

Drug Therapies of Newly Diagnosed Hypertensive Recipients in Louisiana Medicaid

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Objectives

- The purpose of this study was to evaluate the drug therapies of newly diagnosed hypertensive recipients in Louisiana Medicaid.
- A specific goal was to identify recipients who are potential candidates for thiazide diuretic therapy.

Timeline

- **Washout Period** – Remove recipients previously diagnosed and/or treated for hypertension.
- **Index Period** – Identify recipients newly diagnosed with hypertension (ICD-9-CM 401.xx).
- **Study Period** – Search for antihypertensive drug claims through most recent month. Extends past index period to allow us to identify recipients who may have recently initiated antihypertensive drug therapy.

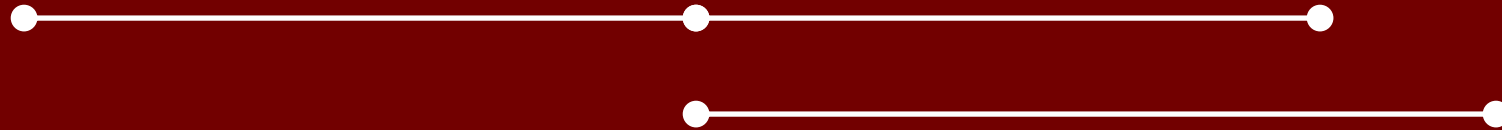
Timeline, cont'd

Washout Period

9/1/2004 – 8/31/2005

Index Period

9/1/2005 – 5/31/2006



Study Period

9/1/2005 – 7/31/2006

Methods

■ Inclusion/Exclusion Criteria:

- At least 2 claims with a primary or secondary diagnosis of hypertension (ICD-9-CM code of 401.xx)¹ in a patient contact setting (inpatient, ED, or outpatient office visit) on different dates of service during the index period. See Appendix A for patient contact setting codes.
- No diagnosis of hypertension or evidence of antihypertensive drug therapy² (see Appendix B) during washout period.

Methods, cont'd

■ Inclusion/Exclusion Criteria, cont'd:

- Continuously eligible for Medicaid from beginning of washout period through end of study period (9/1/2004 – 7/31/2006)
- Medicaid-only: Recipients eligible for Medicare at any time between the washout and study periods were excluded.
- Age between 18 and 64 as of the end of the study period.

Methods, cont'd

- Diuretic – Drug from diuretic therapeutic classes and diuretic combination drugs (See Appendix C).²
- Other HTN Drug – Drug from other antihypertensive therapeutic classes, excluding diuretics and diuretic combination drugs (Drugs in Appendix B minus drugs in Appendix C).²

Definition of Groups

- Group 1 – Newly diagnosed hypertensive recipients
- Group 2 – Candidates for thiazide diuretic therapy. Group 1 minus recipients for whom thiazide diuretics are not first-line therapy.
- Group 3 – Recipients from Group 2 that do not have a claim for an antihypertensive drug. This is the target group.

Group 2

Candidates for Thiazide Diuretics

- Exclusion Criteria
 - No evidence of :
 - Chronic kidney disease
 - Gout
 - Diabetes
 - Heart failure
 - Pregnancy
 - Post myocardial infarction
 - Lithium drug therapy

