

Quality of Diabetes Care for Individuals with Serious Mental Illnesses

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Background

- Worldwide prevalence of serious mental illnesses
 - Schizophrenia: 1%
 - Bipolar disorder: 1%
- Impaired functioning and disability
- Significantly reduced life expectancy
 - Older studies: 20% shorter life span
 - Newer data: **30%–40%** reduction in potential life-years

Reduced Life Expectancy Among Public Mental Health Clients in 8 U.S. States

STATE YEAR	SMR	Mean age at time of death	YPLL
Missouri 2000	2.2	54	29.5
Oklahoma 1999	2.9	54	29.7
Rhode Island 2000	1.8	59	25.4
Texas 1999	1.6	51	29.4
Utah 1999	2.2	58	26.7
Arizona 2000	2.2	50	32
Virginia 2000 (inpt. only)	1.2	75	16.4
Vermont 1998-2000	3.2	Not reported	-

SMR=Standardized Mortality Ratio

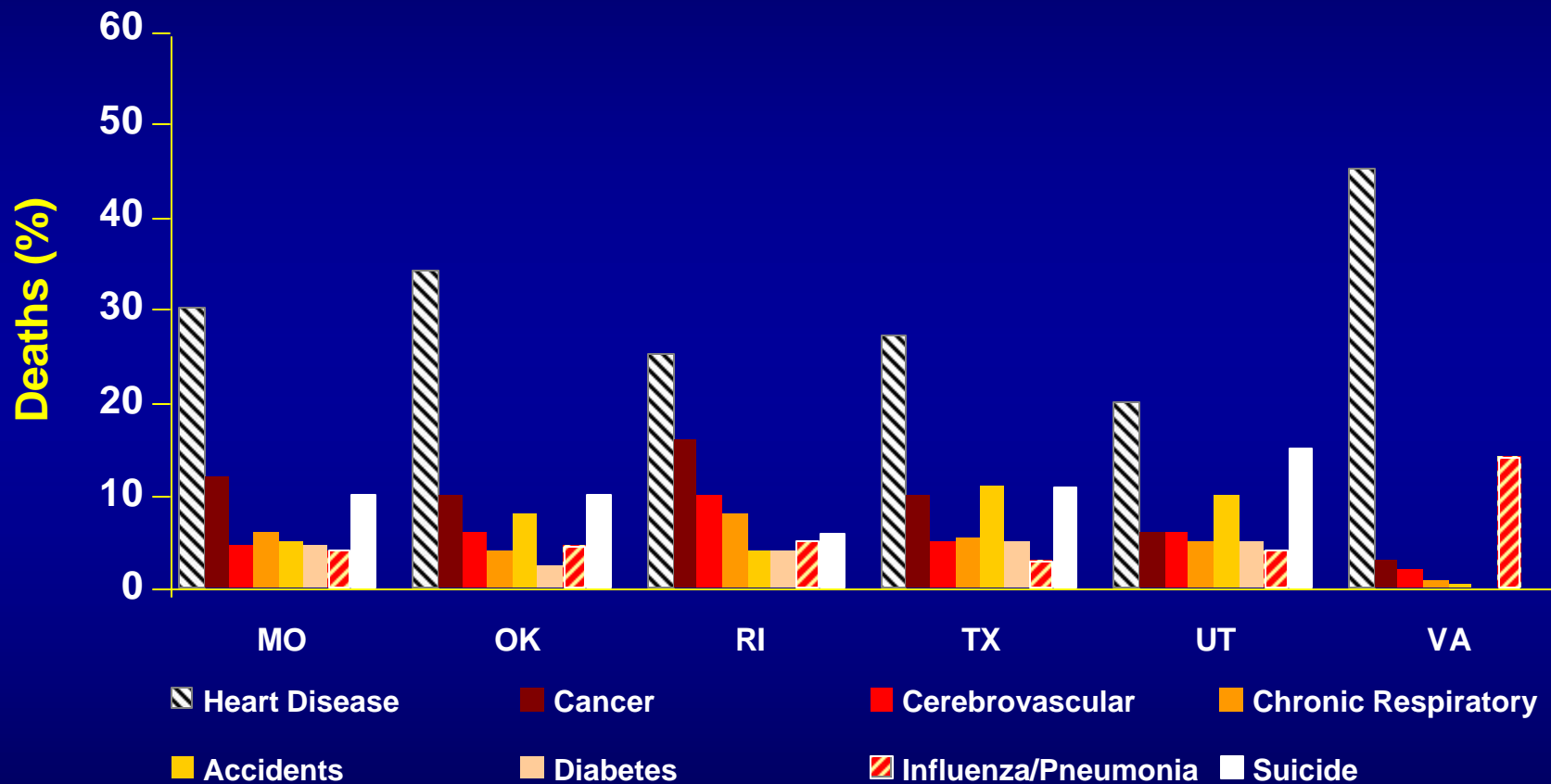
YPLL=Years of Potential Life Lost

Colton CW, Manderscheid RW. *Prev Chronic Dis* [serial online] 2006 Apr [August 27, 2007]. Available from:
 URL:http://www.cdc.gov/pcd/issues/2006/apr/05_0180.htm.

What are the Causes of Morbidity and Mortality in People with Serious Mental Illnesses?

- While suicide and injury account for about 30-40% of excess mortality, about 60% of premature deaths in persons with schizophrenia are due to “natural causes”
 - Cardiovascular disease (SMR: 2.3)
 - Diabetes (SMR: 2.7)
 - Respiratory diseases (SMR: 3.2)
 - Infectious diseases (SMR: 3.4)
- Bipolar and unipolar affective disorders also associated with higher SMRs from medical causes
 - 1.9 males/2.1 females in bipolar disorder
 - 1.5 males/1.6 females in unipolar disorder

Cardiovascular Disease Is the Leading Cause of Death in Persons With Mental Illnesses

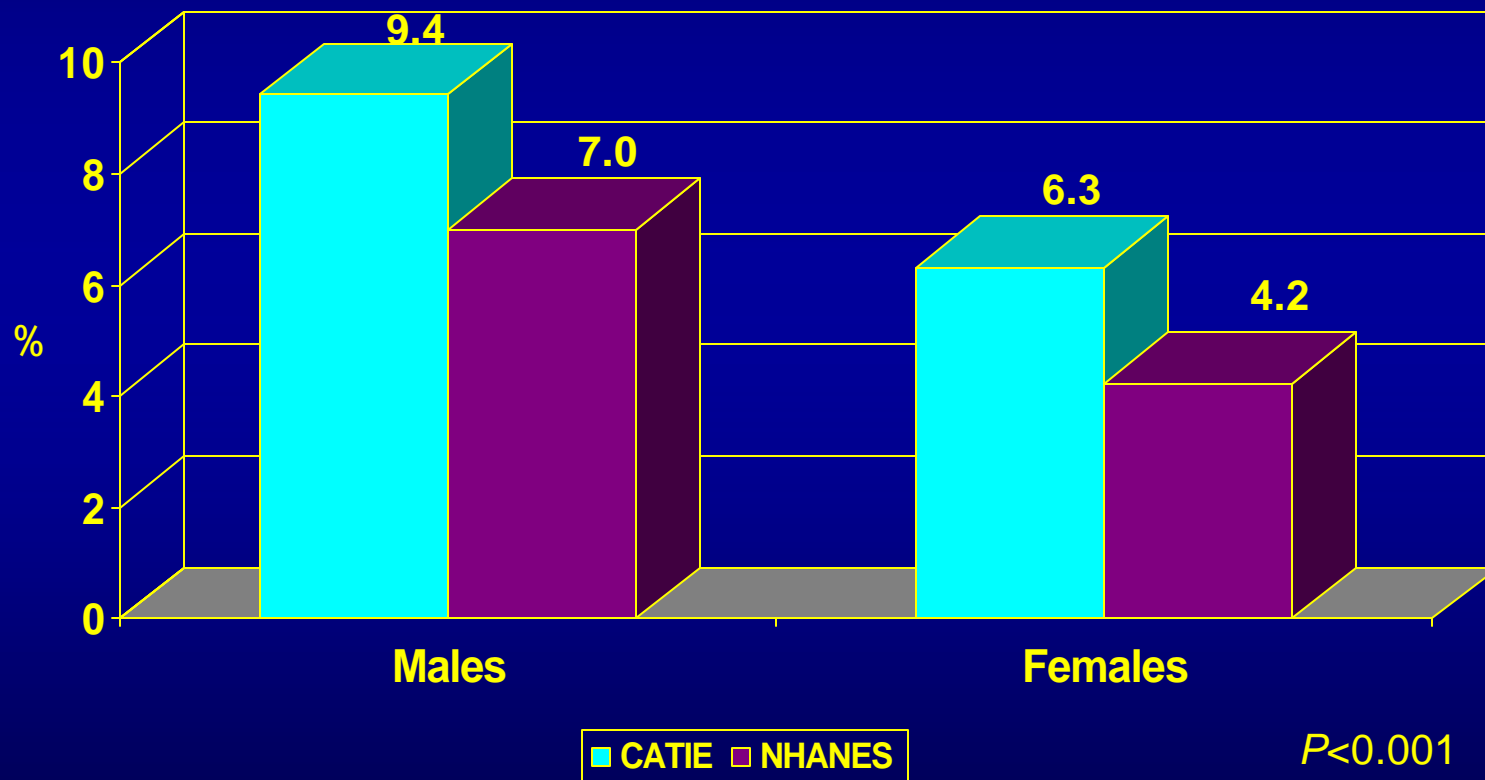


*Average data from 1996 to 2000

Colton CW, Manderscheid RW. *Prev Chronic Dis* [serial online] 2006 Apr [August 27, 2007]. Available from: URL:http://www.cdc.gov/pcd/issues/2006/apr/05_0180.htm.

10-Year Cardiac Risk at Baseline Calculated by Framingham Study Equation

Clinical Antipsychotic Trials of Interventions Effectiveness (CATIE)
Schizophrenia Study



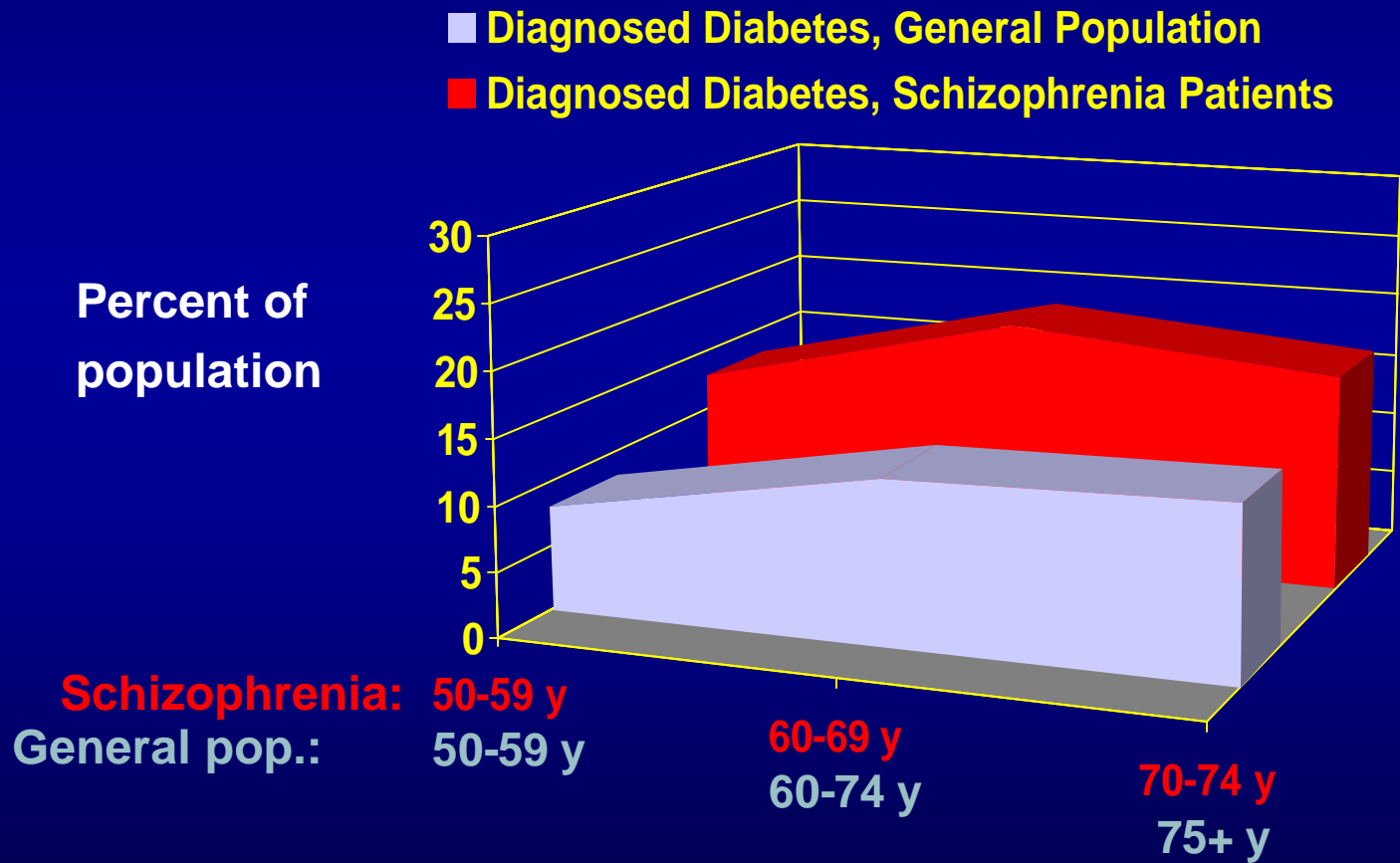
Likely Contributors to Increased Risk for Cardiovascular Disease in Individuals with SMI

– High rates of:

- **Type 2 Diabetes (Coronary heart disease risk equivalent)**
- **Smoking**
- **Overweight/obesity**
- **Hyperlipidemia**
- **Hypertension**
- **Metabolic syndrome**
- **Physical inactivity**
- **Poor nutrition**
- **Side effects of some antipsychotic medications**

Goff DC et al. *Schizophr Res.* 2005;80:45-53.
Brown S et al., *Psychol Med* 1999; 29: 697-701.

