.8	13.7
Black	94.1	30.5
Asian/Other	66.7	16.1
Total	92.5	17.9

Table 3 shows the percentage of primary payers for heart failure admissions. Two-thirds of patients admitted for a primary diagnosis of heart failure have the Medicare program as their primary payer. Approximately one-in-six (15.5%) have Medicaid as a primary payer. Approximately one-in-nine have their care paid for by an HMO\PPO\POS payer. Use of UTMB for heart failure hospitalization for Island/Bolivar residents is nearly universal. Care paid for by Medicaid for residents of mainland Galveston County is more than twice as likely to come to UTMB as care paid for by any other source.

**Table 3. Primary payer for Inpatient Hospitalizations for Heart Failure (1/1/2014-9/30/2014)**

Primary Payer	Number of Patients	Percent of Patients	Market Share	
			Island/ Peninsula	Remainder of County
Medicare	231	67.5	94.1	22.0
Medicaid	53	15.5	100.0	39.4
HMO\PPO\POS	36	10.5	100.0	14.3
Self-Pay	16	4.7	100.0	20.0
Other non-federal	2	0.6	-	0.0
Other federal	3	0.9	50.0	0.0
Other commercial	1	0.3	0.0	2.6
Total	342	100.0	92.5	17.9

## B) TOP THREE DISPARITIES IN UTMB PATIENTS ADMITTED WITH HEART FAILURE

### B.1) Background and Methods

Heart failure is an ongoing illness that could get worse over time [1]. According to the statistics reported by Center for Disease Control and Prevention (CDC), approximately 5.1 million Americans have heart failure by 2013 [2]. With further examination, heart failure causes averagely 93.7 per 100,000 deaths in Texas higher than the national estimate which is 82.6 [3]. In addition, heart failure costs \$32 billion on treatment per year [2]. Therefore, it is critical to take actions to prevent heart failure especially in Texas.

Data for this report were obtained from three year University Health System Consortium (UHC) data (01/01/2012~12/31/2014). The UHC is a non-for-profit organization that support academic medical centers, forester new ideas, and build a solid relationship among members. The participating members openly shares clinical, safety, operational, and financial data with each other. Through directly comparing each other's performance, the members could gain valuable insights from other members with leading practices. Clinicians will also have an overview of the evidence-based practice that underlies the measurements of patient safety and healthcare quality.

Based on ICD-9-CM [4], we included patients whose principal diagnosis for hospitalization are related to heart failure. To be detail, we classified each hospitalization as below:

- 1) 428.0 Congestive heart failure
- 2) 428.1 Left heart failure
- 3) 428.2 Systolic heart failure
- 4) 428.3 Diastolic heart failure
- 5) 428.4 Combined systolic and diastolic heart failure
- 6) 428.9 Unspecified heart failure

The discharge data was excluded if that patient was younger than 18 years old, or noted as bad data, nonviable neonate, medical tourism, or prisoner. Since the number of visits for left heart failure and unspecified heart failure was too small (<10) to yield statistically significant difference, we also excluded these two types of heart failure visits. Patients were further classified into three groups based on their self-reporting race and ethnicity: non-Hispanic white, non-Hispanic black, and Hispanic populations. Four categories for primary payer of each visit are:

- 1) Commercial: Commercial/Private Traditional/Indemnity, Commercial/Private Health Maintenance Organization (HMO), Commercial/Private Preferred Provider Organization (PPO), Commercial/Private Point-of-Service (POS), Commercial/Private Transplant Network, Commercial/Private University Students, or Commercial/Private NOS
- 2) Medicare: Medicare Traditional/Indemnity, Medicare/Managed Care, or Medicare NOS
- 3) Medicaid and Indigent: Medicaid Traditional/Indemnity, Medicaid/Managed Care, Medicaid NOS, Charity NOS, Self-Pay-Cash-In-full, Self-Pay-Uninsured, or County Medically Indigent Services NOS
- 4) Others: Military Veterans Administration, Military NOS, Other NOS, Unknown NOS

Five targeted outcomes for this report are:

Incidence rate (=percentage of type of heart failure as the principal diagnosis),

- 1) Readmission rate (=percentage of being readmitted to UTMB within six months after the first discharge for any type of heart failure),
- 2) Length of stay (=average number of hospitalization days per visit),

- 3) Direct cost per day (=average dollar amounts spent per hospitalization day per visit; direct costs exclude the costs of overhead for administration, equipment, etc.), and
- 4) Mortality rate (=total deaths/total discharges per year).