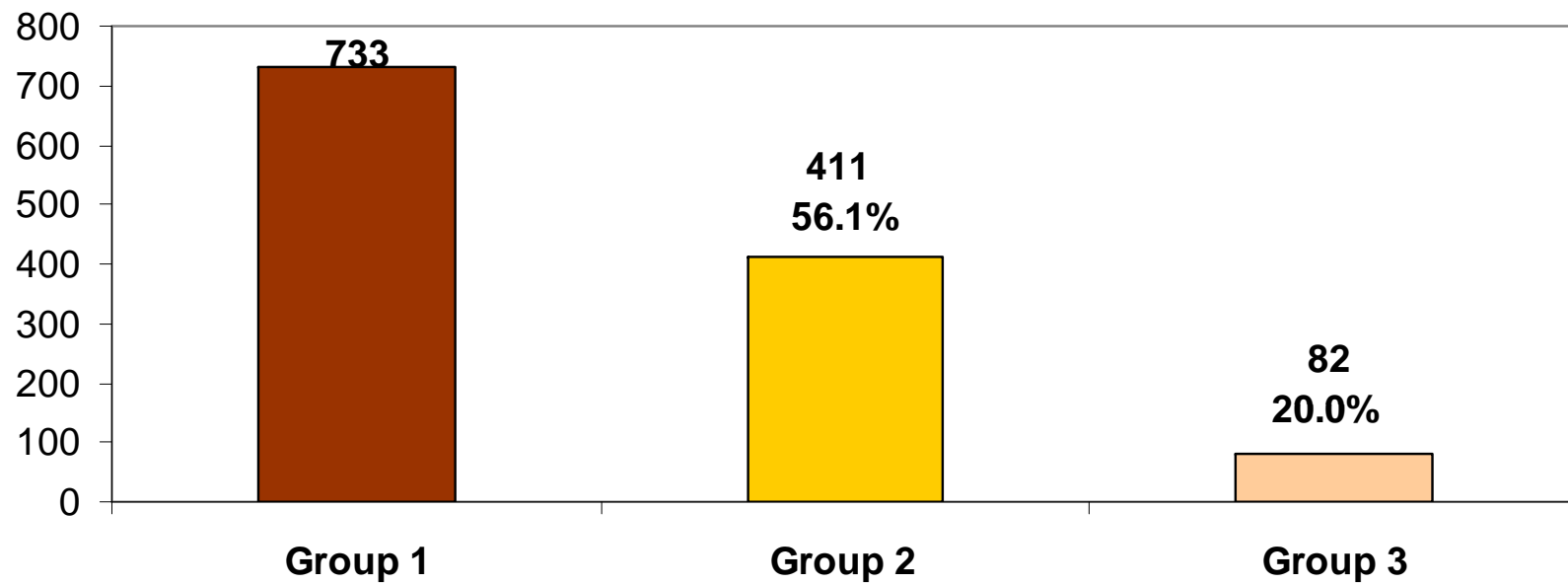
Group 2, cont'd

■ Exclusion Criteria, cont'd

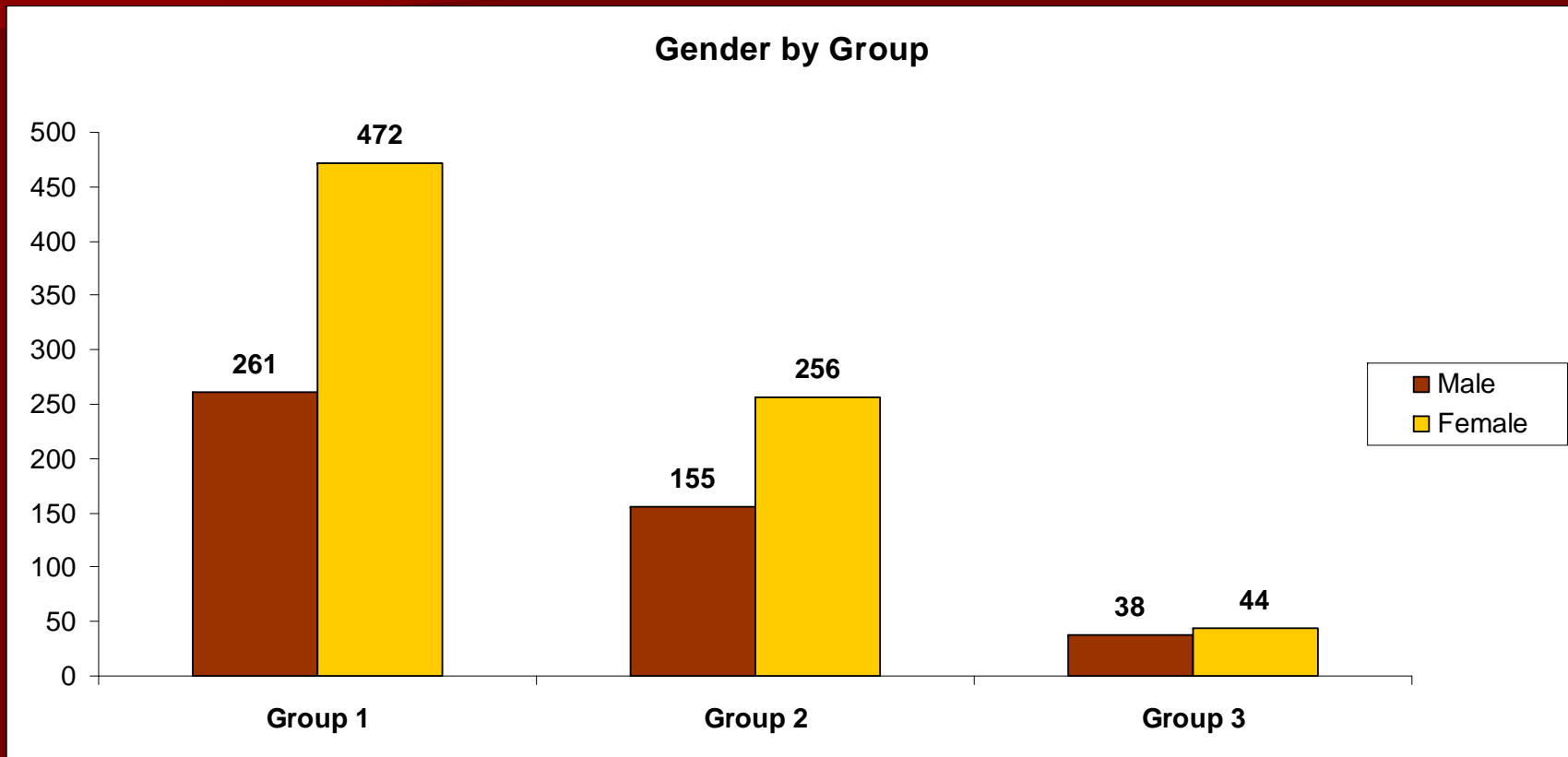
- The medical exclusion criteria were applied during the washout and study periods. See Appendix D for codes.
- No evidence of lithium therapy through the index and study periods.

