



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

THE 1ST DISPARITY DOCUMENTATION REPORT

FULFILLING DSRIP PERFORMANCE MEASURE I-11.1

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RACE, ETHNICITY, AND LANGUAGE: THE REAL DATA PROJECT.

The UTMB Center to Eliminate Health Disparities 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, with a goal of improving the equitable delivery of high quality care to all racial and ethnic groups in our diverse patient population.

The project is a work-in-progress. Its earliest steps were the incorporation of data collection systems for identifying race, ethnicity, and language groups in the UTMB patient population. These steps saw the introduction of the Office of Management and Budget standards for capture of race/ethnic category membership in UTMB's electronic health record. Future steps will come with the establishment of a data warehouse for the EHR to examine quality and process disparities and target areas for improvement initiatives. It is our goal to foster the establishment of an ongoing monitoring system identifying REAL disparities in health and healthcare in the UTMB patient population, and encourage an institutional focus on race, ethnic, and language stratifiers as a component of its quality monitoring and improvement initiatives.

This is the first of three annual reports that will be produced by the REAL Data project. DSRIP performance metrics mandate the submission each year of a report that identifies three actionable disparities identified with respect to one disparity stratifier, together with an action plan to address these disparities.

This report focuses on race and ethnic group membership as a potential source of disparity. Data are presented on four racial and ethnic populations in the UTMB patient population: Non-Hispanic Whites, Non-Hispanic Blacks, Hispanics, and Asians and all others.¹ Reports in subsequent years will build on the baseline established here. Future reports will include a more specific drill down to clinical process indicators, and will be expanded to include a focus on other stratifiers of health and healthcare quality.

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
- 3) High rates of ambulatory care sensitive admissions from UTMB's core service area in Galveston Island and Bolivar Peninsula

These disparities are selected for focus for two reasons. First, we believe that each is addressable by focused action on the part of UTMB healthcare providers. Second, they are measures that may have maximum impact on improving population health.

¹ For the remainder of the report, racial group labels mean the non-Hispanic members of those groups. Hispanics are persons identified as Hispanic regardless of their race. The terms "Black" and "African American" are used interchangeably. Some data are provided on Asians and others, including American Indians and those who declined to identify a race. Because of the small size of this group in the UTMB patient population data for this group will be combined, and not reported where small population size limits the reliability of data.

CONTENTS AND ORGANIZATION OF THE REPORT

The report will give a summary overview of race and ethnic groups in the UTMB patient base in order to better understand the context for racial and ethnic disparities in the UTMB patient population. Different racial and ethnic groups use different UTMB services for different reasons, and encounter UTMB in different settings. This summary sets the context to understand these differences.

The report is organized into three sections. The first section presents information about the social demographic characteristics of the racial and ethnic populations from which the UTMB patient population is drawn. It also presents information about UTMB market share for different groups for different health care services and for different areas. The second section describes the characteristics of the racial/ethnic population among UTMB in-patients in 2014. Understanding UTMB's patient population provides the necessary context for interpreting the REAL Data Project team's analysis of health disparities, the focus of third section. The third section summarizes an overview of outcome disparities on four sets of measures including (1) length of stay, (2) core measures, (3) birth weight, and (4) ambulatory care sensitive conditions.²

² The Appendix contains details on collecting race and ethnicity data in the UTMB EHR.

SECTION 1: THE UTMB PATIENT POPULATION IN CONTEXT

A) MARKET SHARE BY AREA AND RACE/ETHNICITY.

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.

Selection in and out of the community population into the UTMB patient population is particularly important to understand 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 Texas Health Care Information Collection (THCIC) provides a cross-sectional snapshot of the relationship of the community population to the patient population at UTMB. The THCIC is a mandatory hospital discharge reporting system for most Texas hospitals. Data are reported by Zip code of the patient. The last full year of data reported is for calendar year 2013.³

Table 1 reports the market share for in-patient discharges for 2013 for UTMB's core market area of Galveston Island/Bolivar Peninsula, as well as Galveston Island as a whole, by race and ethnicity. UTMB accounted for 75% of all reported admissions for the zip codes that together make up Galveston Island and the Bolivar Peninsula. UTMB's overall share of admissions from Galveston County in the THCIC database in 2013 was 24 percent. This figure includes admissions from the Island and Bolivar.

Table 1. UTMB Market Share for In-patient Services, Galveston Island/Bolivar Peninsula and Galveston County, 2013

Race/Ethnicity	Galveston Island and Bolivar Peninsula (Zip codes 77550,77551, 77554, 77650)			Galveston County (including Island and Bolivar Peninsula)		
	All other	Deliveries and Newborns	Total	All other	Deliveries and Newborns	Total
Hispanic	77	95	84	33	52	40
White	70	77	71	18	18	18
Black	76	94	80	31	46	34
Asian/Other	59	90	65	21	29	22
Total	72	88	75	22	32	24

³ Data for correctional health care is excluded from calculations, because it is not within the scope of this report. The THCIC reporting has some exclusions and limitations: federal and certain rural hospitals are excluded, some location data are suppressed to maintain patient and provider confidentiality. These exclusions should have small impact on reporting in UTMBs primary market area.

For this analysis as well as all analyses of racial and ethnic groups in the UTMB patient population, it is important to stratify analysis by whether the in-patient admission was for a delivering mother or a neonate, or for some other service. UTMB's market share for deliveries was generally much higher than for its other inpatient services. UTMB's share of in-patient admissions for delivery from the Island/Peninsula was 88 percent. This share was 72 percent for other admissions.

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 services for Whites and Asians/Others compared to African Americans and Hispanics. The market share for Whites was approximately 10 percent lower than these other groups.

The obverse view of the location data is also important. Table 2 and Figures 1 and 2 show the places of residence of the UTMB patient population by race and ethnicity. For both Whites and Blacks, the Island/Bolivar accounted for about a third of all inpatients. For both groups, a small plurality of patients came from outside Galveston County. For Hispanics and Asians, approximately two-thirds of admissions were from outside the County.

Table 2. Residence of UTMB patients by race/ethnicity, 2014

Race/Ethnicity	Island/Bolivar	Remainder of Galveston County	Outside Galveston County
Hispanic	13.8	16.9	69.3
White	32.1	27.6	40.3
Black	35.0	28.4	36.7
Asian/Other	22.0	18.0	60.0
Total	24.7	23.0	52.4

These spatial patterns are substantially a consequence of differential patterns of patient recruitment in deliveries compared to other services, and the differential rates of use of these services by different racial populations.

The reasons for these differences in distributions can be seen by mapping the distribution of the three principal race and ethnicity groups to zip codes, comparing discharges for pregnancy/delivery and neonates to all other inpatient discharges. UTMB delivery/neonatal discharges are distributed throughout the region, with a predominantly Hispanic patient base. Deliveries for White and Black mothers are overwhelmingly concentrated among residents of Galveston Island, with a secondary concentration in the Texas City, Dickinson, and League City areas. In-patient admissions for other reasons are overwhelmingly located in Galveston County, with a secondary concentration in Brazoria County.

Figure 1. Delivery/neonatal discharges by race/ethnicity of mother and Zip code.