**B.2) Findings**

From 2012 to 2014, there were 1,162 inpatient visits at UTMB. Among them, 562 were made by non-Hispanic white patients, 461 non-Hispanic black, and 139 Hispanic (Table 4). The mean age was 65.3 for all of them, it is slightly higher for white patients (69.4 years old) though. Forty four percent of visits were made by female patients. More than half of Hispanic patients were female (56.8%). Sixty five percent of visits were covered by Medicare plans on average. Again, the percent of being covered by Medicare is slightly higher for white patients (70.6%).

**Table 4. Demographics of Heart Failure Hospitalizations between 2012 and 2014**

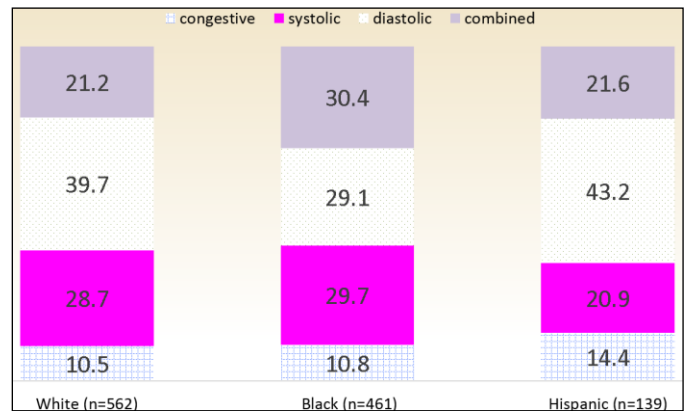
Encounter-Level	Total (N=1,162)	White (n=562)	Black (n=461)	Hispanic (n=139)	p-value
(1) Mean Age (years)	65.3	69.4	60.3	65.6	<0.001
(2) Gender (Female %)	43.8%	39.9%	44.7%	56.8%	0.001
(3) Commercial	6.9%	5.16%	10.0%	3.6%	<0.001
Medicare	64.5%	70.6%	57.5%	62.6%	
Medicaid and Indigent	25.7%	21.0%	29.7%	30.9%	
Other Insurances	3.0%	3.2%	2.8%	2.9%	
Total	100.0%	100.0%	100.0%	100.0%	

Table 5 and Figure 8 evaluated the distribution of heart failure type for each racial group. The majority of white patients were admitted for hospital with diastolic heart failure (39.7%), combined heart failure for black patients (30.4%), and diastolic heart failure for Hispanic patients as well (43.2%) The p-value is smaller than 0.05 indicating that the racial/ethnic disparity significantly exists in terms of causes for hospitalizations.

**Table 5. Distribution of Type of Heart Failure by Race/Ethnicity**

Principal Diagnosis for Hospitalization	White (N=562)	Black (N=461)	Hispanic (N=139)	p-value
Congestive	10.5	10.8	14.4	<0.001
Systolic	28.7	29.7	20.9	
Diastolic	39.7	29.1	43.2	
Combined (Both Systolic and Diastolic)	21.2	30.4	21.6	

We further evaluated the distribution of heart failure type by primary payer (Table 6) and we found out the statistically significant disparity within Medicaid and Indigent group. Compared to the above table, the main change is that more non-Hispanic white patients were admitted for systolic heart failure if they were covered by Medicaid. Since the number of visits made by Hispanic populations was too small to yield statistical significance in other three insurance groups, collecting more data is recommended in the future.