Results: Number of Recipients

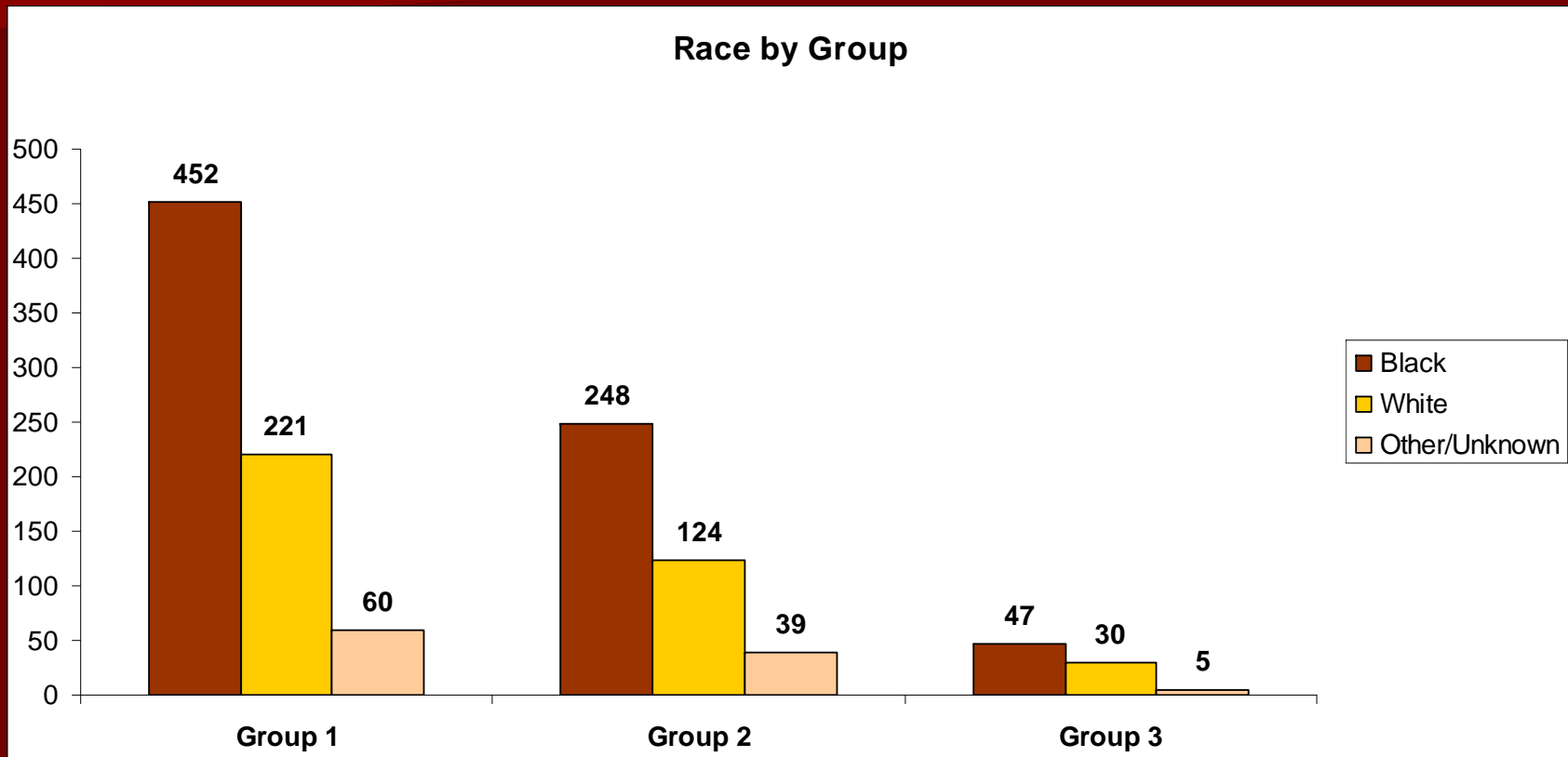
**Recipients Newly Diagnosed with Hypertension
September 2005 - May 2006**