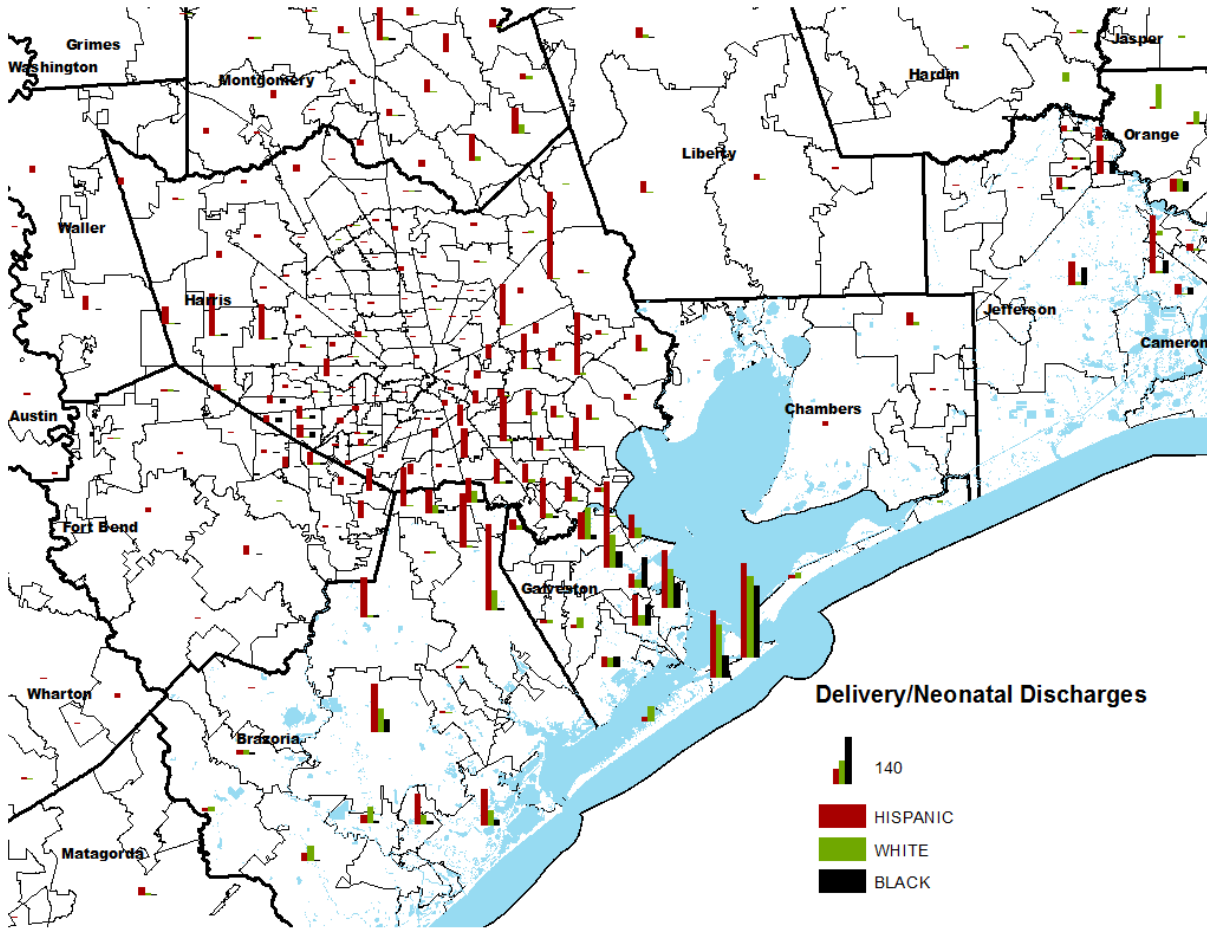
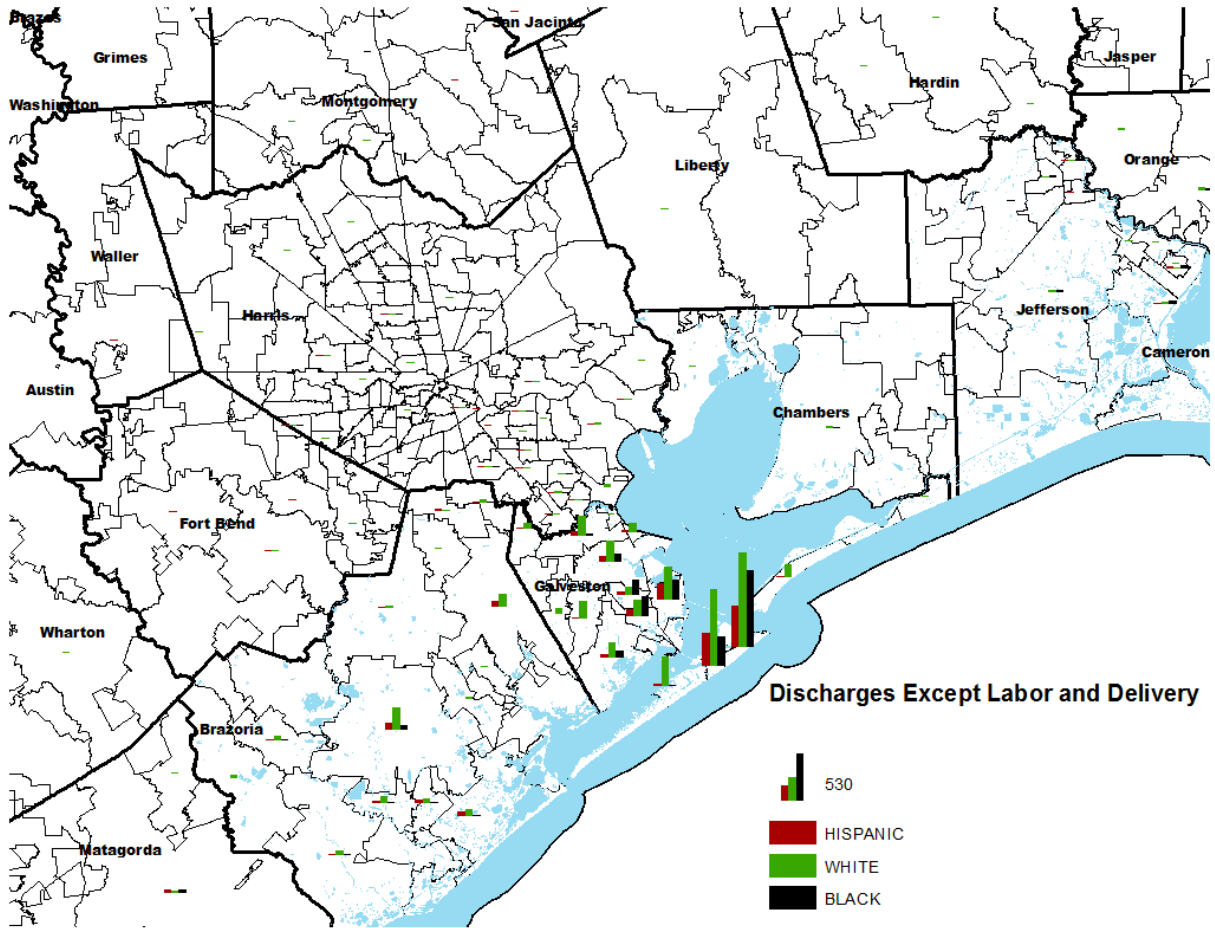


Figure 2. All other discharges (not delivery\neonatal) by race/ethnicity and zip code



In summary, the following points about the origins of racial/ethnic populations in the UTMB in-patient base bear on understanding of disparities in the patient population.

- Galveston Island/Bolivar Peninsula are the only areas where UTMB accounts for a majority of in-patient hospitalizations
- Galveston's market share is smaller for Whites and Asians/Others
- A small majority of UTMB in-patients come from outside Galveston County
- This is driven by deliveries through its Regional Maternal Health Child Health Program
- A large majority of the Hispanic in-patient admissions to UTMB are deliveries to persons who live outside Galveston County
- Trends in the racial and ethnic composition, socio-demographic characteristics, diagnoses, and quality of care for UTMB patients will likely reflect differential growth rates in different markets, particularly through the expansion of services on the Galveston mainland

B) COMPOSITION AND CHARACTERISTICS OF RACIAL/ETHNIC POPULATIONS IN GALVESTON ISLAND/BOLIVAR AND GALVESTON COUNTY.