**Figure 8. Distribution of Type of Heart Failure by Race/Ethnicity**

**Table 6. Distribution of Type of Heart Failure by Race/Ethnicity in Medicaid and Indigent Patients Only**

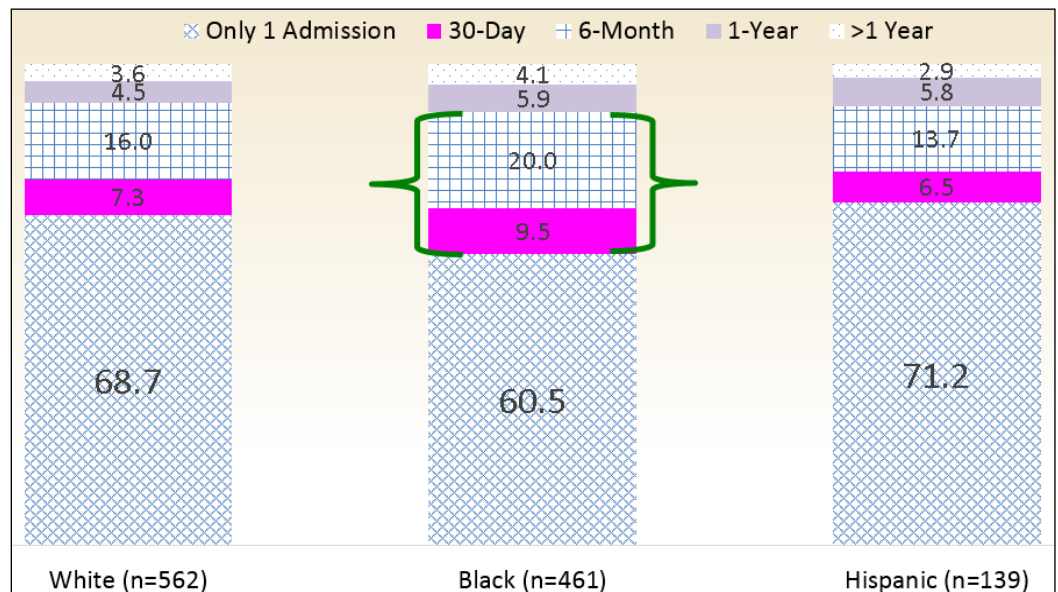
Principal Diagnosis for Hospitalization (Medicaid and Indigent Only)	White (N=118)	Black (N=137)	Hispanic (N=43)	p-value
Congestive	9.3	8.8	20.9	0.003
Systolic	39.0	29.2	18.6	
Diastolic	26.3	24.8	44.2	
Combined (Both Systolic and Diastolic)	25.4	37.2	16.3	

Table 7 and Figure 9 demonstrated the percentage of 6-month readmission for each racial group. Whenever a patient has a hospital admission, a discharge record is generated. If a patient comes back to the same hospital for the same cause, the second discharge record is taken into account as a readmission. Next, the interval between each two admissions is calculated to identify how soon the patient comes back to hospital again. Poor quality of care during the first admission could potentially lead to a shorter interval and more frequent readmissions. We use three-year data for readmission analysis which means one patient who had the two admissions across two different years was still counted. The following table shows that only 70.5% of non-Hispanic black patients had never been readmitted within 6 months after the first readmission. It is significantly lower than the percent of white or Hispanic patients (p=0.025).

**Table 7. Percentage of 6-Month Readmissions by Race/Ethnicity**

%	White (N=562)	Black (N=461)	Hispanic (N=139)	p-value
Not	76.7	70.5	79.9	0.0250
Readmit within 6 months	23.3	29.5	20.1	

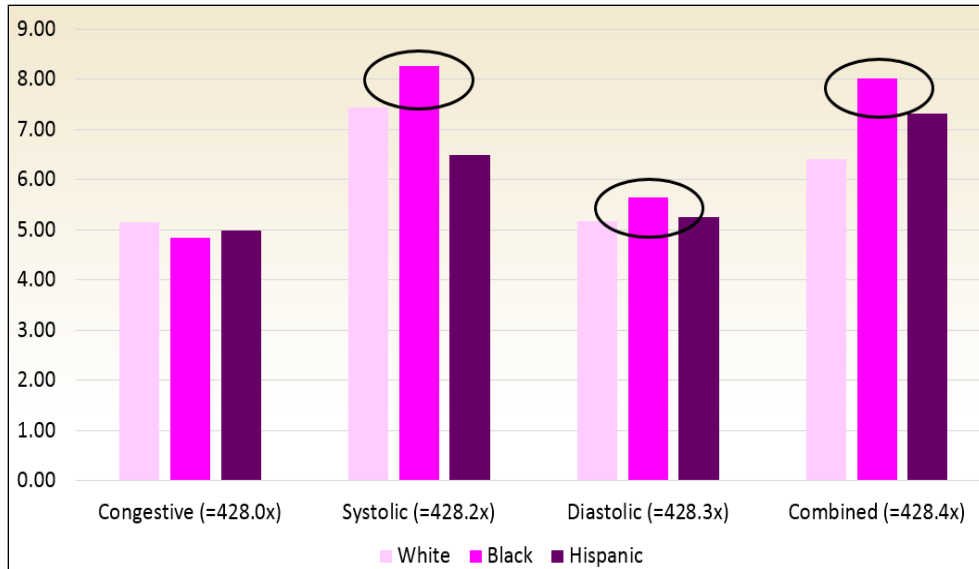
Table 8 and Figure 10 identified the average length of stay for each type of heart failure for each racial group. We evaluated three patient outcomes of heart failure services provided by UTMB from 2012 to 2014. With two stratifiers (race and ethnicity), there is only one statistically significant disparity in terms of length of stay. The assessment of direct cost and mortality across three racial groups did not show significant disparity. The visits made by non-Hispanic black patients caused the longest stay than non-Hispanic white and Hispanic patients (p<0.05). In particular, black patients admitted for systolic or combined heart failure had averagely stayed in the hospital for eight days per visit.