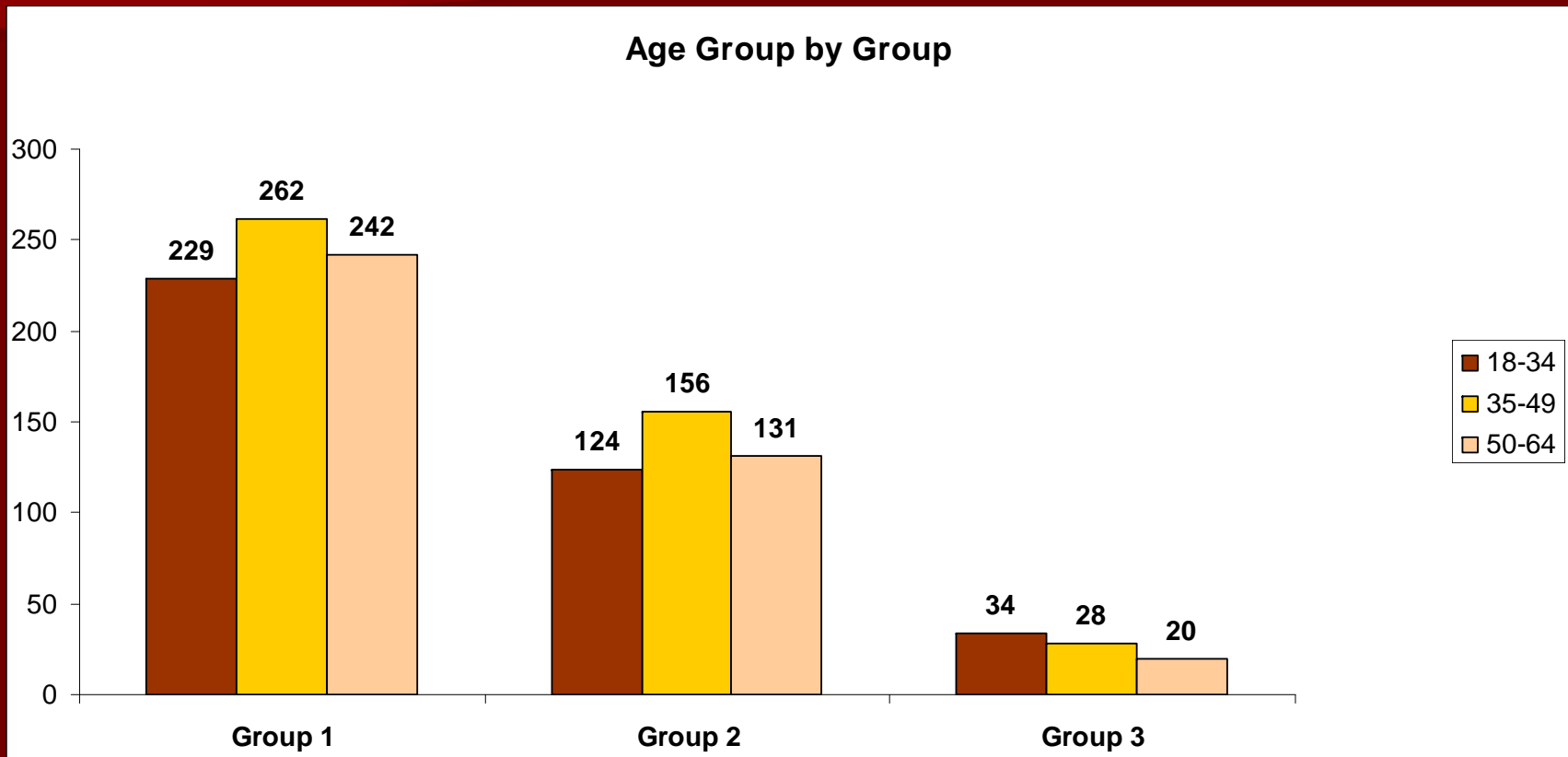
Results: Gender



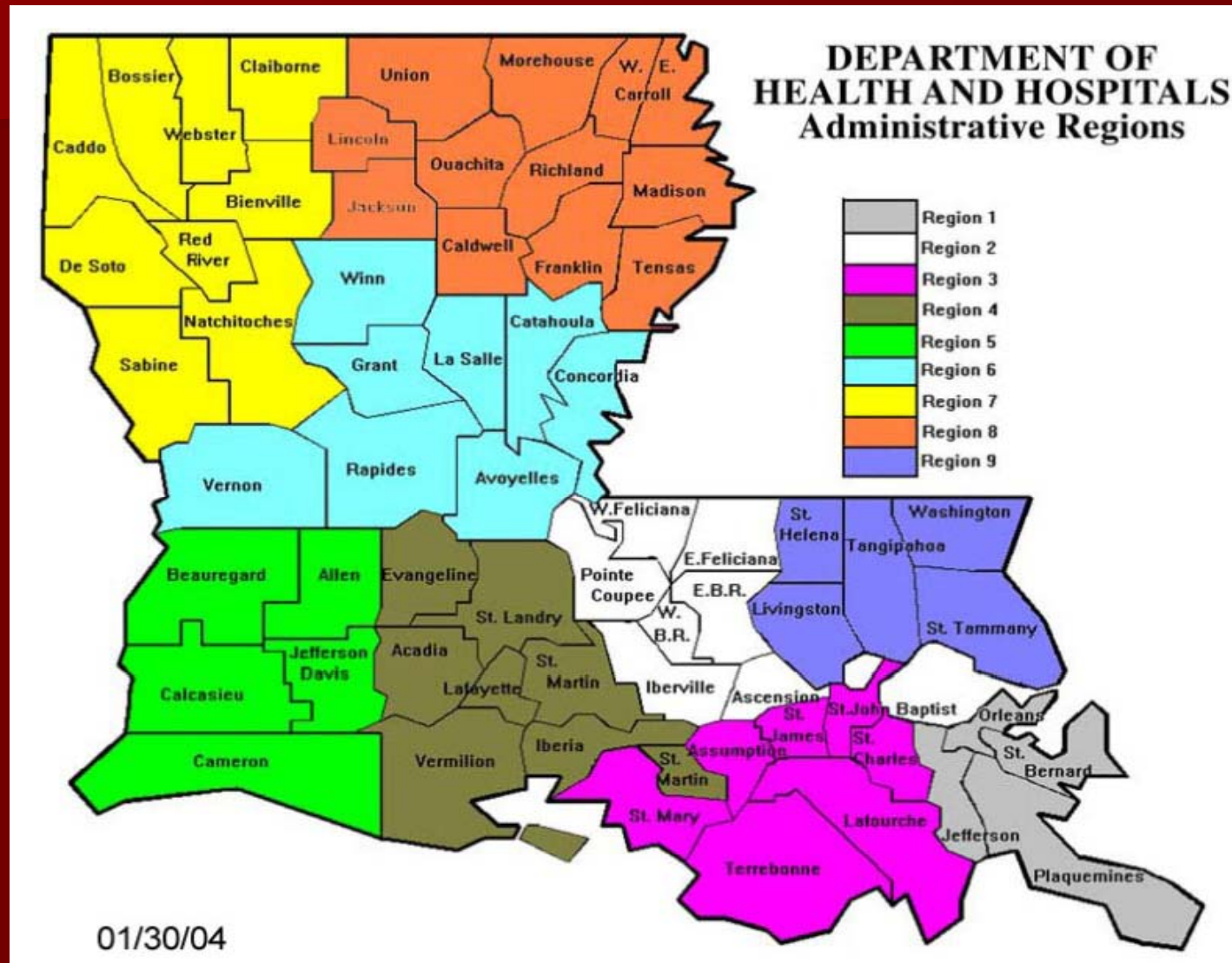
Results: Race



Results: Age Group



Results: Region Map



Results: Region

	Group 1	Group 2	Group 3	
Region	Count	Count	Count	% of Group 2
1	107	50	13	26.0%
2	134	73	10	13.7%
3	68	37	11	29.7%
4	100	63	9	14.3%
5	39	22	4	18.2%
6	57	38	6	15.8%
7	82	44	11	25.0%
8	59	35	8	22.9%
9	87	49	10	20.4%
Total	733	411	82	20.0%

Results: Antihypertensive Drug Therapy

Drug Therapy	Group 1		Group 2	
	Count	%	Count	%
No Drugs	143	26.8%	82	20.0%
Multiple Drug Classes	264	25.9%	106	25.8%
Diuretic	164	23.6%	130	31.6%
Beta-Blocker	36	5.9%	28	6.8%
ARB	32	5.5%	25	6.1%
ACE Inhibitor	39	3.6%	14	3.4%
CCB	22	3.6%	10	2.4%
Combination Drug	19	3.2%	7	1.7%
Other (See Appendix E)	14	2.0%	9	2.2%
Total	733	100.0%	411	100.0%

Results: Target Recipients Not on Antihypertensive Drugs

	Number Of Recipients	Total Recipients	Percent
Recipients with a PCP	73	82	89.0%
Recipients who saw their PCP with a diagnosis of hypertension	54	82	65.9%
Recipients who saw their PCP with any diagnoses	61	82	74.4%

Results: Target Recipients Not on Antihypertensive Drugs, cont'd

Provider Specialties Utilized by 28 Recipients Who Did Not See Their Current PCP for Hypertension	