Racial and ethnic populations in the UTMB market live in significantly different economic circumstances. Table 3 reports three selected measures for populations in Galveston County and in the core market area on Galveston Island and Bolivar Peninsula: The percentage of persons living in households with income under the federal poverty level by the census definition, the percent reporting no current health insurance coverage at the time of the survey, and the percent of adults without a high school diploma.

Poverty rates in the county vary from 8.2 percent for Whites to 22.5 percent for Blacks. Poverty rates are substantially higher on Galveston Island, and are highest for Blacks at 42 percent.

Rates of non-availability of health insurance were reported before most of the provisions of the Affordable Care Act were implemented and thus do not exactly represent current conditions. Hispanics reported the highest rates on no insurance coverage at 30 percent in the county and 35 percent on the Island.

Very high percentages of Hispanic adults reported no high school diploma: 42 percent on the Island and 33 percent in the County as a whole. These numbers reflect especially low rates of formal schooling in the foreign-born component of the area's population.

Table 3. Socio-economic measures by race, Galveston County and Galveston Island/Bolivar

Racial / Ethnic Group	Galveston County			Galveston Island and Bolivar Peninsula		
	Percent Persons in Poor Households	Percent of Persons with no Health Insurance	Percent Adults 25+ no High School Diploma	Percent Persons in Poor Households	Percent of Persons with no Health Insurance	Percent Adults 25+ no High School Diploma
Hispanic	19.4	30.4	33.2	24.2	35.1	41.8
White	8.2	12.9	6.5	15.0	17.5	7.8
Black	22.5	20.9	15.3	42.3	24.5	23.6
Asian/Other	13.5	14.9	10.7	16.9	12.5	10.6
All Groups	13.2	18.1	12.9	22.5	23.7	18.9

Source: 2009-2013 American Community Survey 5-year average summary file

Language is an important area of concern for disparities in health care quality for persons who do not speak the same language as their health care provider. The UTMB Health system serves a market area with a large representation of persons for whom English is not the language used in daily life at home. Many of these do not speak English very well.

A majority of Asians and Hispanics living in Galveston County and Galveston Island/Bolivar Peninsula speak a language other than English at home. These totals include a small majority of Hispanic persons who were born in the United States, and substantial minorities of U.S.-born Asians. Approximately one-quarter of the Hispanic population of city and county report that they do not speak English very well.

We are deferring more explicit attention to language as a mediator and stratifier of health care disparities to subsequent reports. Discussion with representatives of Translation Services reveals that UTMB personnel are aware that current data collection in the hospital's EHR may under-represent the need for these services insofar as translation services are informally supplied by family members or by staff that are not certified as medical translators. Current efforts are underway to improve the use of certified translators and to more completely capture patient needs for translation services in the EHR in order to increase timely delivery of high quality services. These data suggest that these services are critical given the high prevalence of monolingual Hispanics in the UTMB service area, both on the Island and the Mainland Galveston County.

Table 4. Language spoken at home and ability to speak English for Asians and Hispanics

Racial / Ethnic Group	Galveston County			Galveston Island & Bolivar Peninsula		
	Number	Percent speak a language other than English at home	Percent do not speak English very well	Number	Percent speak a language other than English at home	Percent do not speak English very well
Asian						
Born in U.S.	3,323	45.5	7.9	1,926	28.1	7.7
Born Abroad	7,497	91.3	40.7	1,384	89.7	27.4
Total	10,820	77.0	30.5	3,310	53.9	15.9
Hispanic						
Born in U.S.	44,340	50.3	7.1	9,380	59.4	6.1
Born Abroad	16,820	95.5	65.4	4,401	88.6	65.9
Total	61,160	62.7	23.2	13,781	71.9	25.2

SECTION 2) CHARACTERISTICS OF THE UTMB PATIENT POPULATION BY RACE/ETHNICITY

A) AGE AND GENDER

The age at which UTMB Health patients of different race and ethnic groups are admitted as in-patients is very different. These differences reflect several interrelated factors: the different age structures of the different populations, the different reason for admission, and differences in rate of admission for diagnoses and procedures. In particular, pregnancy and childbirth are primary reasons for admissions for Hispanics and Asians and Others, driving high admissions of neonates and their mothers.

Table 5. Age at admission for in-patient encounters for race/Hispanic origin groups

Age	Women					Men				
	Hispanic	White	Black	Asian/ Other	Total	Hispanic	White	Black	Asian/ Other	Total
< 1 year	1,859	582	353	76	2,870	1,927	626	352	104	3,009
1 to 17	216	145	85	9	455	116	125	81	5	327
18 to 29	2,634	1,076	617	109	4,436	111	202	73	11	397
30 to 39	1,433	587	384	93	2,497	120	240	121	13	494
40 to 64	554	1,373	707	62	2,696	536	1,491	691	44	2,762
>= 65	310	1,311	477	42	2,140	246	1,191	308	32	1,777
Unknown	4	5	1	1	11	1	1	1	0	3
Total	7,010	5,079	2,624	392	15,105	3,057	3,876	1,627	209	8,769
< 1 year	26.5	11.5	13.5	19.4	19.0	63.0	16.2	21.6	49.8	34.3
1 to 17	3.1	2.9	3.2	2.3	3.0	3.8	3.2	5.0	2.4	3.7
18 to 29	37.6	21.2	23.5	27.8	29.4	3.6	5.2	4.5	5.3	4.5
30 to 39	20.4	11.6	14.6	23.7	16.5	3.9	6.2	7.4	6.2	5.6
40 to 64	7.9	27.0	26.9	15.8	17.8	17.5	38.5	42.5	21.1	31.5
>= 65	4.4	25.8	18.2	10.7	14.2	8.0	30.7	18.9	15.3	20.3
Unknown	0.1	0.1	0.0	0.3	0.1	0.0	0.0	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