**Figure 9. Percentage of 6-Month Readmissions by Race/Ethnicity**

**Table 8. Average Length of Stay for Heart Failure Hospitalizations by Race/Ethnicity**

Length of Stay by Principal Diagnosis for Hospitalization	White (N=562)	Black (N=461)	Hispanic (N=139)	p-value
Congestive	5.2	4.9	5.0	0.7295
Systolic	7.5	8.3	6.5	0.4691
Diastolic	5.2	5.7	5.3	0.1470
Combined (Both Systolic and Diastolic)	6.4	8.0	7.3	0.1867
Any Type	6.1	7.1	5.9	0.0140



**Figure 10. Average Length of Stay for Heart Failure Hospitalizations by Race/Ethnicity**

We further identified the racial/ethnic disparities in length of stay for each primary payer. Table 9 shows that the disparity in length of stay remains statistically significant in Medicaid and indigent patients. On average, black Medicaid and indigent patients stayed in the hospital for heart failure for 7.6 days per visit ( $p < 0.05$ ). If the patient was admitted for combined heart failure, it came up to almost ten days.

**Table 9. Average Length of Stay for Heart Failure Hospitalizations by Race/Ethnicity in Medicaid and Indigent Patients Only**

Length of Stay by Principal Diagnosis for Hospitalization (Medicaid and Indigent)	White (N=118)	Black (N=137)	Hispanic (N=43)	p-value
Congestive	5.5	5.5	4.5	0.6215
Systolic	7.1	6.4	6.0	0.8307
Diastolic	4.7	6.3	5.1	0.0829
Combined (Both Systolic and Diastolic)	6.0	9.9	5.4	0.1426
Any Type	6.0	7.6	5.2	0.0446

### **B.3) Conclusion**

This report sought to analyze heart failure-caused hospitalizations stratified by race, ethnicity, and insurance. Data used for this report was obtained from 2012~2014 UTMB inpatient visits. Excluding patient younger than 18, medical tourism, or prisoner, there were 1162 inpatient visits in total. Three statistically significant disparities found are (1) higher percentage of non-Hispanic black patients admitted for combined heart failure than the other two racial groups, (2) higher percentage of black patients readmitted within 6 months after the first discharge, and (3) longer length of stay per visit for black patients. Specific actions will be discussed and addressed in the improvement plans report.



## SECTION 3: UPDATES OF OUTCOME DISPARITIES REPORTED IN DY3

### A) DISPARITIES IN CARE: CORE MEASURES

Core Measures are indicators used by health care systems to monitor the quality of care they provide. In the first disparities report, we have used core measures data from 07/01/2013 to 06/30/2014. In this current report, we provided the updates by drawing the most recent six-month of data for comparisons (i.e. 07/01/2014 ~ 12/31/2014).

Table 10 summarizes the targets not met by group, while Table 11 reports the full set of results. In Table 11 we have marked indicators where the group-specific performance rate met or exceeded UTMB's established target for that metric in green, and indicators where the target was not attained for this group and this period in red. We have marked any metric where the number of patients in the denominator population was less than 6 in gray, regardless of whether the target was met.

Due to the shorter period of data, many core measures had a smaller number of patients at risk. The calculation of performance rate was not reliable. Furthermore, we focused on the health disparities in breastfeeding practice identified in the DY3 report. According to Table 11, PC-05 and PC-05a did not meet the standard again. Although the overall performance is better than the previous year (22%>15%, 49%>22%), the rate among African Americans even dropped to under 10%. The concern is magnified because delivery services is UTMB's largest product line. How to deliver high quality of care equally for all racial groups shall be the priority focus in the future.