Prevalence of Type 2 Diabetes in Individuals with Schizophrenia versus the General Population



Harris MI et al. *Diabetes Care*. 1998; 21:518-524.
Mukherjee S et al. *Compr Psychiatry*. 1996; 37:68-73.

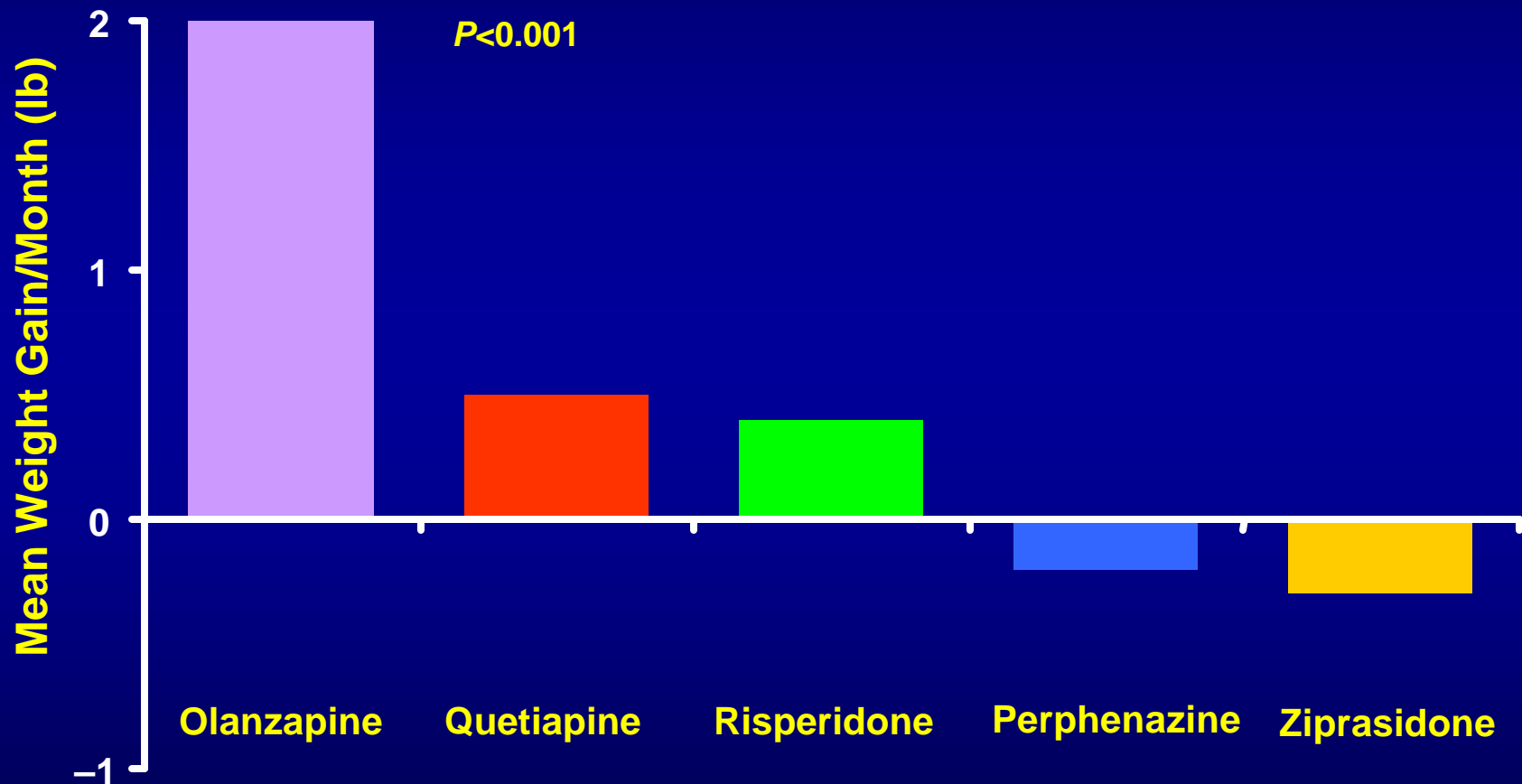
Schizophrenia and Type 2 Diabetes

- Psychiatric symptoms may contribute to impact of lifestyle on diabetes risk.
- Probable genetic link between schizophrenia and diabetes
- Impaired glucose tolerance observed
 - Before (and after) introduction of antipsychotic medications.
 - In first-episode, drug-naïve schizophrenia patients.
- Certain second-generation antipsychotic medications can increase weight and adversely affect glucose and lipid profiles.

Haupt DW, Newcomer JW. *J Psychosom Res.* 2002; 53: 925-933.
Newcomer JW. *CNS Drugs* 2005; 19 (suppl 1): 1-93.
Ryan MC et al. *Am J Psychiatry.* 2006; 160: 284-289.

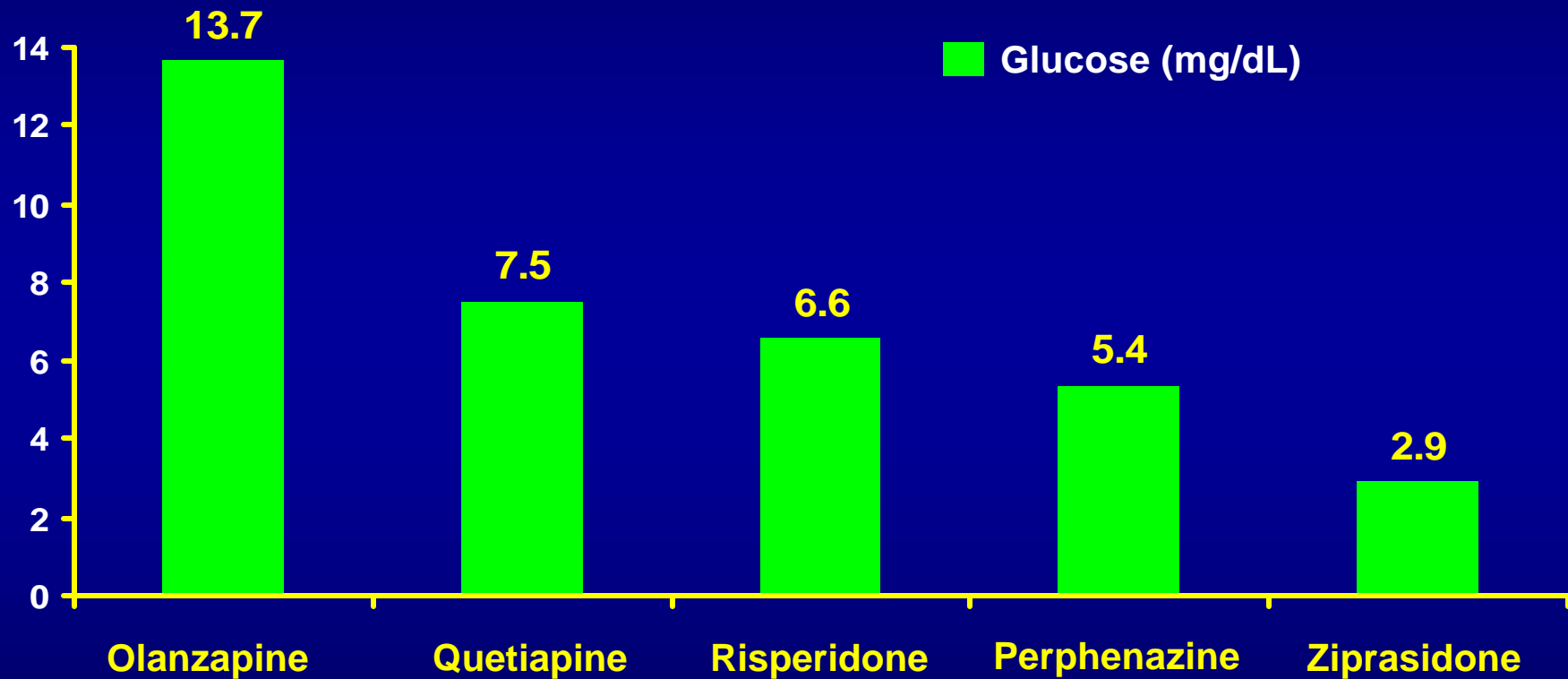
Weight Gain by Antipsychotic Per Month of Treatment

CATIE Schizophrenia Study



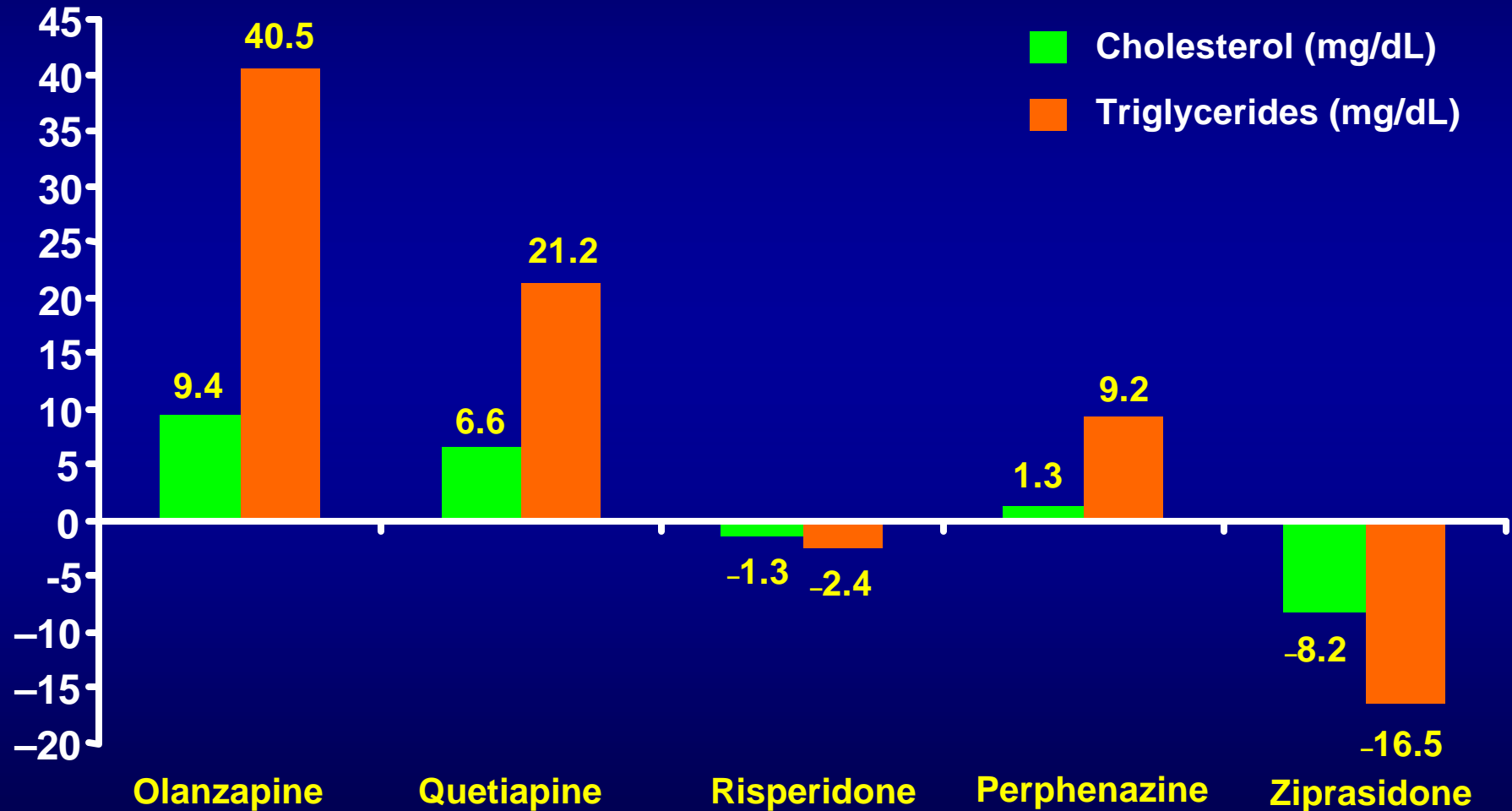
Metabolic Changes by Antipsychotic from Baseline