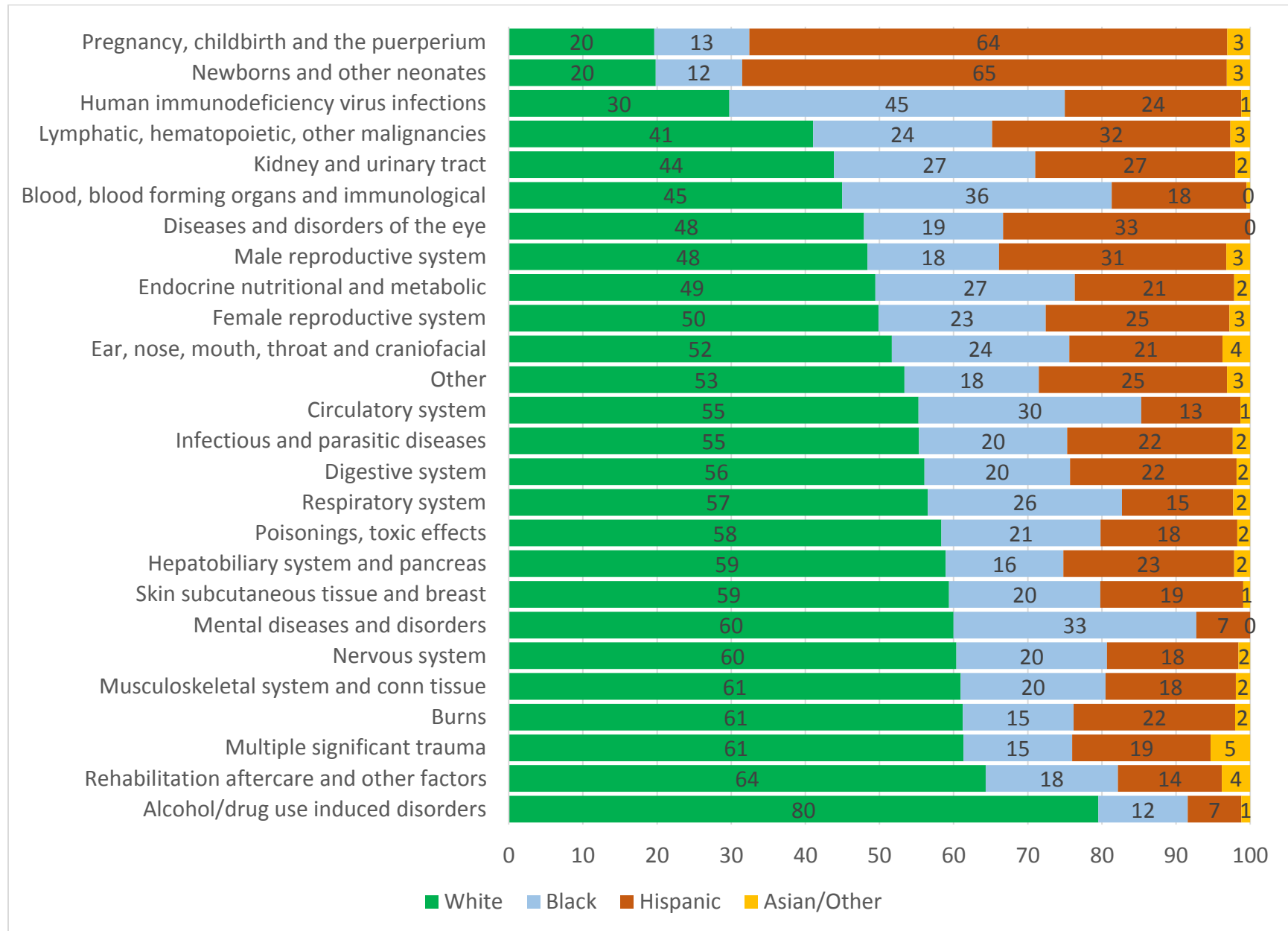
B) MAJOR DIAGNOSTIC CATEGORIES BY RACE AND ETHNICITY

The reason for hospitalization varies sharply across groups. Figures 3 and 4 show the distribution of share of discharges of each racial/ethnic group for each major diagnostic group. Figure 3 and 4 show the same data. However, Figure 3 scales the report to 100 percent for each diagnostic category, while Figure 4 scales each bar to the number of discharges in that diagnostic group.

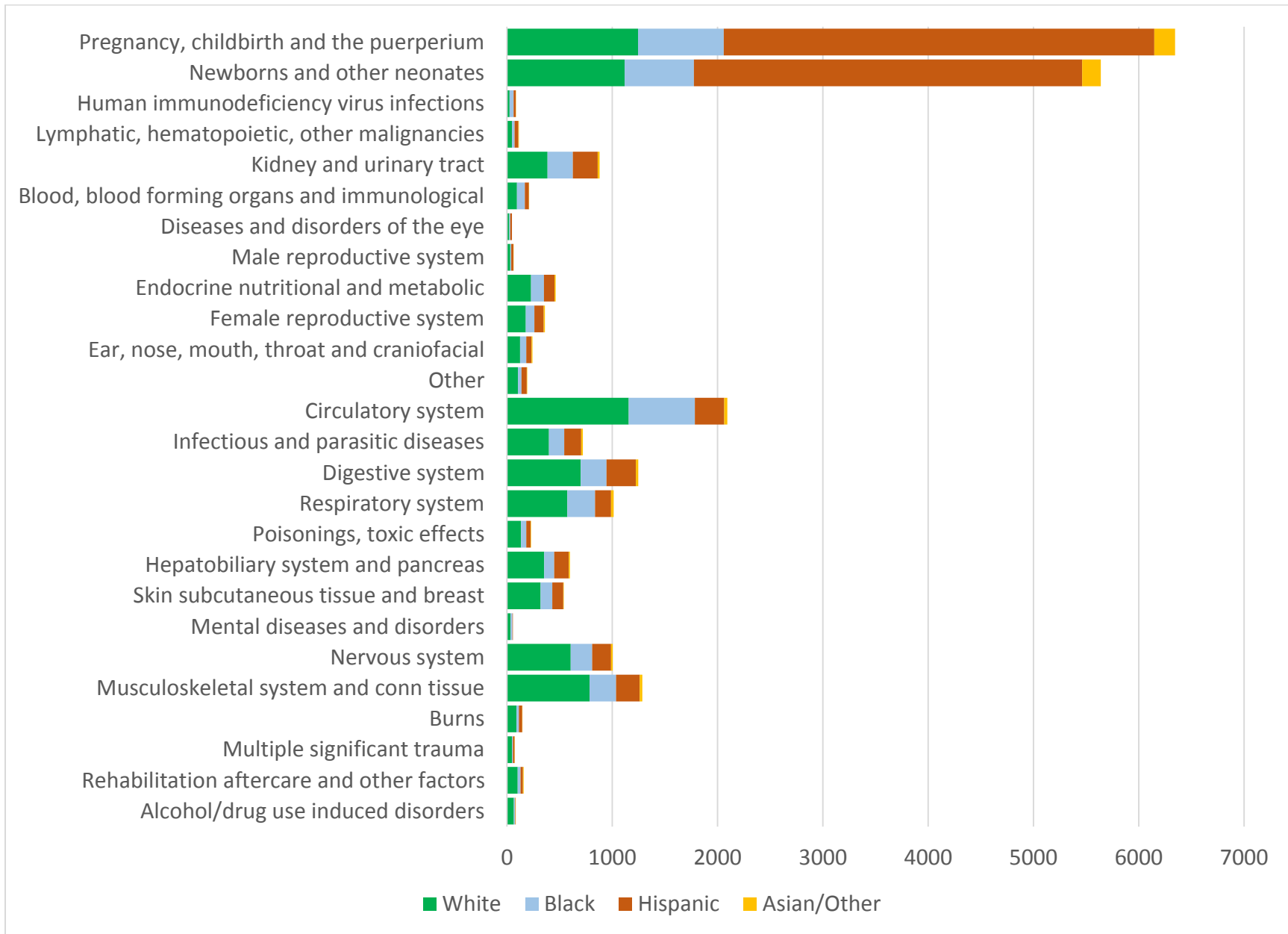
Hispanics account for two-thirds of delivery/neonatal discharges. Whites account for one-fifth of births, and African Americans for 12 percent. These discharges account together for half of discharges in CY 2014. Of the remaining diagnostic categories, 5 together account for 56 percent of the remaining discharges: diseases of the circulatory, musculoskeletal, digestive, respiratory, and nervous systems. Non-Hispanic Whites have a similar share of discharges for each diagnosis category. This share ranges from 55 percent of all discharges for circulatory diagnoses, to 61 percent for musculoskeletal diagnoses.

The share of diagnoses is more variable for African Americans and Hispanics. African Americans are over-represented with respect to circulatory (30%) and respiratory (26%) diagnoses. Hispanics are comparatively over-represented with digestive diagnoses.

Figures 3 and 4 Distribution of share of discharges of each racial/ethnic group for each major diagnostic group



Figures 3 and 4 Distribution of share of discharges of each racial/ethnic group for each major diagnostic group



C) AGE SPECIFIC RATES OF IN-PATIENT DISCHARGES TO UTMB, GALVESTON ISLAND AND BOLIVAR PENINSULA

Table 6 reports approximate age-specific rates of UTMB discharges other than delivery\neonatal for patients living in an Island/Bolivar Zip code area. The 2010 census denominator data from are slightly dated relative to the discharge counts from 2014. Age specific population estimates of the area are not available after the 2010 census, but overall census estimates reflect relative small net population change in this four year period. Population aging in this period probably means that the rates are slightly overstated for the 65+ population.