**Table 10. Core Measures—Targets not met by group, summary**

All Groups	PN-3a Blood culture within 24 hrs of arrival at ICU PN-6 Antibiotic selection for CAP-immunocompetent SCIP-Card-2 At risk--Beta Blocker Perioperative SCIP-Inf-2f Colon surgery SCIP-Inf-3b CABG SCIP-Inf-3f Colon surgery CAC-2a Ages 2-17 - Overall Rate CAC-2b Ages 2-4 CAC-3 HMPC Document Given to Patient/Caregiver VTE-5 VTE Discharge Instructions PC-01 Elective Delivery PC-05 Exclusive Breast Milk Feeding (EBMF) PC-05a EBMF Considering Mothers Choice IMM-1a Pneumococcal Imm. – Overall IMM-1c Pneumococcal Imm.- High Risk Age 6 -64 IMM-2 Influenza Immunization
Hispanic	SCIP-Inf-9 Urinary catheter removed-postop day ½ PC-01 Elective Delivery PC-05 Exclusive Breast Milk Feeding (EBMF) PC-05a EBMF Considering Mothers Choice IMM-1c Pneumococcal Imm.- High Risk Age 6 -64 IMM-2 Influenza Immunization
White	SCIP-Card-2 At risk--Beta Blocker Perioperative SCIP-Inf-2f Colon surgery SCIP-Inf-2g Hysterectomy SCIP-Inf-3b CABG SCIP-Inf-3g Hysterectomy VTE-5 VTE Discharge Instructions PC-05 Exclusive Breast Milk Feeding (EBMF) PC-05a EBMF Considering Mothers Choice IMM-1a Pneumococcal Imm. – Overall IMM-1b Pneumococcal Imm. - Age 65+ IMM-1c Pneumococcal Imm.- High Risk Age 6 -64 IMM-2 Influenza Immunization
Black	SCIP-Card-2 At risk--Beta Blocker Perioperative SCIP-Inf-3a Overall VTE-3 Patients with Anticoagulation Overlap VTE-5 VTE Discharge Instructions STK-1 Venous Thromboembolism (VTE) Prophylaxis PC-01 Elective Delivery IMM-1a Pneumococcal Imm. – Overall IMM-1b Pneumococcal Imm. - Age 65+ IMM-1c Pneumococcal Imm.- High Risk Age 6 -64 IMM-2 Influenza Immunization

**Table 11. Updated Core Measure Performance**

Indicator Name	July 1, 2013 – June 30, 2014					July 1, 2014 – Dec 31, 2014				
	At risk	All	Hispanic	White	Black	At risk	All	Hispanic	White	Black
<b>AMI Acute Myocardial Infarction</b>										
AMI-1 Aspirin at arrival	214	100	100	100	100	119	98	100	97	100
AMI-2 Aspirin prescribed at discharge	194	99	100	99	100	114	100	100	100	100
AMI-3 ACEI or ARB for LVSD	39	95	100	90	100	11	100	100	100	100
AMI-8a PCI received within 90 mins of arrival	25	100	100	100	100	16	100	100	100	100
AMI-10 Statin Prescribed at Discharge	192	99	100	99	100	108	99	100	98	100
<b>HF Heart Failure</b>										
HF-1 Discharge instructions	120	100	100	100	100	.	.	.	.	.
HF-2 Evaluation of LVS function	268	100	100	100	100	123	98	100	97	100
HF-3 ACEI or ARB for LVSD	105	98	100	98	98	42	100	100	100	100
<b>PN Pneumonia</b>										
PN-3a Blood culture within 24 hrs of arrival at ICU	20	100	100	100	100	9	89	100	100	.
PN-3b Blood cultures in the ED prior to antibiotic	39	97	100	96	100	.	.	.	.	.
PN-6 Antibiotic selection for CAP-immunocompetent	38	95	67	100	90	25	88	100	85	75
PN-6a Antibiotic selection for CAP--ICU patient	7	86	.	100	50	4	50	100	0	100
PN-6b Antibiotic selection for CAP--non-ICU patient	31	97	67	100	100	21	95	100	100	67
<b>SCIP Surgical Care Improvement Project</b>										
SCIP-Card-2 At risk--Beta Blocker Perioperative	131	98	100	97	100	64	94	100	93	88
<b>SCIP-Inf-1 Infection Prevention</b>										
SCIP-Inf-1a Overall	248	99	97	100	96	132	100	100	100	100
SCIP-Inf-1b CABG	43	98	86	100	100	21	100	100	100	100
SCIP-Inf-1c Other cardiac surgery	13	100	100	100	100	10	100	100	100	100
SCIP-Inf-1d Hip arthroplasty	40	95	100	100	80	24	100	100	100	100
SCIP-Inf-1e Knee arthroplasty	54	100	100	100	100	31	100	100	100	100
SCIP-Inf-1f Colon surgery	30	100	100	100	100	15	100	.	100	100
SCIP-Inf-1g Hysterectomy	55	100	100	100	100	29	100	100	100	100
SCIP-Inf-1h Vascular surgery	13	100	100	100	100	2	100	.	100	.
<b>SCIP-Inf-2 Antibiotic Selection</b>										
SCIP-Inf-2a - Overall	247	100	100	99	100	133	98	100	98	100
SCIP-Inf-2b CABG	42	100	100	100	100	21	100	100	100	100
SCIP-Inf-2c Other cardiac surgery	13	100	100	100	100	10	100	100	100	100
SCIP-Inf-2d Hip arthroplasty	40	100	100	100	100	24	100	100	100	100
SCIP-Inf-2e Knee arthroplasty	54	100	100	100	100	31	100	100	100	100