CATIE Schizophrenia Study



Metabolic Changes by Antipsychotic from Baseline

CATIE Schizophrenia Study



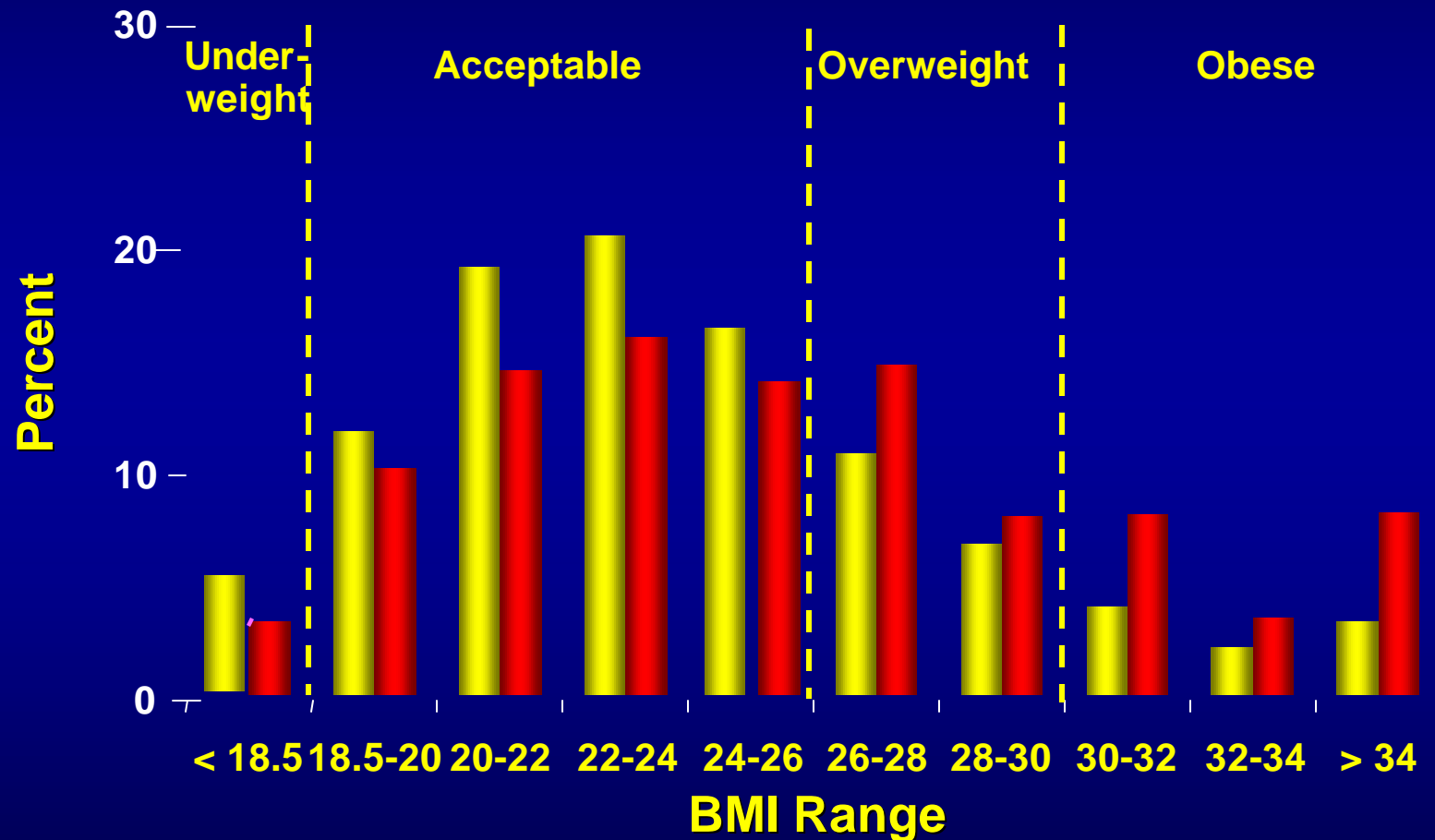
Lieberman JA et al. *N Engl J Med.* 2005;353:1209-1223.

Recommendations for Monitoring for Metabolic Side Effects of Antipsychotic Medications

Screening parameter	Mt. Sinai Recommendations	ADA et al., Recommendations
Weight and height/BMI/waist circumference	Measure BMI before medication initiation or change and at every visit for the first 6 months after medication initiation or change. When the patient's weight stabilizes, monitor at least quarterly and more often if the patient is overweight. BMI monitoring should be supplemented by measurement and recording of the patient's waist circumference.	Measure weight/BMI before medication initiation or change, at 4, 8, and 12 weeks after medication initiation or change, and quarterly thereafter. Measure waist circumference before medication initiation or change and annually thereafter.
Fasting blood glucose (FPG) or HbA1c	Measure FPG or HbA1c before medication initiation or change. In the absence of symptoms of diabetes or significant weight gain, OR for patients with significant risk factors for diabetes, monitor 4 months later and annually thereafter. In patients who are gaining weight, monitor every 4 months.	Measure FPG before medication initiation or change, 12 weeks after medication initiation or change, and annually thereafter. Monitor more frequently in patients with a higher baseline risk for diabetes.
Lipid panel	In patients with normal LDL levels, obtain lipid profile at least once every 2 years. In patients with LDL levels > 130mg/dl, monitor lipids every 6 months.	Obtain lipid profile before medication initiation or change, 12 weeks after medication initiation or change, and every 5 years thereafter (more frequently if clinically indicated).
Blood pressure	No recommendation.	Measure blood pressure before medication initiation or change, 12 weeks after medication initiation or change, and annually thereafter.

Marder SR et al. *Am J Psychiatry* 2004; 161:1334-49
 ADA et al. *Diabetes Care* 2004; 27(2):596-601.

BMI Distributions in Individuals with Schizophrenia versus the General Population



■ No schizophrenia
■ Schizophrenia

Cigarette Smoking in Individuals with SMI

- Higher prevalence (56-88% for patients with schizophrenia) of cigarette smoking (overall U.S. prevalence 25%).
- More toxic exposure for individuals with SMI who smoke
 - More likely to be heavy smokers.
 - More likely to smoke high tar cigarettes.
 - Consume more nicotine through deeper inhalation.
 - Longer smoking histories.
- Impediments to smoking cessation in persons with SMI
 - Low motivation (negative psychotic symptoms).
 - Cognitive impairments limit traditional behavior change strategies.
 - But, acute administration of nicotine shown to improve cognition.
 - Difficulty coping with negative affective states.

George TP et al. Nicotine and tobacco use in schizophrenia. In: Meyer JM, Nasrallah HA, eds. *Medical Illness and Schizophrenia*. American Psychiatric Publishing, Inc. 2003.
Ziedonis D et al. *Am J Med Sci*. 2003;326(4):223-330.
deLeon J, Diaz FJ. *Schizophr Res*. 2005; 76: 135-157.

Comparison of Metabolic Syndrome and Individual Criterion Prevalence in Fasting CATIE Participants and a Matched NHANES III Sample

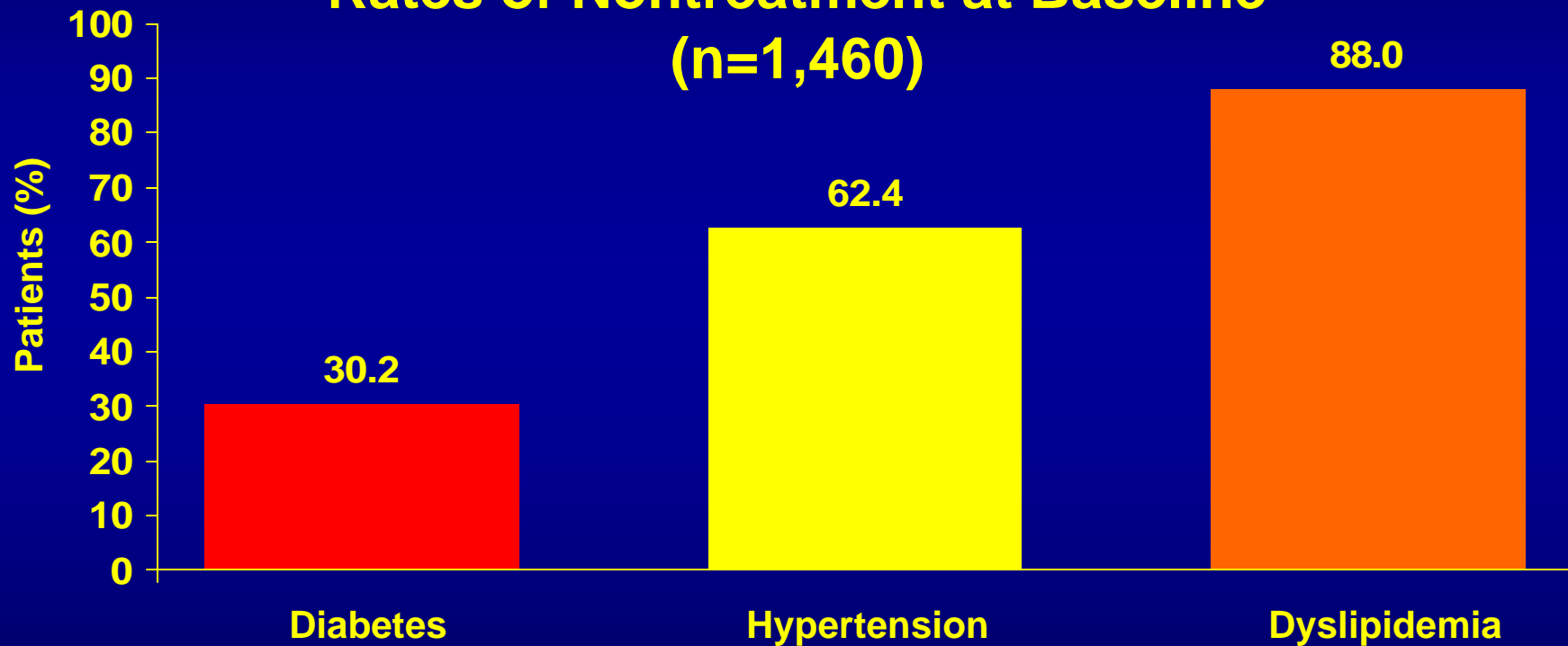
	Males			Females		
	CATIE N=509	NHANES N=509	<i>p</i>	CATIE N=180	NHANES N=180	<i>p</i>
Metabolic Syndrome Prevalence	36.0%	19.7%	.0001	51.6%	25.1%	.0001
Abdominal obesity	35.5%	24.8%	.0001	76.3%	57.0%	.0001
Triglycerides \geq 150mg/dl	50.7%	32.1%	.0001	42.3%	19.6%	.0001
HDLs < 40mg/dl (men) or < 50mg/dl (women)	48.9%	31.9%	.0001	63.3%	36.3%	.0001
BP \geq 130/85mm Hg	47.2%	31.1%	.0001	46.9%	26.8%	.0001
Glucose \geq 110mg/dl	14.1%	14.2%	.9635	21.7%	11.2%	.0075

Low Rates of Treatment for Metabolic Disorders

CATIE Schizophrenia Study

Rates of Nontreatment at Baseline

(n=1,460)



Other Possible Contributors to Excess Morbidity and Mortality in SMI

Related to the Psychiatric Disorder

Psychiatric symptoms

Cognitive impairments

Psychosocial deficits

Limited social/family networks

Poor treatment adherence

Related to the Health Care System

Reduced access to medical care

Lack of integration of medical and psychiatric care

Poor quality of medical care

Morbidity in Schizophrenia: A Focus on Diabetes

(NIMH R01 MH58717, L. Dixon, PI)

- To compare persons with schizophrenia and Type 2 diabetes to (a) persons with a major mood disorder and diabetes and (b) persons with diabetes but no SMI on quality of diabetes care:
 - Processes of care.
 - Intermediate outcomes of care.
- We hypothesized that patients with schizophrenia would have worse quality of diabetes care than the two comparison groups.

Sample Selection and Study Sites

- Sample selection
 - N=300 individuals 18-65 years of age with Type 2 diabetes
 - N=100 with schizophrenia or schizoaffective disorder
 - N=101 with a major mood disorder i.e., major depressive disorder or bipolar disorder
 - N=99 without a serious mental illness (NSMI)
- Study Sites
 - Community mental health centers (SMI samples) and primary care medical practices (NSMI sample) in Baltimore City and among outlying suburbs of Baltimore and Howard Counties in Maryland.
 - SMI samples were receiving diabetes care from various primary care providers in the same geographic region.
 - Subjects were recruited between September 1999 and September 2002.