Comparisons of rates between different racial groups reflect admissions to UTMB alone, and therefore do not reflect population based rates of hospitalizations.

Table 6. UTMB Discharges for Resident of Galveston Island and Bolivar Peninsula 2014 compared to 2010 Census Populations by age and race/ethnicity

Race/ Ethnicity	Age	Population in 2010	UTMB		Discharges per 1,000	
			Medical	Surgical	Medical	Surgical
Hispanic	0 to 17	4,402	77	15	17.5	3.4
	18 to 39	5,427	115	35	21.2	6.4
	40 to 64	4,335	241	91	55.6	21.0
	65+	1,186	232	63	195.6	53.1
White	0 to 17	2,688	51	8	19.0	3.0
	18 to 39	6,846	180	33	26.3	4.8
	40 to 64	10,600	725	238	68.4	22.5
	65+	4,587	891	268	194.2	58.4
Black	0 to 17	2,207	51	8	23.1	3.6
	18 to 39	2,594	94	21	36.2	8.1
	40 to 64	3,070	452	123	147.2	40.1
	65+	1,310	358	89	273.3	67.9

Excludes Major Diagnostic Categories 14 and 15—pregnancy, delivery and neonatal

D) PRIMARY PAYER

The primary payer for healthcare varies sharply by race and ethnicity. The primary payer was Medicaid for 76% of in-patient encounters of Hispanics, 28% of encounters of non-Hispanic Whites, and 43% of encounters of non-Hispanic Blacks (Table 7).

Table 7. Primary Payer by Race/Ethnic Group

Primary Payer	Hispanic	White	Black	Asian/Other	Total
Number of encounters					
Commercial/Private	738	2,003	548	156	3,445
Medicaid	7,652	2,491	1,817	293	12,253
Medicare	778	3,022	1,357	72	5,229
Self-pay	740	1,082	419	63	2,304
State/County	86	170	66	10	332
Military/Other	73	191	44	7	315
Total	10,067	8,959	4,251	601	23,878
Percent of Group					
Commercial/Private	7.3	22.4	12.9	26.0	14.4
Medicaid	76.0	27.8	42.7	48.8	51.3
Medicare	7.7	33.7	31.9	12.0	21.9
Self-pay	7.4	12.1	9.9	10.5	9.6
State/County	0.9	1.9	1.6	1.7	1.4
Military/Other	0.7	2.1	1.0	1.2	1.3
Total	100.0	100.0	100.0	100.0	100.0

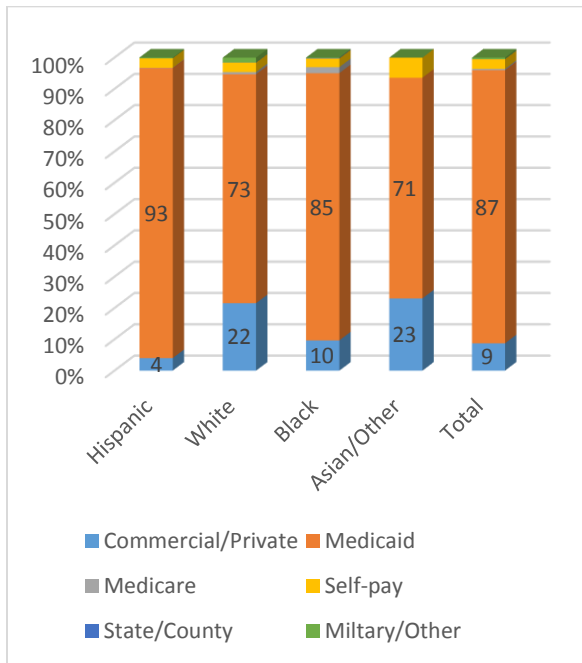
These large differences were substantially accounted for by differences in age and eligibility given the services supplied, and racial/ethnic differences were much narrower once these were accounted for.

The most important distinction is that the primary payer for hospital in-patient stays for delivery was Medicaid for all racial/ethnic groups. Medicaid was the primary payer for 87% of all encounters for Major Diagnostic Categories 14 and 15. This share varied from 93% for Hispanics to 71% for Asians and others.

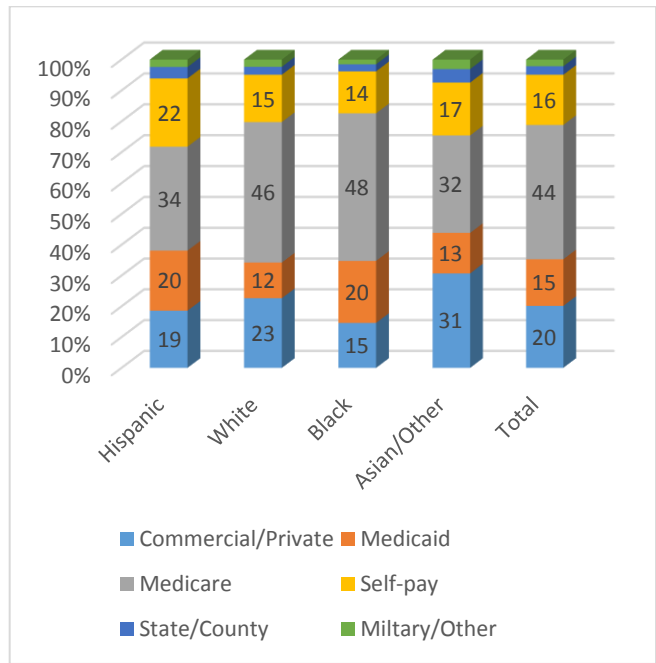
For all other hospitalizations, group differences in payer were narrower. Hispanics were disproportionately reliant on Medicaid and self-pay across many DRGs.

Figure 5. Primary payer for pregnancy/new-born hospitalizations and all other hospitalizations by race/ethnicity

In-patient admission for deliveries/newborns



All other In-patient admissions



SECTION 3: OVERVIEW OF OUTCOME DISPARITIES

A) LENGTH OF STAY

Length of stay is an important metric for hospital performance in many ways. Hospital length of stay reflects a large number of influences, including differences in severity and comorbidities at presentation, the quality of health care processes that influence care, and the availability of a suitable discharge destination.

Table 8 compares length of stay from White, Black, and Hispanic patients for each APR-DRG with at least 100 discharges in calendar year 2014. The right hand columns presented data adjusted using the current Length of Stay adjustment weight supplied by the University Health System Consortium. The table identifies excess length of stay for African Americans for coronary angioplasty, and for Hispanics with an APR-DRG for peptic ulcer\gastritis.