Indicator Name	July 1, 2013 – June 30, 2014					July 1, 2014 – Dec 31, 2014				
	At risk	All	Hispanic	White	Black	At risk	All	Hispanic	White	Black
SCIP-Inf-2f Colon surgery	30	100	100	100	100	15	93	.	89	100
SCIP-Inf-2g Hysterectomy	55	98	100	97	100	30	97	100	92	100
SCIP-Inf-2h Vascular surgery	13	100	100	100	100	2	100	.	100	.
<b>SCIP-Inf-3 Antibiotics Discontinued--24/48 Hours</b>										
SCIP-Inf-3a Overall	244	98	100	99	96	128	96	100	96	89
SCIP-Inf-3b CABG	42	100	100	100	100	19	89	100	93	50
SCIP-Inf-3c Other cardiac surgery	13	100	100	100	100	10	100	100	100	100
SCIP-Inf-3d Hip arthroplasty	40	98	100	96	100	22	100	100	100	100
SCIP-Inf-3e Knee arthroplasty	52	96	100	97	89	31	97	100	95	100
SCIP-Inf-3f Colon surgery	30	100	100	100	100	14	93	.	100	83
SCIP-Inf-3g Hysterectomy	55	100	100	100	100	30	97	100	92	100
SCIP-Inf-3h Vascular surgery	12	92	100	100	75	2	100	.	100	.
SCIP-Inf-4 Cardiac --6 AM postop serum glucose control	59	97	100	97	90	31	100	100	100	100
SCIP-Inf-6 Surgery--appropriate hair removal	346	100	100	100	100	183	100	100	100	100
SCIP-Inf-9 Urinary catheter removed-postop day ½	202	99	97	98	100	91	96	93	95	100
SCIP-VTE-2 VTE Prophylaxis 24 hrs Pre/Post	216	99	100	98	100	121	100	100	100	100
<b>CAC Pediatric In-patient Asthma Care</b>										
<b>CAC-1 Relievers for In-patient Asthma</b>										
CAC-1a Ages 2-17 Overall Rate	32	97	100	90	100	11	100	100	100	100
CAC-1b Ages 2-4	11	100	100	100	100	6	100	100	100	100
CAC-1c Ages 5-12	18	94	100	80	100	2	100	100	100	.
CAC-1d Ages 13-17	3	100	100	.	100	3	100	.	.	100
<b>CAC-2a Systemic Corticosteroids--In-patient Asthma</b>										
CAC-2a Ages 2-17 - Overall Rate	32	97	100	90	100	11	91	100	67	100
CAC-2b Ages 2-4	11	100	100	100	100	6	83	100	50	100
CAC-2c Ages 5-12	18	94	100	80	100	2	100	100	100	.
CAC-2d Ages 13-17	3	100	100	.	100	3	100	.	.	100
<b>CAC-3 Home Management Plan of Care (HMPC)</b>										
CAC-3 HMPC Document Given to Patient/Caregiver	32	91	100	80	92	11	91	100	100	83
<b>VTE Venous Thromboembolism Prophylaxis</b>										
VTE-1 Overall	386	97	95	97	96	181	97	97	98	95
VTE-2 ICU	135	96	95	95	96	78	97	100	96	100
VTE-3 Patients with Anticoagulation Overlap Therapy	98	87	89	90	76	60	95	100	95	93
VTE-4 Patients Receiving UFH Therapy w/Monitoring	102	100	100	100	100	57	100	100	100	100
VTE-5 VTE Discharge Instructions	71	65	60	69	59	43	88	80	93	80