Number Of Recipients	Provider Specialty
11	General Practice
11	Internal Medicine
9	Hospitals and Nursing Homes
4	Family Practice
1	Cardiovascular Disease
1	Pediatric Critical Care
1	General Surgery
1	Pediatric Hematology
1	Pulmonary Disease
1	Thoracic Surgery
1	Physician Assistant

Note: 28 Recipients = 82 Recips not on antihypertensive drugs minus 54 Recips who saw their PCP for hypertension (from previous slide).

Results: Target Recipients Not on Antihypertensive Drugs, cont'd

Patient Contact Settings Utilized by Recipients with Hypertension Claims			
Setting	Number of Recipients	Total Recipients	Percent
Outpatient Office Visit Only	59	82	72.0%
Emergency Department Only	6	82	7.3%
Hospital Inpatient Only	9	82	11.0%
Emergency Department and Office Visit	6	82	7.3%
Emergency Department and Hospital Inpatient	2	82	2.4%
Hospital Inpatient and Office Visit	0	82	0.0%
Total	82	82	100.0%

Results: Target Recipients Not on Antihypertensive Drugs, cont'd

Outpatient Office Visits for Recipients with an Emergency Department Claim for Hypertension	Number of Recips	Total	Percent
Recipients who saw their PCP with a diagnosis of hypertension	5	14	35.7%