Table 8. Mean and APR risk-adjusted mean length of stay by race/ethnicity

APRDR G	Description	Mean Length of Stay			Mean Adjusted LOS		
		Hispani c	Whit e	Blac k	Hispani c	Whit e	Blac k
45	CVA & PRECEREBRAL OCCLUSION W INFARCT	4.5	4.6	4.4	4.2	4.1	4.1
53	SEIZURE	3.1	3.9	2.9	4.8	5.4	4.9
139	OTHER PNEUMONIA	4.0	3.6	4.1	5.5	4.8	4.5
140	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	2.4	3.5	3.4	3.5	4.5	4.7
173	OTHER VASCULAR PROCEDURES	8.2	6.1	6.2	2.5	2.4	2.1
174	PERCUTANEOUS CARDIOVASCULAR PROCEDURES W AMI	4.9	3.7	6.4	2.0	1.6	2.2
175	PERCUTANEOUS CARDIOVASCULAR PROCEDURES W/O AMI	3.9	4.1	5.7	1.8	1.7	2.4
190	ACUTE MYOCARDIAL INFARCTION	4.1	5.3	3.9	3.1	4.2	3.4
191	CARDIAC CATHETERIZATION W CIRC DISORD EXC ISCHEMIC HEART DISEASE	7.4	6.3	5.9	4.2	3.9	3.3
192	CARDIAC CATHETERIZATION FOR ISCHEMIC HEART DISEASE	3.4	3.3	3.5	3.1	3.2	3.1
194	HEART FAILURE	4.1	4.4	4.7	4.8	5.1	5.1
201	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS	3.5	3.2	3.5	5.4	5.0	4.9
221	MAJOR SMALL & LARGE BOWEL PROCEDURES	7.2	8.5	5.9	3.3	3.8	3.1
241	PEPTIC ULCER & GASTRITIS	5.4	3.4	3.2	6.0	3.6	4.2
249	NON-BACTERIAL GASTROENTERITIS, NAUSEA & VOMITING	3.3	3.3	3.0	7.9	6.2	5.4
254	OTHER DIGESTIVE SYSTEM DIAGNOSES	3.7	3.7	2.8	4.9	5.1	3.9
282	DISORDERS OF PANCREAS EXCEPT MALIGNANCY	3.7	4.5	3.3	4.6	5.1	3.9

301	HIP JOINT REPLACEMENT	4.4	4.7	5.2	2.7	2.7	3.1
302	KNEE JOINT REPLACEMENT	3.9	3.9	3.9	2.2	2.3	2.4
308	HIP & FEMUR PROCEDURES FOR TRAUMA EXCEPT JOINT REPLACEMENT	7.1	6.2	6.4	3.9	3.6	3.8
383	CELLULITIS & OTHER BACTERIAL SKIN INFECTIONS	3.2	3.2	3.2	5.7	5.6	5.5
420	DIABETES	2.5	3.0	3.1	4.3	4.9	4.9
460	RENAL FAILURE	4.8	4.3	4.2	5.8	4.9	4.7
463	KIDNEY & URINARY TRACT INFECTIONS	3.4	3.6	2.9	5.6	5.5	4.6
466	MALFUNCTION, REACTION, COMPLIC OF GENITOURINARY DEVICE OR PROC	4.1	5.4	5.4	4.4	4.9	5.1
513	UTERINE & ADNEXA PROCEDURES FOR NON-MALIGNANCY EXCEPT LEIOMYOMA	2.1	1.8	2.7	2.5	2.1	2.8
720	SEPTICEMIA & DISSEMINATED INFECTIONS	6.3	7.7	8.2	4.3	4.3	4.7
721	POST-OPERATIVE, POST-TRAUMATIC, OTHER DEVICE INFECTIONS	7.7	4.7	5.8	5.1	5.0	4.6
861	SIGNS, SYMPTOMS & OTHER FACTORS INFLUENCING HEALTH STATUS	3.2	4.0	4.0	6.4	9.0	7.0

p < .05, Longer stay than Whites

P < .05, Shorter stay than whites

B) DISPARITIES IN CARE: CORE MEASURES

Core Measures are indicators used by health care systems to monitor the quality of care they provide. They are derived from multiple sources, including information captured in the electronic medical record and information incorporated in records for billing and administration. The Joint Commission mandates the collection, reporting, and publication of Core Measures across a number of domains of care. The increasing emphasis on “pay-for-performance” as a component of re-imbursements by the Center for Medicare and Medicaid Services and other funders of health care is likely to see increased emphasis on Core Measures and similar clinical quality indicators as a tool for monitoring quality and targeting quality improvement efforts.

For this report, we linked Core Measures to encounter data by the race and ethnicity of the patient in order to evaluate areas of care disparities. Data cover the period from July 1, 2013 to June 30, 2014. Table 9 summarizes the targets not met by group, while Table 10 reports the full set of results. In Table 10 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. Note that for a number of measures, the Hispanic patient population at risk was small and the calculated rate of target achievement unreliable.

Table 9 Core Measures—Targets not met by group, summary

All Groups	VTE-3 Patients with Anticoagulation Overlap Therapy
	VTE-5 VTE Discharge Instructions
	STK-8 Stroke Education
	PC-05 Exclusive Breast Milk Feeding
	PC-05a Exclusive Breast Milk Feeding Considering Mother’s Choice
	IMM-1a Pneumococcal Immunization – Overall
	IMM-1b Pneumococcal Immunization – Age 65+
	IMM-1c Pneumococcal Immunization-High Risk Age 6-64
	IMM-2 Influenza Immunization (Target just met-Hispanics)
Hispanic	SCIP-Inf-1b CABG
Black	SCIP-Inf-1d Hip arthroplasty
	SCIP-Inf-4 Cardiac --6 AM postop serum glucose control
	STK-5 Antithrombotic Therapy--Day 2
White	PN-3b Pneumonia Blood cultures in the ED prior to antibiotic (Metric withdrawn)
	CAC-1a Relievers for Pediatric in-patient Asthma, Ages 2-17 Overall Rate
	CAC-2a Systematic Corticosteroids for Pediatric In-patient Asthma Ages 2-17 - Overall Rate

Overall, there does not appear to be a pattern of systematic racial/ethnic disparity on the Core Measures. In most cases, measures that were not met for one group were not met for all, including each of the Immunization measures in this period.

Though the numbers of children at risk were small, there appeared to be systematic patterns of non-adherence for care of non-Hispanic White pediatric in-patients.

Targets were not met for three of the Infection control measures for non-White populations.

There are two apparent disparities that raise particular concern. One of these pertains to the measure VTE 5, Discharge Instructions for Venous Thrombosis, and measure STK-8, Stroke Education. Both pertain to communication of specific discharge instructions or educational materials that have been shown to influence readmissions and the quality of subsequent outcomes. In both cases, the target rate of sharing this information was not met for any case. But we note additionally that the rate of sharing this information was particularly poor for African American and Hispanic patients. Equitable sharing of information for all groups is a hypothesized area of concern for process disparities in health care, given potential cultural misunderstanding, potential language barriers, and lack of trust.

The second disparity of particular concern pertains to PC-05 and PC-05a. These measures pertained to the rate of exclusive breast milk feeding. Again, UTMB failed to meet the measure for all groups. However, the differences between the performance on this measure between Whites compared to African Americans and Hispanics was substantial and concerning—the performance rate was essentially double for Whites. This measure may reflect in part substantial differences in cultural preferences of mothers in different groups. Nonetheless, the ability to communicate health information across cultural boundaries and to address differences of viewpoint is an important focus of concern about equity in health care. In this case, the concern is magnified because delivery services, targeted primarily to Hispanic women, is UTMB's largest product line.