Indicator Name	July 1, 2013 – June 30, 2014					July 1, 2014 – Dec 31, 2014				
	At risk	All	Hispanic	White	Black	At risk	All	Hispanic	White	Black
<b>STK Stroke</b>										
STK-1 Venous Thromboembolism (VTE) Prophylaxis	130	98	95	100	97	63	95	90	97	94
STK-2 Discharged on Antithrombotic Therapy	105	99	100	100	96	54	100	100	100	100
STK-3 Anticoagulation Therapy for Atrial Fibril/Flutter	6	100	.	100	.	4	75	100	100	50
STK-4 Thrombolytic Therapy	18	89	100	83	100	6	100	.	100	100
STK-5 Antithrombotic Therapy--Day 2	84	96	100	98	90	40	100	100	100	100
STK-6 Discharged on Statin Medication	75	99	100	98	100	41	100	100	100	100
STK-8 Stroke Education	68	81	62	88	73	35	100	100	100	100
STK-10 Assessed for Rehabilitation	121	98	95	100	96	63	100	100	100	100
<b>PC Perinatal Care Conditions</b>										
PC-01 Elective Delivery	98	13	12	18	14	58	2	.	8	.
PC-02 Cesarean Section	251	22	20	32	22	130	27	20	27	46
PC-03 Antenatal Steroids	13	92	80	100	100	11	100	100	100	100
PC-05 Exclusive Breast Milk Feeding (EBMF)	401	15	12	34	11	213	22	18	37	6
PC-05a EBMF Considering Mothers Choice	278	22	18	41	20	96	49	43	64	20
<b>IMM Immunization</b>										
IMM-1a Pneumococcal Imm. - Overall	294	84	81	84	87	152	83	92	83	76
IMM-1b Pneumococcal Imm. - Age 65+	173	92	86	93	94	84	90	100	88	88
IMM-1c Pneumococcal Imm.- High Risk Age 6 -64	121	74	79	68	76	68	74	83	76	58
IMM-2 Influenza Immunization	377	89	90	87	90	189	85	86	87	79

**Color-coded target indicator:**

Meets Target	Does Not Meet Target	No Target Established	< 6 Cases
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## B) DISPARITIES IN HEALTH: BIRTHWEIGHT

As mentioned in the previous report, UTMB is a major supplier of pregnancy and delivery services in and beyond the Houston region through its Regional Maternal and Child Health Program (RMCHP). Any kind of disparity in neonatal outcomes, including low birthweight, shall be carefully addressed.

The racial/ethnic disparities seem to be narrower in the most recent six months. The percentage of babies under 2500 g among African Americans decreased from 17.5% (=4.1+2.6+10.8) to 13.4% (=2.1+1.8+9.5) now. As a result, the percentage of normal birthweight (2500 to 4999g) for all UTMB patients increased from 90.7% to 92.7%. This performance suggests that UTMB shall continue the current improvement plans to eliminate health disparities in low birthweight issues.

**Table 12. Birthweight by race/ethnicity—all neonates born at UTMB, frequency and percent, 2014**

Race /Ethnicity	< 1000g	1000 to 1499g	1500 to 2499g	2500 to 4999	5000+	Total
Hispanic	22 (0.6)	29 (0.8)	205 (5.7)	3,417 (92.8)	4 (0.1)	3,677 (100.0)
White	11 (1.0)	22 (2.0)	83 (7.4)	993 (89.3)	3 (0.3)	1,112 (100.0)
Black	27 (4.1)	17 (2.6)	71 (10.8)	539 (82.2)	2 (0.3)	656 (100.0)
Asian/Other	3 (1.7)	0 (0.0)	24 (13.6)	150 (84.7)	0 (0.0)	177 (100.0)
Total	63 (1.1)	68 (1.2)	383 (6.9)	5,099 (90.7)	9 (0.4)	5,622 (100.0)

**Update: Birthweight by race/ethnicity--all neonates born at UTMB, frequency and percent (1/1/2015 - 6/30/2015)**

Race /Ethnicity	< 1000g	1000 to 1499g	1500 to 2499g	2500 to 4999	5000+	Total
Hispanic	8 (0.4)	14 (0.7)	91 (4.8)	1,769 (94.0)	0 (0.0)	1,882 (100.0)
White	3 (0.5)	8 (1.2)	40 (6.1)	605 (92.1)	1 (0.2)	657 (100.0)
Black	7 (2.1)	6 (1.8)	32 (9.5)	293 (86.7)	0 (0.0)	338 (100.0)
Asian/Other	2 (2.2)	0 (0.0)	6 (6.6)	83 (91.2)	0 (0.0)	91 (100.0)
Total	20 (0.7)	28 (0.9)	169 (5.7)	2,750 (92.7)	1 (0.0)	2,968 (100.0)

Table 13 and the following updated table show the frequency and percent of baby's birthweight by race and ethnicity in mothers living Galveston Island or Bolivar Peninsula. There is no newborn under 1000g in the past six months. The overall percentage between 1000 and 2499g decreased from 9.3% to 8.2% (=0.3+7.9). We shall continue to monitor and report the result to the executive leadership.