Recipients who saw their PCP with any other diagnoses	2	14	14.3%
Recipients who had an outpatient visit with another provider (not PCP) with a diagnosis of hypertension	1	14	7.1%
Recipients who had an outpatient visit with another provider (not PCP) with any other diagnoses	4	14	28.6%
Recipients with no outpatient office visits	2	14	14.3%
Total recipients with an ED visit for hypertension (Previous slide: 6 ED Only + 6 ED/Office + 2 ED/Inpatient = 14)	14	14	100.0%

Results: Target Recipients Not on Antihypertensive Drugs, cont'd

Outpatient Office Visits for Recipients with a Hospital Inpatient Claim for Hypertension	Number of Recips	Total	Percent
Recipients who saw their PCP with a diagnosis of hypertension	0	11	0.0%
Recipients who saw their PCP with any other diagnoses	4	11	36.4%
Recipients who had an outpatient visit with another provider (not PCP) with a diagnosis of hypertension	0	11	0.0%
Recipients who had an outpatient visit with another provider (not PCP) with any other diagnoses	4	11	36.4%
Recipients with no outpatient office visits	3	11	27.3%
Total recipients with a hospital inpatient claim for hypertension (Previous slide: 9 Inpatient Only + 2 Inpatient/ED = 11)	11	11	100.0%