Data Sources

- Participant interviews and medical record review at baseline, 18 months, and 4 years to collect information including:
 - Demographic and clinical characteristics;
 - Diabetes-related history, treatments, knowledge, service use.
 - Somatic and psychiatric medications (SMI samples only).
- Physiologic assessments:
 - Glycosylated hemoglobin (HbA1c), height, weight, smoking status, blood pressure measure
 - N=50 from each sample completed a more detailed assessment (fasting blood glucose, cholesterol panel).

Dixon L et al. *Psychiatric Serv.* 2004; 55: 892-900.
Kreyenbuhl J et al. *J Nerv Mental Dis* 2006; 194: 404-410.

Characteristics of Study Samples with Type 2 Diabetes (n=300)

Characteristic	Schizophrenia (n=100)	Major Mood Disorder (n=101)	No Serious Mental Illness (n=99)
<u>Demographic characteristics</u>			
Mean (\pm S.D.) age, years ^{1,a}	48 (\pm 9)	51 (\pm 8)	53 (\pm 9)
% Female ^{1,b}	42%	60%	48%
% Non-white ^{1,c}	66%	35%	69%
% \geq High school graduate	67%	66%	65%
<u>Diabetes characteristics</u>			
Mean (\pm S.D.) years with diabetes ^{1,a}	9 (\pm 8)	8 (\pm 9)	7 (\pm 7)
% Prescribed insulin	25%	29%	27%
% Prescribed oral hypoglycemic medication	76%	81%	83%
<u>Service utilization, past 6 months</u>			
Mean (\pm S.D.) outpatient visits for diabetes	4 (\pm 6)	3 (\pm 4)	3 (\pm 3)
% With ER visit for diabetes	14%	16%	14%
% Hospitalized for diabetes	8%	8%	10%

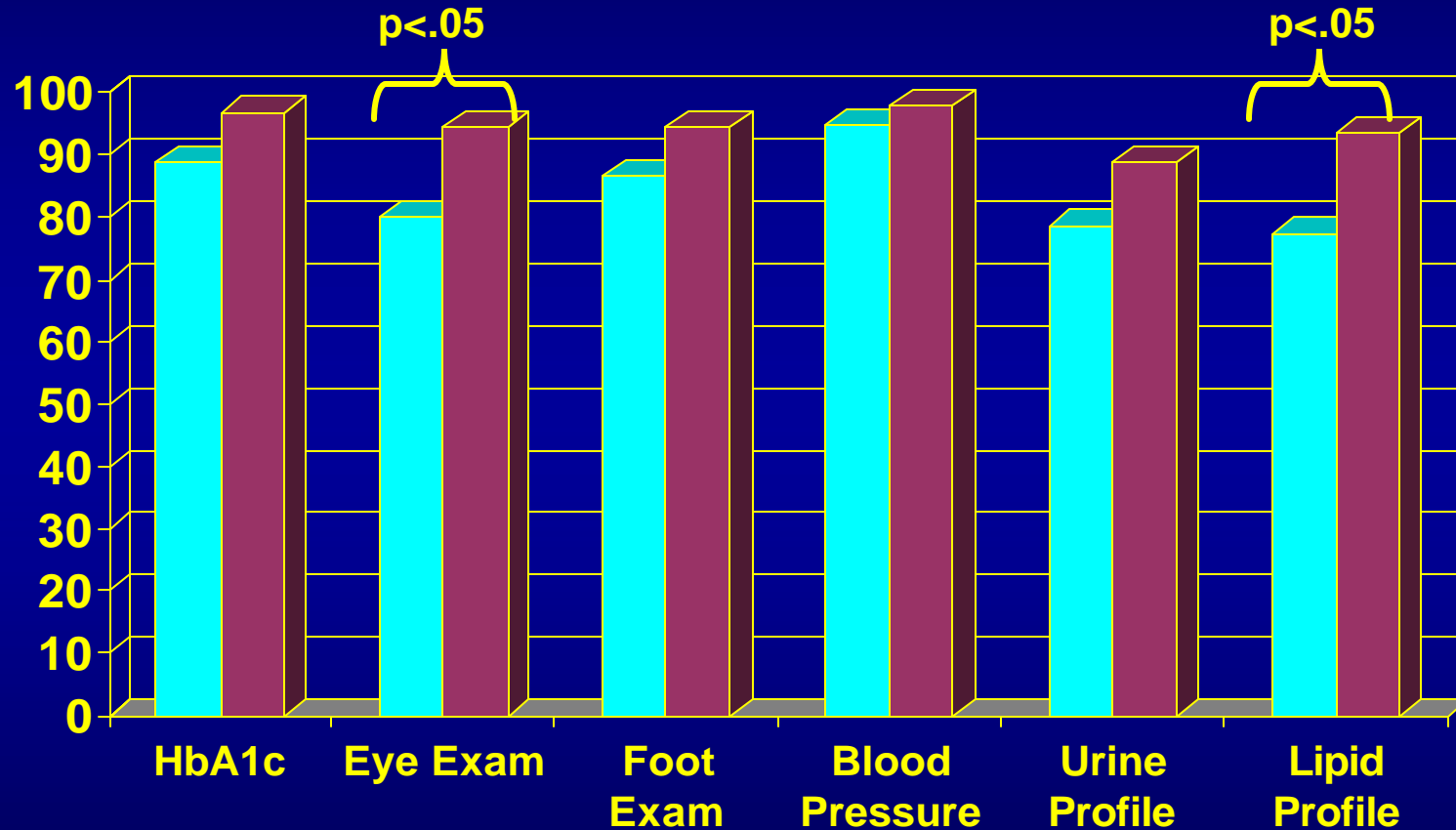
¹ p < 0.01

^a SCZ < MMD, NSMI; ^b SCZ < MMD; ^c SCZ > MMD

Dixon L et al. *Psychiatric Serv.* 2004; 55: 892-900.

Quality of Processes of Diabetes Care for Individuals with SMI

Diabetes Quality Improvement Project (DQIP) Measures



Receipt of all services assessed in past year.

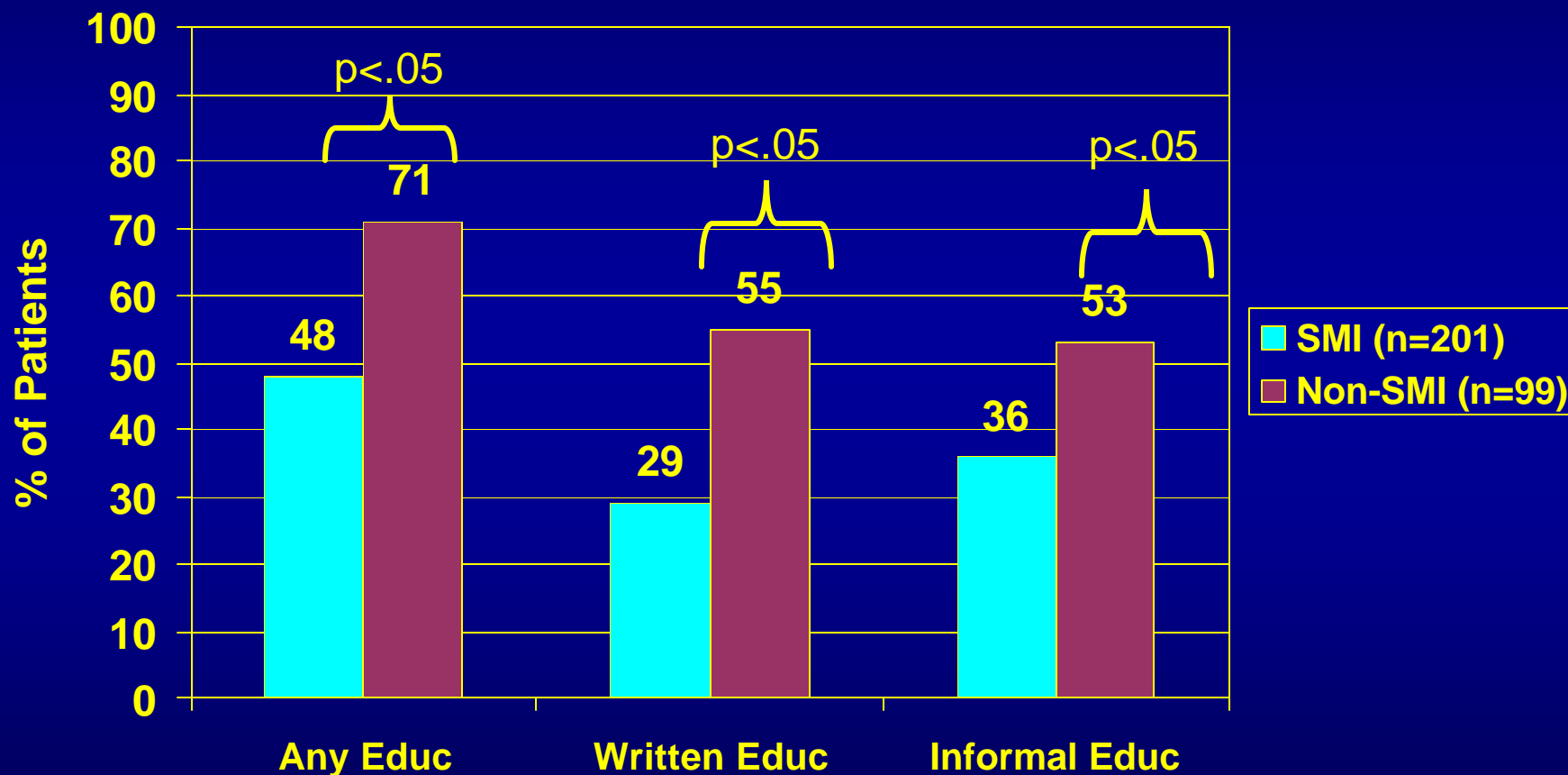
Comparisons adjusted for age, gender, race, education, use of insulin, duration of diabetes.

■ SMI (n=201)
■ Non-SMI (n=99)

Goldberg RW et al. *Psychiatr Serv.* 2007; 58: 536-543.

Quality of Processes of Diabetes Care for Individuals with SMI

Are Patients Receiving Diabetes-Related Education?

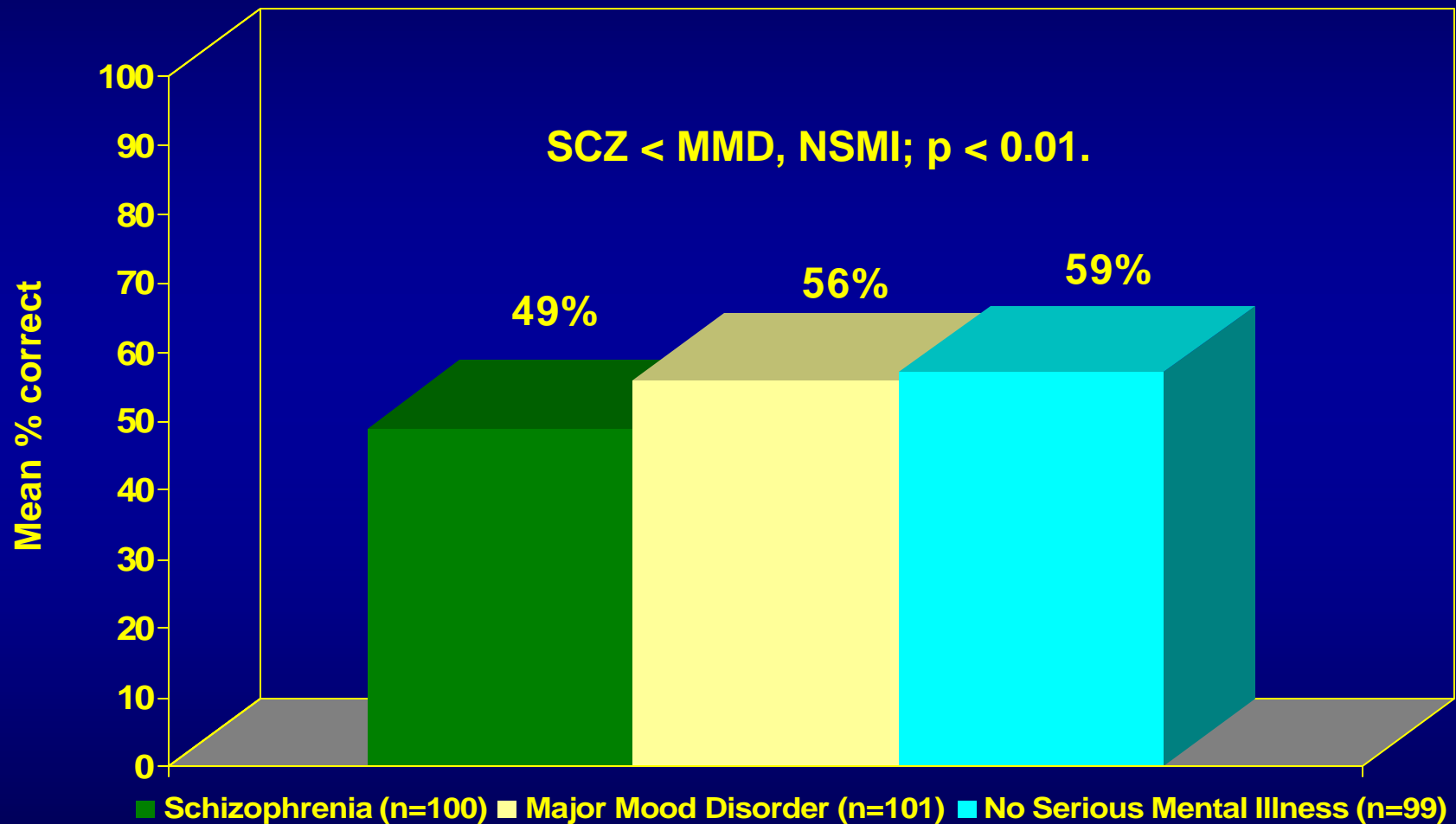


Comparisons adjusted for age, gender, race, education, use of insulin, duration of diabetes.