Table 10. Core Measure Performance, July 1 2013 – June 30, 2014

Indicator Name	At risk	All	Hispanic	White	Black
AMI Acute Myocardial Infarction					
AMI-1 Aspirin at arrival	214	100	100	100	100
AMI-2 Aspirin prescribed at discharge	194	99	100	99	100
AMI-3 ACEI or ARB for LVSD	39	95	100	90	100
AMI-8a PCI received within 90 mins of arrival	25	100	100	100	100
AMI-10 Statin Prescribed at Discharge	192	99	100	99	100
HF Heart Failure					
HF-1 Discharge instructions	120	100	100	100	100
HF-2 Evaluation of LVS function	268	100	100	100	100
HF-3 ACEI or ARB for LVSD	105	98	100	98	98

Indicator Name	At risk	All	Hispanic	White	Black
PN Pneumonia					
PN-3a Blood culture within 24 hrs of arrival at ICU	20	100	100	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
PN-6a Antibiotic selection for CAP--ICU patient	7	86		100	50
PN-6b Antibiotic selection for CAP--non-ICU patient	31	97	67	100	100
SCIP Surgical Care Improvement Project					
SCIP-Card-2 At risk--Beta Blocker Perioperative	131	98	100	97	100
SCIP-Inf-1 Infection Prevention					
SCIP-Inf-1a Overall	248	99	97	100	96
SCIP-Inf-1b CABG	43	98	86	100	100
SCIP-Inf-1c Other cardiac surgery	13	100	100	100	100
SCIP-Inf-1d Hip arthroplasty	40	95	100	100	80
SCIP-Inf-1e Knee arthroplasty	54	100	100	100	100
SCIP-Inf-1f Colon surgery	30	100	100	100	100
SCIP-Inf-1g Hysterectomy	55	100	100	100	100
SCIP-Inf-1h Vascular surgery	13	100	100	100	100
SCIP-Inf-2 Antibiotic Selection					
SCIP-Inf-2a - Overall	247	100	100	99	100
SCIP-Inf-2b CABG	42	100	100	100	100
SCIP-Inf-2c Other cardiac surgery	13	100	100	100	100
SCIP-Inf-2d Hip arthroplasty	40	100	100	100	100
SCIP-Inf-2e Knee arthroplasty	54	100	100	100	100
SCIP-Inf-2f Colon surgery	30	100	100	100	100
SCIP-Inf-2g Hysterectomy	55	98	100	97	100
SCIP-Inf-2h Vascular surgery	13	100	100	100	100
SCIP-Inf-3 Antibiotics Discontinued--24/48 Hours					
SCIP-Inf-3a Overall	244	98	100	99	96

Indicator Name	At risk	All	Hispanic	White	Black
SCIP-Inf-3b CABG	42	100	100	100	100
SCIP-Inf-3c Other cardiac surgery	13	100	100	100	100
SCIP-Inf-3d Hip arthroplasty	40	98	100	96	100
SCIP-Inf-3e Knee arthroplasty	52	96	100	97	89
SCIP-Inf-3f Colon surgery	30	100	100	100	100
SCIP-Inf-3g Hysterectomy	55	100	100	100	100
SCIP-Inf-3h Vascular surgery	12	92	100	100	75
SCIP-Inf-4 Cardiac --6 AM postop serum glucose control	59	97	100	97	90
SCIP-Inf-6 Surgery--appropriate hair removal	346	100	100	100	100
SCIP-Inf-9 Urinary catheter removed-postop day 1/2	202	99	97	98	100
SCIP-VTE-2 VTE Prophylaxis 24 hrs Pre/Post	216	99	100	98	100
CAC Pediatric In-patient Asthma Care					
CAC-1 Relievers for In-patient Asthma					
CAC-1a Ages 2-17 Overall Rate	32	97	100	90	100
CAC-1b Ages 2-4	11	100	100	100	100
CAC-1c Ages 5-12	18	94	100	80	100
CAC-1d Ages 13-17	3	100	100		100
CAC-2a Systemic Corticosteroids--In-patient Asthma					
CAC-2a Ages 2-17 - Overall Rate	32	97	100	90	100
CAC-2b Ages 2-4	11	100	100	100	100
CAC-2c Ages 5-12	18	94	100	80	100
CAC-2d Ages 13-17	3	100	100		100
CAC-3 Home Management Plan of Care (HMPC)					
CAC-3 HMPC Document Given to Patient/Caregiver	32	91	100	80	92
VTE Venous Thromboembolism Prophylaxis					
VTE-1 Overall	386	97	95	97	96
VTE-2 ICU	135	96	95	95	96

Indicator Name	At risk	All	Hispanic	White	Black
VTE-3 Patients with Anticoagulation Overlap Therapy	98	87	89	90	76
VTE-4 Patients Receiving UFH Therapy w/Monitoring	102	100	100	100	100
VTE-5 VTE Discharge Instructions	71	65	60	69	59
STK Stroke					
STK-1 Venous Thromboembolism (VTE) Prophylaxis	130	98	95	100	97
STK-2 Discharged on Antithrombotic Therapy	105	99	100	100	96
STK-3 Anticoagulation Therapy for Atrial Fibril/Flutter	6	100		100	
STK-4 Thrombolytic Therapy	18	89	100	83	100
STK-5 Antithrombotic Therapy--Day 2	84	96	100	98	90
STK-6 Discharged on Statin Medication	75	99	100	98	100
STK-8 Stroke Education	68	81	62	88	73
STK-10 Assessed for Rehabilitation	121	98	95	100	96
PC Perinatal Care Conditions					
PC-01 Elective Delivery	98	13	12	18	14
PC-02 Cesarean Section	251	22	20	32	22
PC-03 Antenatal Steroids	13	92	80	100	100
PC-05 Exclusive Breast Milk Feeding (EBMF)	401	15	12	34	11
PC-05a EBMF Considering Mothers Choice	278	22	18	41	20
IMM Immunization					
IMM-1a Pneumococcal Imm. - Overall	294	84	81	84	87
IMM-1b Pneumococcal Imm. - Age 65+	173	92	86	93	94
IMM-1c Pneumococcal Imm.- High Risk Age 6 -64	121	74	79	68	76
IMM-2 Influenza Immunization	377	89	90	87	90

Color-coded target indicator:

Meets Target	Does Not Meet Target	No Target Established	< 6 Cases
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C) BIRTHWEIGHT

UTMB is a major supplier of pregnancy and delivery services in and beyond the Houston region through its Regional Maternal and Child Health Program. Because of this importance, disparities in neonatal outcomes, including low birthweight, are of particular importance.

There are sharp ethnic differences in the percentages of low birthweight among neonates born at UTMB. African Americans have elevated shares of low birthweight births (17.8%) compared to other groups as well as national norms.

Ethnic differences in birth weight reflect compositional differences in risks for low birthweight. Well established risks include very young (<18 years) or older (>35 years) age of the mother, low education, U.S. vs foreign birth, primiparous or multiparous vs intermediate parity, and Asian origin of mother.

Tables 11 and 12 stratify birthweight by race/ethnicity.

Table 11. Birthweight by race/ethnicity—all neonates born at UTMB

	< 1000g	1000 to 1499g	1500 to 2000g	2500 to 4999	4999+	Total
Hispanic	22	29	209	3,423	4	3,687
White	11	22	83	998	3	1,117
Black	27	17	71	541	2	658
Asian/Other	3	0	24	150	0	177
Total	63	68	387	5,112	9	5,639
Hispanic	0.6	0.8	5.7	92.8	0.1	100.0
White	1.0	2.0	7.4	89.3	0.3	100.0
Black	4.1	2.6	10.8	82.2	0.3	100.0
Asian/Other	1.7	0.0	13.6	84.7	0.0	100.0
Total	1.1	1.2	6.9	90.7	0.2	100.0

Table 12. Birthweight by race/ethnicity—births to Mothers living on Galveston Island and Bolivar Peninsula

	< 1000g	1000 to 1499g	1500 to 2000g	2500 to 4999	4999+	Total
Hispanic	3	4	2	18	237	0
White	2	3	10	13	237	0
Black	5	1	5	11	124	1
Asian/Other	0	0	1	8	37	0
Total	10	8	18	50	635	1
Hispanic	1.1	1.5	0.8	6.8	89.8	0.0
White	0.8	1.1	3.8	4.9	89.4	0.0
Black	3.4	0.7	3.4	7.5	84.4	0.7
Asian/Other	0.0	0.0	2.2	17.4	80.4	0.0
Total	1.4	1.1	2.5	6.9	88.0	0.1

D) AMBULATORY CARE SENSITIVE CONDITIONS

Ambulatory care sensitive conditions have been identified as a marker of the quality of ambulatory care in a community. These are conditions for which high quality ambulatory care should reduce the need for an in-patient stay. Using recognized criteria^a, we identified 7 ambulatory care sensitive measures.