Results: Top Providers By Percentage of Recipients Newly Diagnosed With Hypertension Without a Prescription for an Antihypertensive Drug

Blinded Provider ID	Recips With a HTN Rx Claim	Recips with a HTN Diagnosis	Percent Without RX	City	Type	Specialty
16694	0	3	100.0%	Lafayette	Physician (MD)	General Practice
48414	0	4	100.0%	Shreveport	Physician (MD)	General Practice
77441	0	3	100.0%	Bogalusa	Physician (MD)	Family Practice
60079	3	7	57.1%	Greenburg	Nurse Practitioner	Family Practice
30574	1	3	66.7%	Luling	Physician (MD)	Internal Medicine
25483	2	10	80.0%	Garyville	Physician (MD)	Internal Medicine
65808	1	3	66.7%	Slidell	Physician (MD)	Internal Medicine
70014	1	3	66.7%	Covington	Physician (MD)	Internal Medicine

Note: Includes provider types 19, 20, & 78 with 3 or more recipients newly diagnosed with hypertension with greater than 50% without a claim for an antihypertensive drug.

Appendix A: Patient Contact Settings¹

Setting	CPT Code
Outpatient Visit	99201 – 99205, 99211 – 99215, 99217 – 99220, 99241 – 99245, 99271 – 99275, T1015
Emergency Department Visit	99281 – 99285, HR450 – HR459
Hospital Inpatient	99221 – 99223, 99231 – 99233, 99238 – 99239, 99251 – 99255, 99261 – 99263, 99291 – 99292, 99356 – 99357

Appendix B: Antihypertensive Drugs

A4A	HYPOTENSIVES, VASODILATORS
A4B	HYPOTENSIVES, SYMPATHOLYTIC
A4D	HYPOTENSIVES, ACE BLOCKING TYPE
A4F	HYPOTENSIVES, ANGIOTENSIN RECEPTOR ANTAGONIST
A4K	ACE INHIBITOR/CALCIUM CHANNEL BLOCKER COMBINATION
A4Y	HYPOTENSIVES, MISCELLANEOUS
A9A	CALCIUM CHANNEL BLOCKING AGENTS
J7A	ALPHA/BETA-ADRENERGIC BLOCKING AGENTS

Appendix B: Antihypertensive Drugs, cont'd

J7B	ALPHA-ADRENERGIC BLOCKING AGENTS
J7C	BETA-ADRENERGIC BLOCKING AGENTS
J7E	ALPHA-ADRENERGIC BLOCKING AGENT/THIAZIDE COMB
M4I	ANTIHYPERLIP(HMGCOA) & CALCIUM CHANNEL BLOCKER CMB
R1F	THIAZIDE AND RELATED DIURETICS
R1H	POTASSIUM SPARING DIURETICS
R1L	POTASSIUM SPARING DIURETICS IN COMBINATION
R1M	LOOP DIURETICS

Appendix C: Diuretic and Diuretic Combinations

A4B	METHYLDOPA/CHLOROTHIAZIDE
A4B	METHYLDOPA/HYDROCHLOROTHIAZIDE
A4B	RESERPINE/HYDROCHLOROTHIAZIDE
A4B	RESERPINE/HYDROFLUMETHIAZIDE
A4B	RESERPINE/METHYCLOTHIAZIDE
A4B	RESERPINE/POLYTHIAZIDE
A4D	BENAZEPRIL/HYDROCHLOROTHIAZIDE
A4D	CAPTOPRIL/HYDROCHLOROTHIAZIDE
A4D	ENALAPRIL/HYDROCHLOROTHIAZIDE

Appendix C: Diuretic and Diuretic Combinations, cont'd

A4D	FOSINOPRIL/HYDROCHLOROTHIAZIDE
A4D	LISINOPRIL/HYDROCHLOROTHIAZIDE
A4D	MOEXIPRIL/HYDROCHLOROTHIAZIDE
A4D	QUINAPRIL/HCTZ/MAG CARB
A4D	QUINAPRIL/HYDROCHLOROTHIAZIDE
A4F	CANDESARTAN/HYDROCHLOROTHIAZIDE
A4F	EPROSARTAN/HYDROCHLOROTHIAZIDE
A4F	IRBESARTAN/HYDROCHLOROTHIAZIDE
A4F	LOSARTAN/HYDROCHLOROTHIAZIDE
A4F	OLMESARTAN/HYDROCHLOROTHIAZIDE