Goldberg RW et al. *Psychiatr Serv.* 2007; 58: 536-543.

Knowledge about Diabetes Among Individuals with SMI

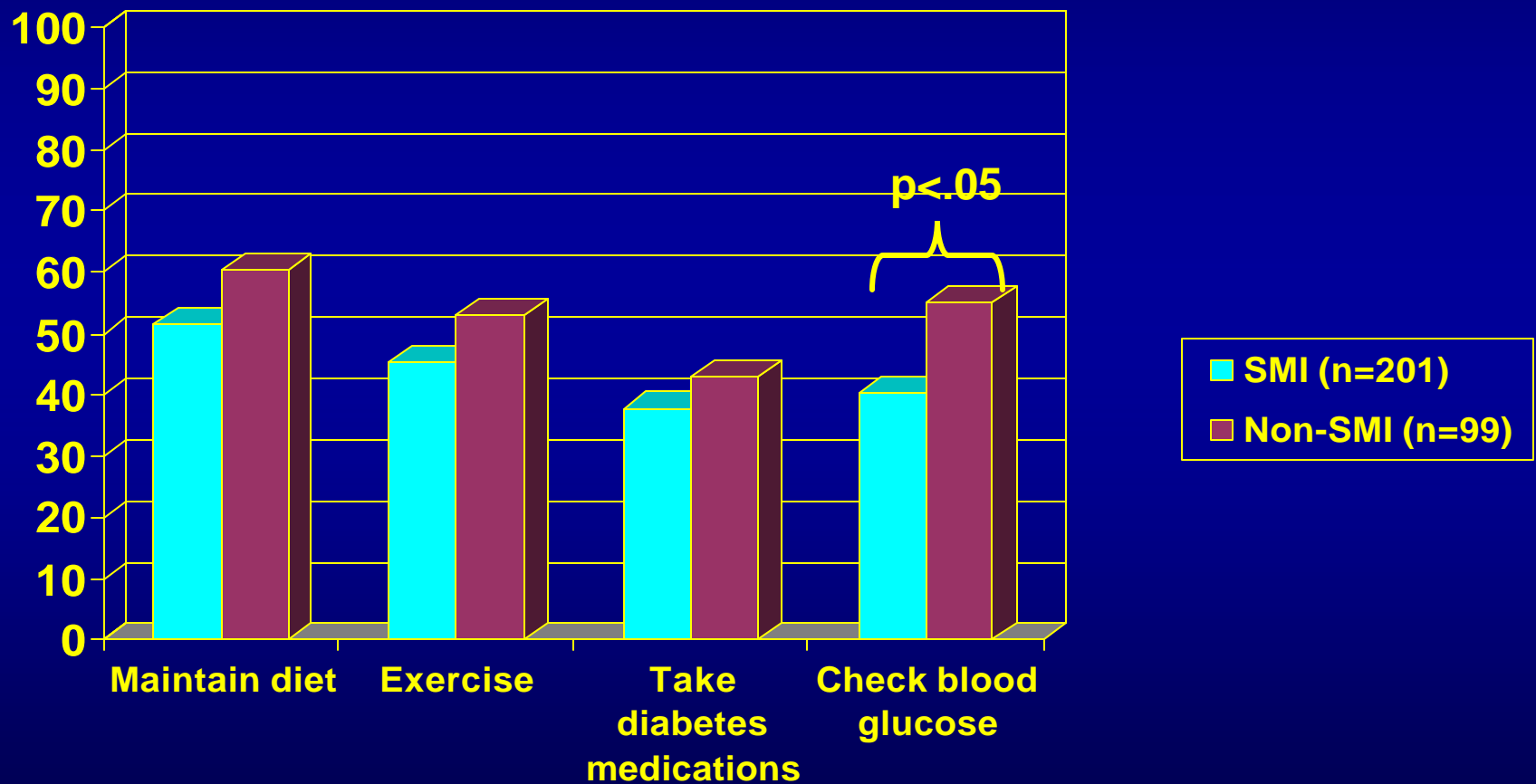
Findings from the General Subscale of the Diabetes Knowledge Test



Dickerson FB et al. *Psychosomatics*. 2005; 46: 418-424; Dixon L et al. *Psychiatric Serv*. 2004; 55: 892-900; Fitzgerald JT et al. *Diabetes Care*. 1998; 21: 706-710.

Quality of Processes of Diabetes Care for Individuals with SMI

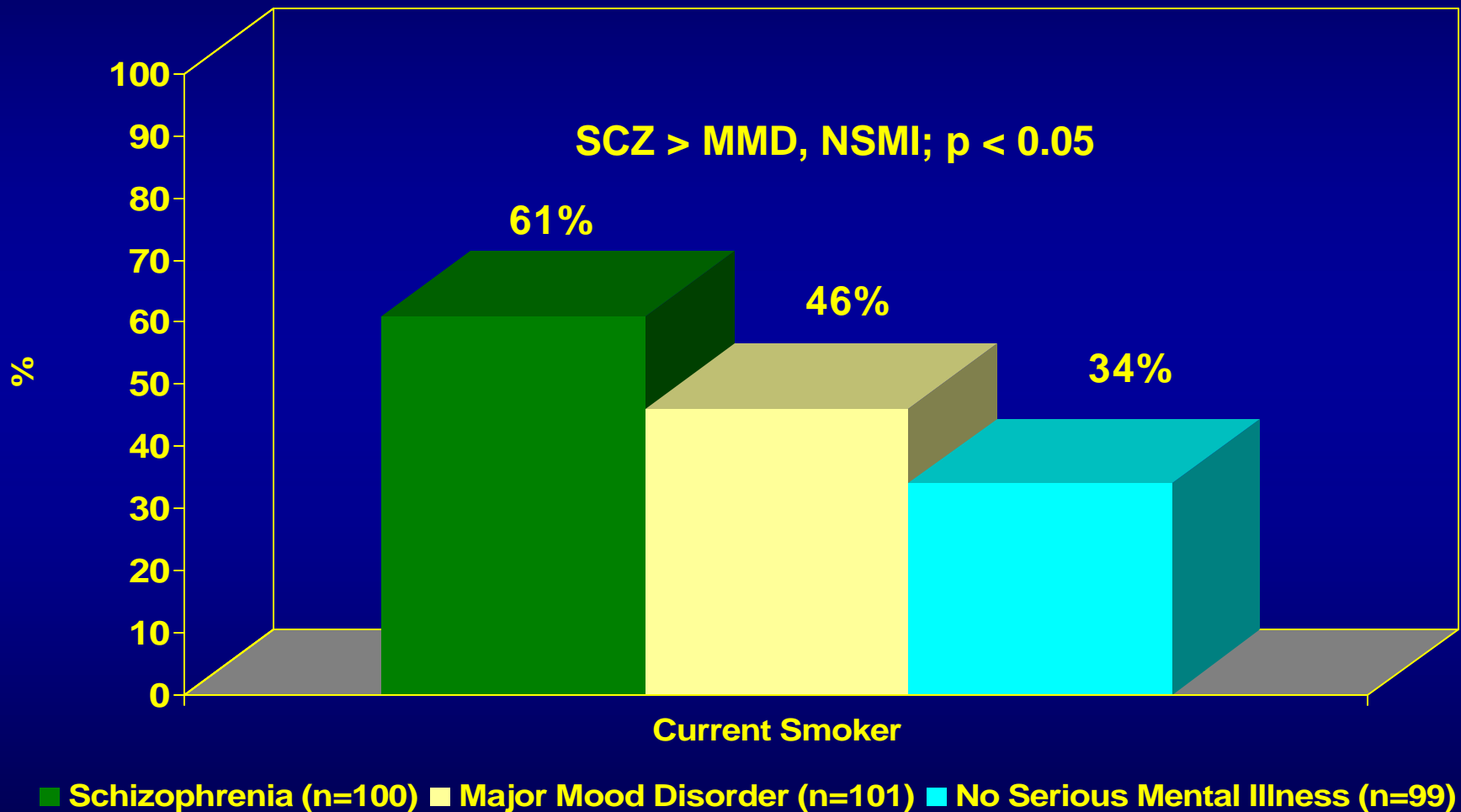
Are Patients Receiving Self-Care Reminders from Diabetes Providers?



Comparisons adjusted for age, gender, race, education, use of insulin, duration of diabetes.

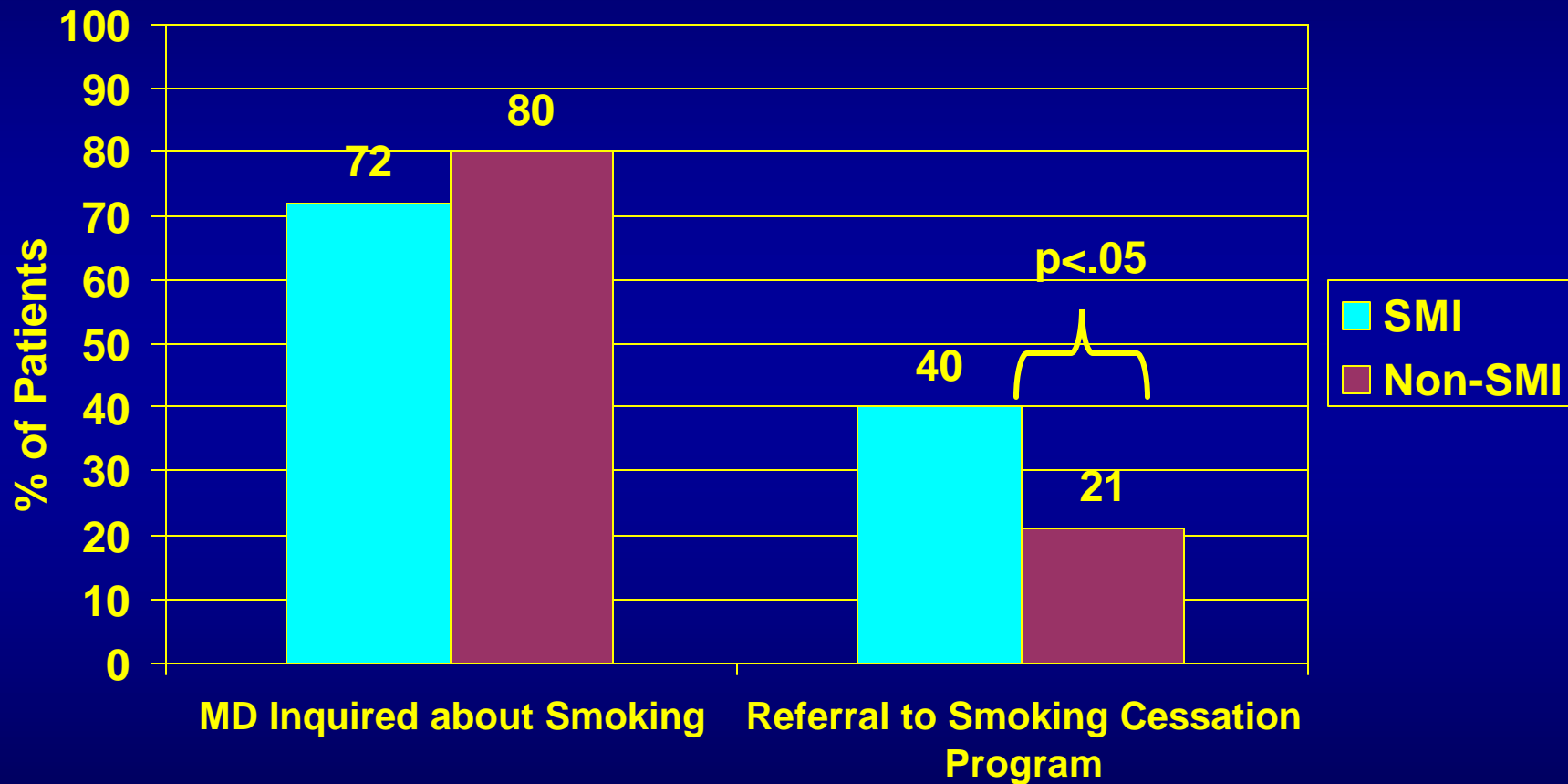
Goldberg RW et al. *Psychiatr Serv.* 2007; 58: 536-543.