**Table 13. Birthweight by race/ethnicity—births to Mothers living on Galveston Island and Bolivar Peninsula, frequency and percent, 2014**

Race /Ethnicity	< 1000g	1000 to 1499g	1500 to 2499g	2500 to 4999	5000+	Total
Hispanic	3 (1.1)	4 (1.5)	19 (7.2)	237 (90.1)	0 (0.0)	263 (100.0)
White	2 (0.8)	3 (1.1)	23 (8.7)	236 (89.4)	0 (0.0)	264 (100.0)
Black	5 (3.4)	1 (0.7)	16 (11.0)	123 (84.2)	1 (0.7)	146 (100.0)
Asian/Other	0 (0.0)	0 (0.0)	9 (19.6)	37 (80.4)	0 (0.0)	46 (100.0)
Total	0 (0.0)	1 (0.0)	67 (9.3)	633 (88.0)	1 (0.1)	719 (100.0)

**Update: Birthweight by race/ethnicity--Neonates born at UTMB, Mother's Residence in Galveston Island or Bolivar Peninsula Zip Code (1/1/2015-6/30/2015)**

Race /Ethnicity	< 1000g	1000 to 1499g	1500 to 2499g	2500 to 4999	5000+	Total
Hispanic	0 (0.0)	0 (0.0)	11 (7.2)	142 (92.8)	0 (0.0)	153 (100.0)
White	0 (0.0)	0 (0.0)	10 (9.7)	93 (90.3)	0 (0.0)	103 (100.0)
Black	0 (0.0)	1 (1.7)	5 (8.5)	53 (89.8)	0 (0.0)	59 (100.0)
Asian/Other	0 (0.0)	0 (0.0)	0 (0.0)	15 (100.0)	0 (0.0)	15 (100.0)
Total	0 (0.0)	1 (0.3)	26 (7.9)	303 (91.8)	0 (0.0)	330 (100.0)

### C) DISPARITIES IN HEALTH: AMBULATORY CARE SENSITIVE CONDITIONS

Ambulatory care sensitive conditions are conditions for which high quality ambulatory care should reduce the need for an in-patient stay. Using recognized criteria, we identified 7 ambulatory care sensitive measures from grand mal-status and other epileptic convulsions to angina. Among seven conditions, heart failure and pulmonary edema accounted for the largest portion for all racial groups. Diabetes is the top second common condition (Table 14 and the following update).

**Table 14. Ambulatory care sensitive conditions among hospital encounters, by race/ethnicity, age < 75 years, 2013**

Race /Ethnicity	Grand mal-status & other epileptic convulsions	Chronic obstructive pulmonary diseases	Asthma	Diabetes	Heart failure & pulmonary edema	Hypertension	Angina	Total
Hispanic	17	6	16	53	41	9	0	142
White	43	84	22	84	135	13	7	388
Black	23	33	32	52	139	32	5	316
Asian/Other	3	1	1	0	4	0	0	9
Total	86	124	71	189	319	54	12	855

**Update:** Ambulatory care sensitive conditions among hospital encounters, by race/ethnicity, age < 75 years (1/1/2014-9/30/2014)

Race/Ethnicity	Grand mal-status and other epileptic convulsions	Chronic obstructive pulmonary diseases	Asthma	Diabetes	Heart failure and pulmonary edema	Hypertension	Angina	Total
Hispanic	11	8	6	27	24	1	0	77
White	26	88	10	63	84	5	2	278
Black	17	18	16	29	88	8	1	177
Asian/Other	1	0	0	0	4	0	0	5
Total	44	114	32	119	200	14	3	537

We further evaluated the ambulatory care sensitive hospitalizations by primary payer status. Comparing Table 15 and its updated table, the percentages have decreased for both Hispanic and black patients. However, it remains 7.5% for white patients. Continuous efforts are suggested to decrease the avoidable hospitalizations caused by ambulatory sensitive conditions.

**Table 15. Ambulatory care sensitive hospitalizations at UTMB by race/ethnicity and primary payer type as a share of deliveries except for neonates and delivery, 2013**

Race /Ethnicity	All	Commercial	Medicaid	Medicare	Self-Pay	State/County Assist	Military/Other
Hispanic	7.2	4.5	6.6	8.8	8.9	8.2	3.8
White	7.5	4.5	8.0	10.6	6.5	6.5	7.0
Black	13.4	12.4	11.1	14.2	16.7	10.9	7.5

**Update:** Ambulatory care sensitive hospitalizations at UTMB by race/Hispanic origin and primary payer type as a share of discharges, except for neonates and delivery (1/1/2014-9/30/2014)

Race /Ethnicity	All	Commercial	Medicaid	Medicare	Self-Pay	State/County Assist	Military/Other
Hispanic	6.0	5.4	8.0	4.2	8.0	11.1	3.6
White	7.5	6.5	7.1	7.4	9.7	7.4	10.1
Black	12.1	7.7	18.1	10.0	15.5	14.3	11.8

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