Appendix C: Diuretic and Diuretic Combinations, cont'd

A4F	TELMISARTAN/HYDROCHLOROTHIAZIDE
A4F	VALSARTAN/HYDROCHLOROTHIAZIDE
A4Y	ATENOLOL/CHLORTHALIDONE
A4Y	BISOPROLOL/FUMARATE/HCTZ
A4Y	BISOPROLOL/HYDROCHLOROTHIAZIDE
A4Y	BISOPROLOL FUMARATE/HCTZ
A4Y	BISOPROLOL/FUMARATE/HCTZ
A4Y	METOPROLOL/HYDROCHLOROTHIAZIDE
A4Y	NADOLOL/BENDROFLUMETHIAZIDE
A4Y	PROPRANOLOL HCL/HCTZ

Appendix C: Diuretic and Diuretic Combinations, cont'd

A4Y	PROPRANOLOL/HYDROCHLOROTHIAZIDE
A4Y	TIMOLOL/HYDROCHLOROTHIAZIDE
J7E	PRAZOSIN HCL/POLYTHIAZIDE
R1F	BENDROFLUMETHIAZIDE
R1F	BENZTHIAZIDE
R1F	BUMETANIDE
R1F	CHLOROTHIAZIDE
R1F	CHLOROTHIAZIDE SODIUM
R1F	CHLORTHALIDONE
R1F	FUROSEMIDE

Appendix C: Diuretic and Diuretic Combinations, cont'd

R1F HYDROCHLOROTHIAZIDE

R1F HYDROFLUMETHIAZIDE

R1F INDAPAMIDE

R1F METHYCLOTHIAZIDE

R1F METOLAZONE

R1F POLYTHIAZIDE

R1F TRICHLORMETHIAZIDE

R1H AMILORIDE HCL

R1H EPLERENONE

R1H SPIRONOLACTONE

Appendix C: Diuretic and Diuretic Combinations, cont'd

R1H	TRIAMTERENE
R1L	AMILORIDE/HYDROCHLOROTHIAZIDE
R1L	SPIRONOLACT/HYDROCHLOROTHIAZID
R1L	SPIRONOLACTONE/HCTZ
R1L	TRIAMTERENE
R1L	TRIAMTERENE/HCTZ
R1L	TRIAMTERENE/HYDROCHLOROTHIAZID
R1M	BUMETANIDE
R1M	ETHACRYNATE SODIUM
R1M	ETHACRYNIC ACID
R1M	FUROSEMIDE
R1M	TORSEMIDE

Appendix D: Subgroup Medical Exclusion Criteria

Condition	ICD-9-CM Code	CPT Code	Revenue Codes
Post Myocardial Infarction	(HEDIS) 410.xx		
Chronic Kidney Disease	(HEDIS): 250.4x, 403.xx, 404.xx, 405.01, 405.11, 405.91, 581.81, 584.xx, 585.xx, 586.xx, 588.xx, 753.0x, 753.1x, 791.0x	(HEDIS): 36800, 36810, 36815, 36818, 36820, 36821, 50300, 50320, 50340, 50360, 50365, 50370, 50380, 90920, 90921, 90924, 90925, 90935, 90937, 90945, 90947, 90989, 90993, 90997, 90999, 99512	(HEDIS): 800-804, 809, 820-825, 829- 835, 839-845, 849- 855, 859-882, 889
Gout	(CCS) 274.xx		
Diabetes	250.xx, 357.2x, 362.0x, 366.41, 648.0x		
CHF	(CCS) 398.91, 428.0x, 428.1x, 428.9x		
Pregnancy	630.xx - 677.xx		

Appendix E: Antihypertensive Drugs Categorized as "Other"

A4A	HYPOTENSIVES, VASODILATORS
A4B	HYPOTENSIVES, SYMPATHOLYTIC
A4Y	HYPOTENSIVES, MISCELLANEOUS
J7A	ALPHA/BETA-ADRENERGIC BLOCKING AGENTS
J7B	ALPHA-ADRENERGIC BLOCKING AGENTS

References

1. HEDIS 2006, National Committee for Quality Assurance.
2. Facts and Comparisons,
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