Extent of Cigarette Smoking Among Individuals with SMI and Diabetes



Quality of Processes of Diabetes Care for Individuals with SMI

Are Patients Being Asked about their Smoking or Referred to Smoking Cessation Programs?



Comparisons adjusted for age, gender, race, education, use of insulin, duration of diabetes.

Goldberg RW et al. *Psychiatr Serv.* 2007; 58: 536-543.

Quality of Processes of Diabetes Care for Individuals with SMI

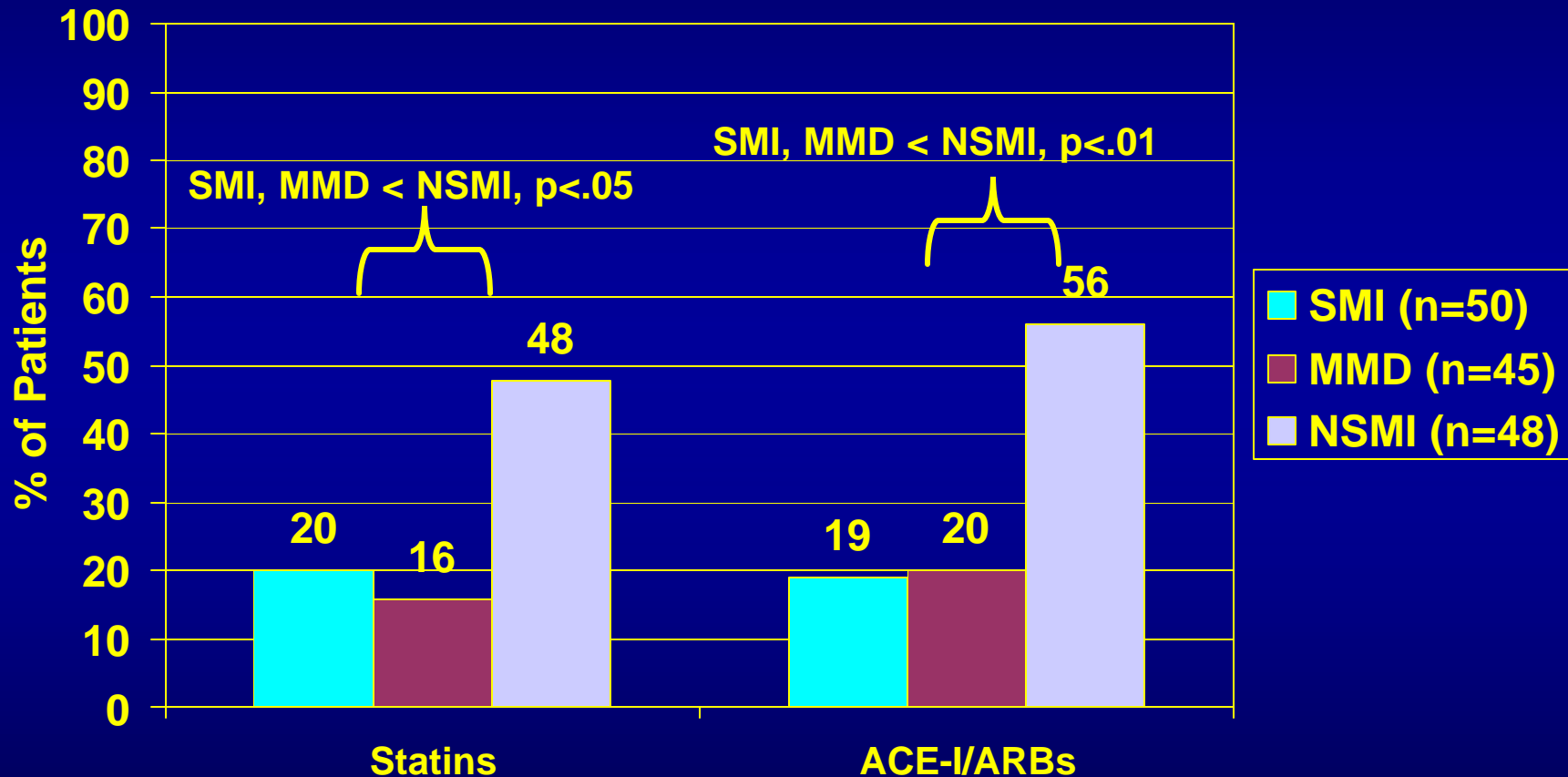
ADA Recommended Treatments for Reducing Cardiovascular Risk in Type 2 Diabetes

- **HMG-CoA reductase inhibitors ('statins')**
 - First-line treatment for hyperlipidemia/overt CHD.
 - Emerging evidence for benefits in:
 - All patients \geq 40 years of age, regardless of baseline lipids.
 - Patients $<$ 40 years of age + other CV risk factors, regardless of baseline lipids.
- **Angiotensin converting enzyme inhibitors (ACE-Is)/ angiotensin receptor blockers (ARBs)**
 - First-line treatment for hypertension, nephropathy.
 - Emerging evidence for benefits in:
 - All patients $>$ 55 years of age + other CVD risk factors.

Quality of Processes of Diabetes Care for Individuals with SMI

Are Patients Receiving Medications to Reduce Cardiovascular Risk?

Are Patients Receiving Medications to Reduce Cardiovascular Risk?



Comparisons adjusted for age, gender, race.

Kreyenbuhl J et al. *J Nerv Mental Dis.* 2006; 194: 404-410.

Quality of Processes of Diabetes Care for Individuals with SMI

Are Patients Receiving Medications to Reduce Cardiovascular Risk?

Data Source

Maryland Medicaid administrative encounter data (enrollment, health service use, and outpatient prescription files) from 2001-2003.

Inclusion Criteria and Study Sample

N = 82,980

(≥ 1 Rx for an antipsychotic or mood stabilizer in 2001-2003)



N = 40,992

(Continuously enrolled in Medicaid from 2001-2003)



N = 20,363

(Diagnosis of schizophrenia, schizoaffective disorder, affective psychosis, or other psychotic disorder, age ≥ 18)



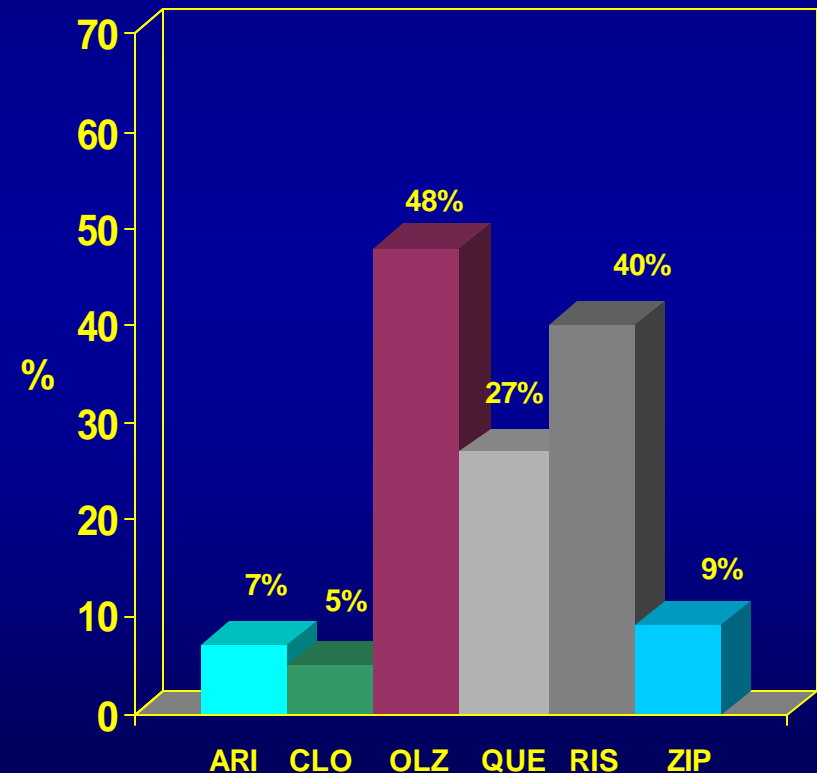
N = 3,265 (**FINAL STUDY SAMPLE**)

(≥ 2 inpatient or outpatient records with ICD-9 diagnostic codes for Type 2 diabetes in 2001-2003)

Maryland Medicaid Recipients with a Psychotic Disorder and Type 2 Diabetes (N=3,265)

Characteristic	Mean (+ S.D.)/ %
Demographics	
Age	52 ± 15 years
Female gender	67%
African-American race	55%
Mental health characteristics	
Psychotic disorder diagnosis	
Schizophrenia/schizoaffective	55%
Affective psychosis	27%
Other psychotic disorder	18%
Substance use disorder	10%
Outpatient mental health visits	57 ± 97
Psychiatric hospitalization	30%
Diabetes-related characteristics	
Co-occurring medical conditions	
Chronic kidney disease	18%
Coronary artery disease	34%
Hyperlipidemia	55%
Hypertension	80%
Prescribed insulin	29%
Outpatient diabetes visits	8 ± 7
Diabetes-related hospitalization	10%

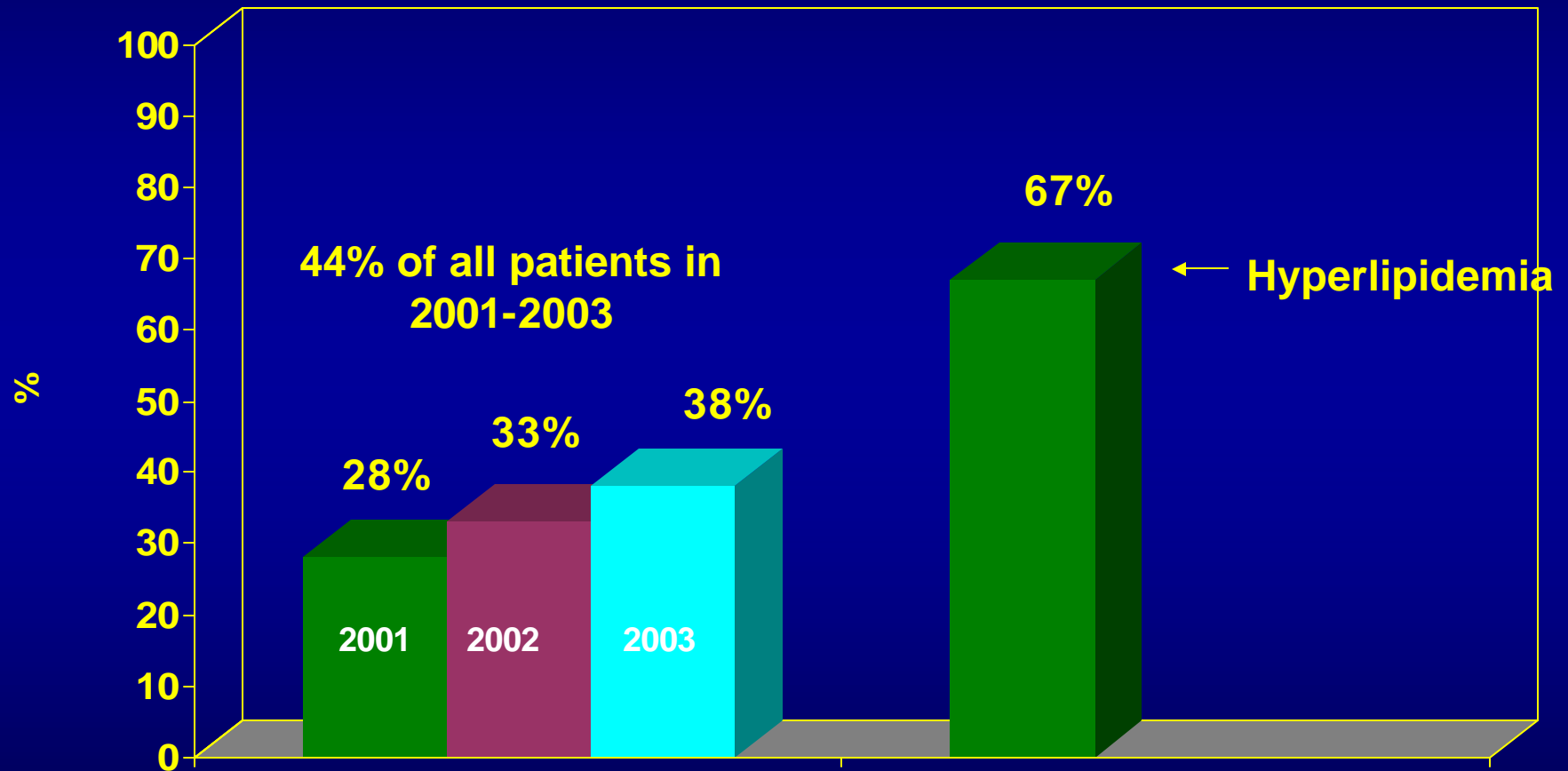
Use of Antipsychotics, 2001-2003



Kreyenbuhl J et al. Manuscript in preparation.