Table 13. Ambulatory care sensitive conditions among hospital encounters, by race/ethnicity, age < 75 years

Race/Ethnicity	Grand mal status and other epileptic convulsions	Chronic obstructive pulmonary diseases	Asthma	Diabetes	Heart failure and pulmonary edema	Hypertension	Angina	Total
Hispanic	17	6	16	53	41	9	0	142
White	43	84	22	84	135	13	7	38138
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

Ambulatory care sensitive conditions are most typically presented as population based measures. Because UTMB is not the only hospital serving its market area, these measures will understate the total and rate of hospitalizations in the area population. Comparison of rates between areas is not warranted in these data because UTMB Health’s market penetration varies by area. As we have seen, UTMB accounts for three-quarters of hospitalizations in the Island/Peninsula area, and just one-quarter of hospitalizations in the county, so the data in Table 13 do not necessarily imply markedly higher population-based rates in the coastal area.

Table 14. UTMB Health System Ambulatory Care Sensitive Hospitalizations compared to County and Island/Peninsula Population

Group	Location	Population 2010	Ambulatory Care Sensitive Hospitalization	Rate per 100,000
Hispanic	Galveston County	63,751	97	152
	Galveston Island & Bolivar Peninsula	14,822	74	499
White	Galveston County	162,468	262	161
	Galveston Island & Bolivar Peninsula	22,904	163	712
Black	Galveston County	38,191	254	665
	Galveston Island & Bolivar Peninsula	8,514	169	1,985

What is clear from these data is the existence of a substantial racial disparity between Blacks/African Americans and other groups in all settings. While differential patterns of hospital choice could account for these relationships in part, the large magnitude of the differentials suggests otherwise.

Another way to view these data is to look at ACS discharges as a share of all hospitalizations for each group. Table 15 shows this share for racial/ethnic groups by payer status. The data exclude hospitalizations for Major Diagnostic Categories 14 and 15, that is, pregnancy/delivery and neonates. Again, interpretation of the differentials across groups must be cautious. For example, differential rates of elective procedures would change the denominator of the calculation for each group. However we see again the strikingly consistent elevation of the share of discharges for ACS conditions for African Americans. These shares are especially elevated for African Americans without health insurance.

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.

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

APPENDIX. COLLECTING DATA ON RACE AND ETHNICITY IN THE UTMB EHR

The starting point for addressing racial and ethnic disparities in health care is the ability to access reliable information about the race and ethnicity of the patient population. UTMB data about race and ethnic group membership is of mixed quality. Evidence shows that current practices give a generally accurate picture of the primary race/ethnic groups at UTMB. However, there are limitations of quality deriving from the legacy of data collection and current collection practices.

LEGACY DATA COLLECTION.

Since the introduction of the EPIC electronic health record, data has been collected at patient registration using a two-question format that collects information about racial group and Hispanic Origin. The categories used are closely adapted from those used on the United States Census and in vital registration. Racial groups identified are White/Caucasian, Black/African American, Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, and Unknown. Hispanic response categories are Hispanic Origin, Not Hispanic Origin, Unknown, and patient refused.

Before the introduction of the two-question format in the EPIC system, information was collected on a single item that included Hispanic origin as one response category along with racial groups. In transferring data on established patients registered under this format, persons assigned to a particular racial category were assigned the value “unknown” on the Hispanic origin item and patients reported as Hispanic were assigned the value “Unknown” on the race item. Subsequently, the “unknown” entries may be replaced with a value supplied by patient registration staff on any contact, or by the patient directly using “MyChart”, UTMB’s patient interface with its EMR. However, this has not been done on a systematic basis.

As a result of this practice, a substantial minority of UTMB patient records currently report either the race field or the ethnicity field as “Unknown”, and hence invalid with respect to the current reporting categories. There is no evidence that new patients are being misclassified by first contact staff. Instead, it appears that legacy reporting using the single combined race/Hispanic origin item has not been systematically corrected.

Table A. 1 shows the percentage of uncorrected records for records in different patient classes. The list is “hierarchical” in that each unique UTMB patient (excluding the prison population) with at least one contact appears in the data once and only once, assigned to the highest class in the order listed. What this shows is that the primary deficiency is in the data reported for those who use only outpatient and ancillary services.

Table A.1. Hierarchical Ordering of UTMB Patients by Patient Class, 10/1/2013 to 9/29/2014.

Rank	Hierarchical Patient Class	Cases	Valid Cases	Percent Valid
1	In-patient	9,405	7,094	75.4%
2	Surgery Admit	12	5	41.7%
3	Hospital Holdover	135	42	31.1%
4	Observation	2,713	1,782	65.7%
5	Renal Dialysis Unit Observation	595	416	69.9%
6	Labor and Delivery Possible	1,011	906	89.6%
7	Emergency Room	12,275	7,856	64.0%
8	Hospital Outpatient Surgery	4,452	1,494	33.6%
9	Outpatient	105,173	30,739	29.2%
10	Ancillary Services	2,321	593	25.5%
	Total	138,092	50,927	36.9%

SELF-IDENTIFICATION OF RACE AND ETHNICITY.

A second issue is that there does not appear to be a strong commitment on the part of patient first contact staff to ask patients how they would like to be classified. Instead, current practices are haphazard—patients or family members may be asked how they wish to be identified, or a label may be assigned by observation. Federal guidelines in the Office of Management and Budget rules for data collection mandate self-identification as both a gold standard for proper identification, and an ethical requirement for respect for personal autonomy. This is an especially important issue given the evolving racial and ethnic composition of Texas and the UTMB service area, in which observational stereotypes will have an uncertain relationship to personal identity.

ALLOCATING UNKNOWN HISPANIC ORIGIN FOR REPORTING

In preparing this report, persons reported with Hispanic Origin unknown were assumed to be not Hispanic. Because persons reported with Hispanic origin were classified as such regardless of their race, cases reported with Hispanic Origin but with Unknown race were assignable without issue.

The racial and ethnic distribution of the UTMB in-patient population under these assumptions corresponds closely to the population of the UTMB service area as reported in Census tabulations. Table A.2 reports a summary of this comparison, where the racial/ethnic distribution for the service area is calculated as a weighted average of this distribution in the zip code where the patient resides. The resulting race/ethnic distributions are nearly identical. Exact concordance of the two distributions is not expected, for example because of differences in the age structure and service use of the different populations. Nonetheless the close correspondence of the two distributions provides suggestive external

validation of the race/ethnic data collected relative to denominator data collected in the federal statistical system.

Table A.2. Race/Ethnicity of UTMB In-Patient population compared to population of Service-Area

Race/Ethnicity	Population of Service Area, 2009-2013 ^a	Unique UTMB In-Patients, 2014 ^b
Hispanic	34.2	37.5
White, Non-Hispanic	43.4	42.2
Black, Non-Hispanic	16.5	17.8
Asian and other	5.9	2.5
Total	100.0	100.0

a) 2009-2013 American Community Survey, 5-year average file

b) UHC In-patient reporting, Calendar 2014

Note: The population of the service area is weighted to reflect the distribution of the UTMB patient population to zip code of residence. For example, 13.4% of the UTMB in-patient population lives in zip code 77550, so the racial/ethnic distribution of this zip code as reported in the most recent American Community Survey was weighted at 13.4%. The racial/ethnic distribution of each zip code with at least one UTMB in-patient was similarly weighted, and the reported distribution was calculated by summing these weights.