Quality of Processes of Diabetes Care for Individuals with SMI

Are Patients Receiving **Statins** to Reduce Cardiovascular Risk?
(N=3,265)



Quality of Processes of Diabetes Care for Individuals with SMI

Multivariable Analysis of **Statin** Prescribing (N=3,265)

Characteristic	AOR	95% CI	Wald X ²	p value
Age, years	1.007	1.00-1.01	3.29	0.07
Female gender	1.24	1.03-1.48	5.08	0.02
African-American race (Ref: White)	0.71	0.59-0.84	15.3	< 0.01
<u>Co-occurring medical conditions</u>				
Cerebrovascular disease	1.06	0.85-1.33	0.30	0.59
Chronic kidney disease	1.06	0.84-1.33	0.22	0.64
Congestive heart failure	0.98	0.78-1.22	0.04	0.84
Coronary artery disease	1.58	1.29-1.96	19.7	< 0.01
Hyperlipidemia	11.2	9.26-13.6	606.8	< 0.01
Hypertension	1.58	1.25-1.99	14.7	< 0.01
Peripheral vascular disease	1.04	0.84-1.30	0.13	0.72
Prescribed insulin	1.29	1.05-1.59	5.96	0.01
<u>No. of outpatient diabetes visits (Ref: 0 visits)</u>				
1-4	1.54	1.20-2.00	11.6	< 0.01
5-9	1.76	1.36-2.29	18.2	< 0.01
≥ 10	1.79	1.37-2.35	17.8	< 0.01
Diabetes-related hospitalization	0.84	0.62-1.13	1.35	0.25

Quality of Processes of Diabetes Care for Individuals with SMI

Multivariable Analysis of **Statin** Prescribing (cont'd)

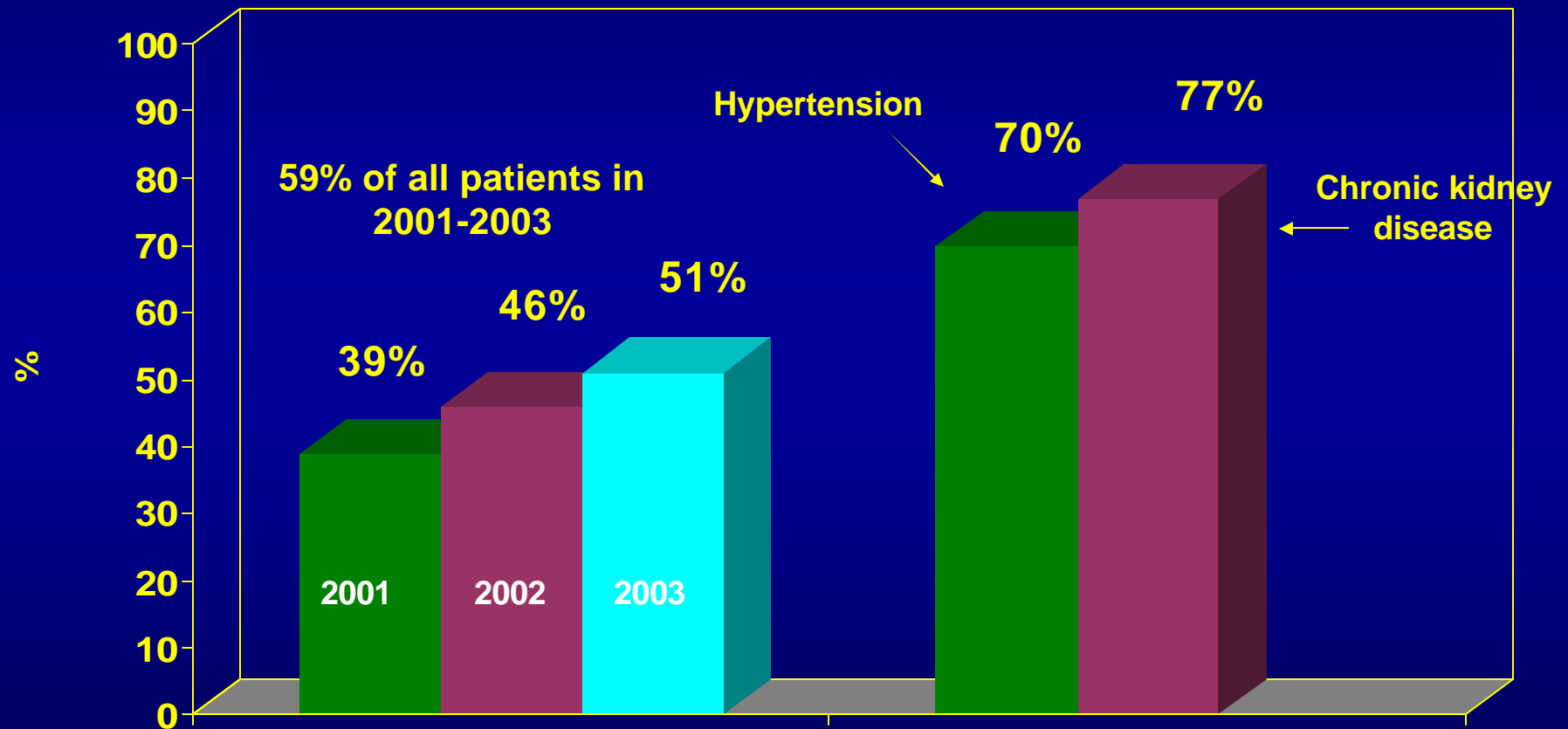
Characteristic	AOR	95% CI	Wald X ²	p value
<u>Psychotic disorder diagnosis</u> ¹				
Affective psychosis	0.74	0.60-0.90	8.61	< 0.01
Other psychotic disorder	0.80	0.62-1.04	2.78	0.10
Substance use disorder	0.65	0.47-0.88	7.45	< 0.01
<u>No. outpatient mental health visits</u> ²				
4-20	0.92	0.71-1.19	0.38	0.54
21-51	0.78	0.59-1.02	3.32	0.07
≥ 52	0.65	0.49-0.86	9.35	< 0.01
Any psychiatric/substance abuse hospitalization	1.00	0.83-1.22	0.00	0.97

¹Reference category: Schizophrenia/schizoaffective disorder

²Reference category: 0-3 outpatient mental health visits

Quality of Processes of Diabetes Care for Individuals with SMI

Are Patients Receiving **ACE-I/ARBs** to Reduce Cardiovascular Risk?
(N=3,265)



Quality of Processes of Diabetes Care for Individuals with SMI

Multivariable Analysis of ACE-I/ARB Prescribing (N=3,265)

Characteristic	AOR	95% CI	Wald X ²	p value
Age, years	1.00	1.00-1.01	4.27	0.04
Female gender	1.13	0.95-1.35	2.00	0.16
African-American race (Ref: White)	1.28	1.08-1.51	8.44	< 0.01
<u>Co-occurring medical conditions</u>				
Cerebrovascular disease	1.03	0.83-1.27	0.06	0.81
Chronic kidney disease	1.77	1.40-2.23	22.7	< 0.01
Congestive heart failure	1.79	1.44-2.23	27.7	< 0.01
Coronary artery disease	1.08	0.89-1.30	0.57	0.45
Hyperlipidemia	1.20	1.01-1.43	4.19	0.04
Hypertension	7.71	6.13-9.71	302.9	< 0.01
Peripheral vascular disease	0.81	0.66-1.00	4.00	0.05
Prescribed insulin	1.36	1.12-1.66	9.38	< 0.01
<u>No. of outpatient diabetes visits (Ref: 0 visits)</u>				
1-4	1.44	1.15-1.81	10.1	< 0.01
5-9	1.97	1.54-2.52	28.9	< 0.01
≥ 10	2.20	1.70-2.86	35.6	< 0.01
Diabetes-related hospitalization	1.01	0.75-1.34	0.00	0.96

Quality of Processes of Diabetes Care for Individuals with SMI

Multivariable Analysis of ACE-I/ARB Prescribing (cont'd)

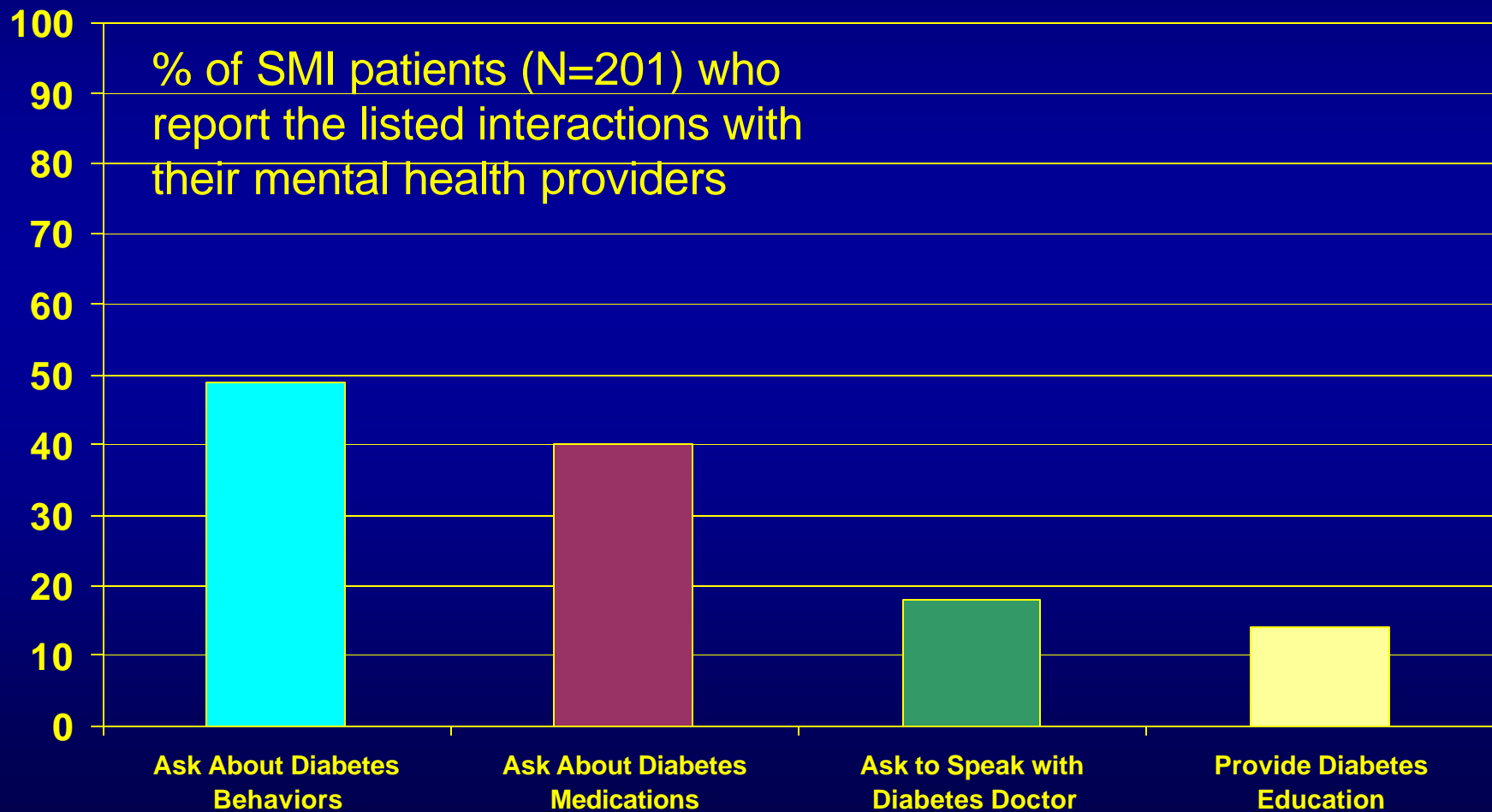
Characteristic	AOR	95% CI	Wald X ²	p value
<u>Psychotic disorder diagnosis</u> ¹				
Affective psychosis	1.09	0.89-1.32	0.68	0.41
Other psychotic disorder	0.79	0.62-1.00	3.70	0.05
Substance use disorder	0.98	0.74-1.30	0.01	0.90
<u>No. outpatient mental health visits</u> ²				
4-20	0.92	0.72-1.17	0.48	0.49
21-51	1.03	0.80-1.33	0.05	0.83
≥ 52	0.74	0.57-0.96	5.24	0.02
Any psychiatric/substance abuse hospitalization	0.95	0.78-1.14	0.35	0.55

¹Reference category: Schizophrenia/schizoaffective disorder

²Reference category: 0-3 outpatient mental health visits

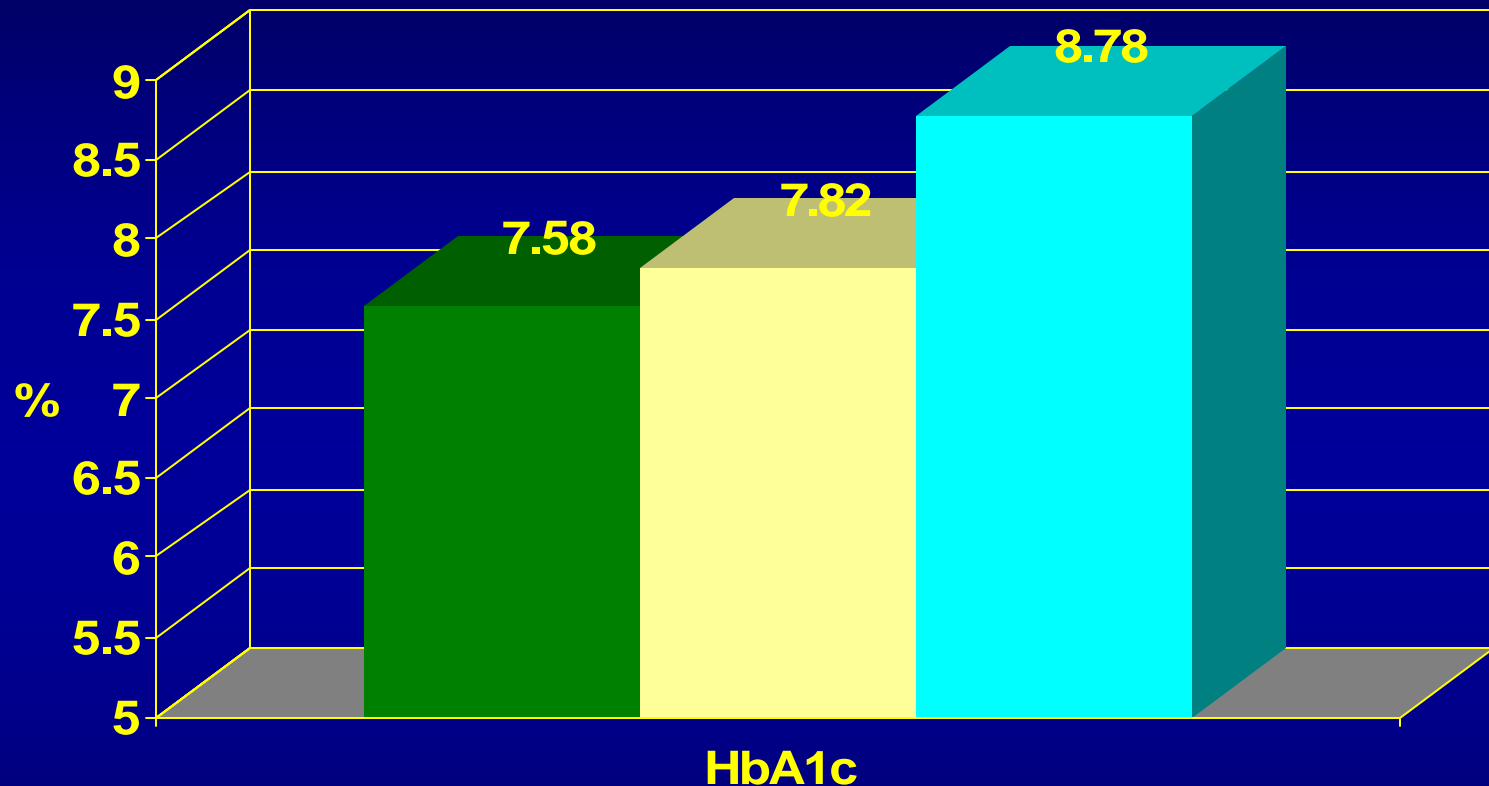
Quality of Processes of Diabetes Care for Individuals with SMI

Are Mental Health Providers Paying Adequate Attention to Medical Co-morbidities?



Quality of Intermediate Outcomes of Diabetes Care for Individuals with SMI

ADA Recommended Goal for **HbA1c**: < 7%



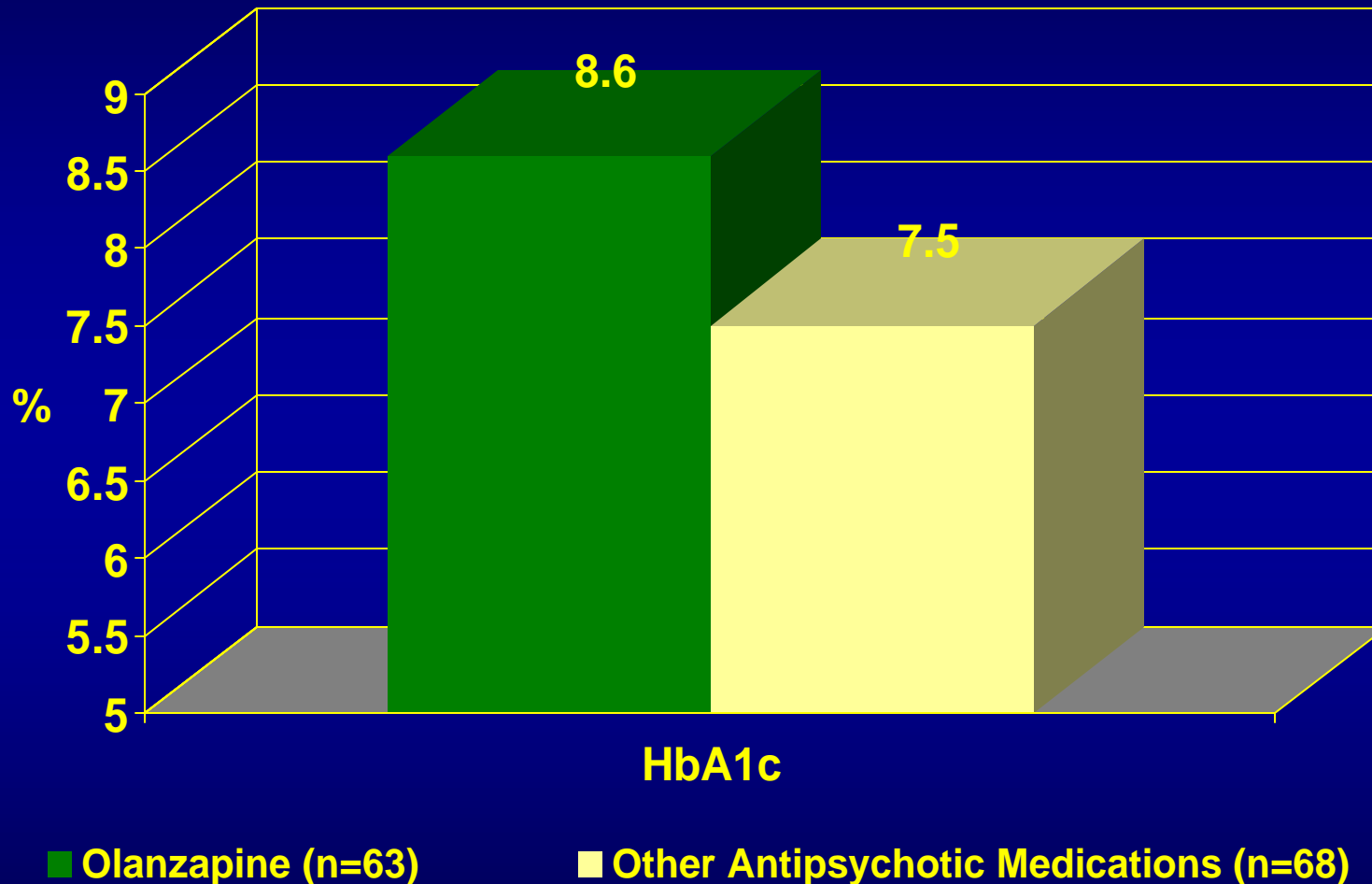
■ Schizophrenia (N=100) ■ Major Mood Disorder (N=101) ■ No Serious Mental Illness (N=99)

(SCZ < NSMI; $p < 0.001$; analyses adjusted for age, gender, race, education, duration of diabetes, BMI, smoking, hypertension, diabetes knowledge, receipt of diabetes education, number of outpatient visits for diabetes, adherence to diet and exercise, prescription of hypoglycemic medication, and depressive symptoms).

Dixon L et al. *Psychiatric Serv.* 2004; 55: 892-900.

Quality of Intermediate Outcomes of Diabetes Care for Individuals with SMI, by Antipsychotic Medication

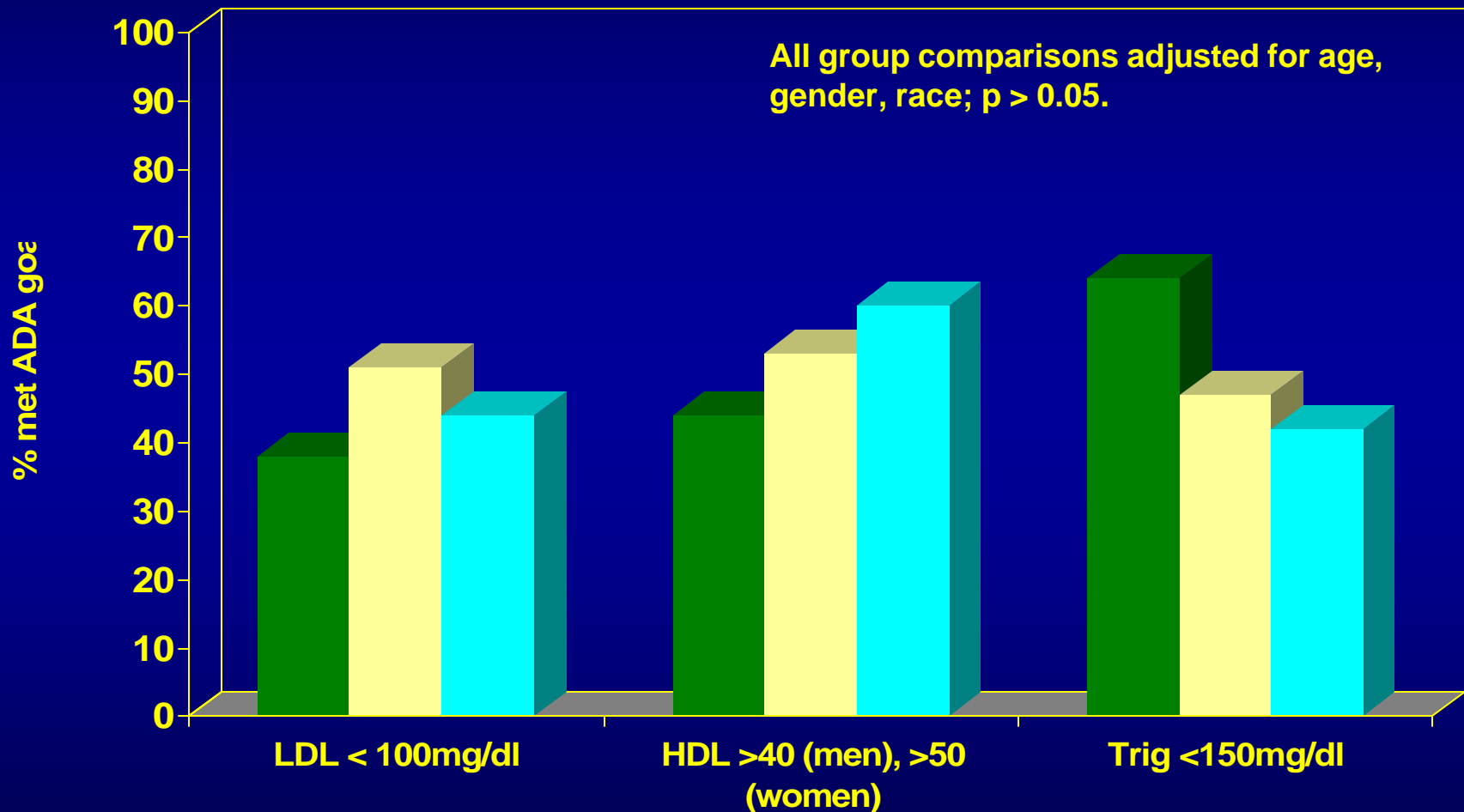
ADA Recommended Goal for HbA1c: < 7%



(Olanzapine > other antipsychotic medications; $p = 0.02$; analyses adjusted for age, gender, race, education, duration of diabetes, BMI, smoking, hypertension, adherence to hypoglycemic medication).

Quality of Intermediate Outcomes of Diabetes Care for Individuals with SMI

ADA Recommended Goals for Lipids

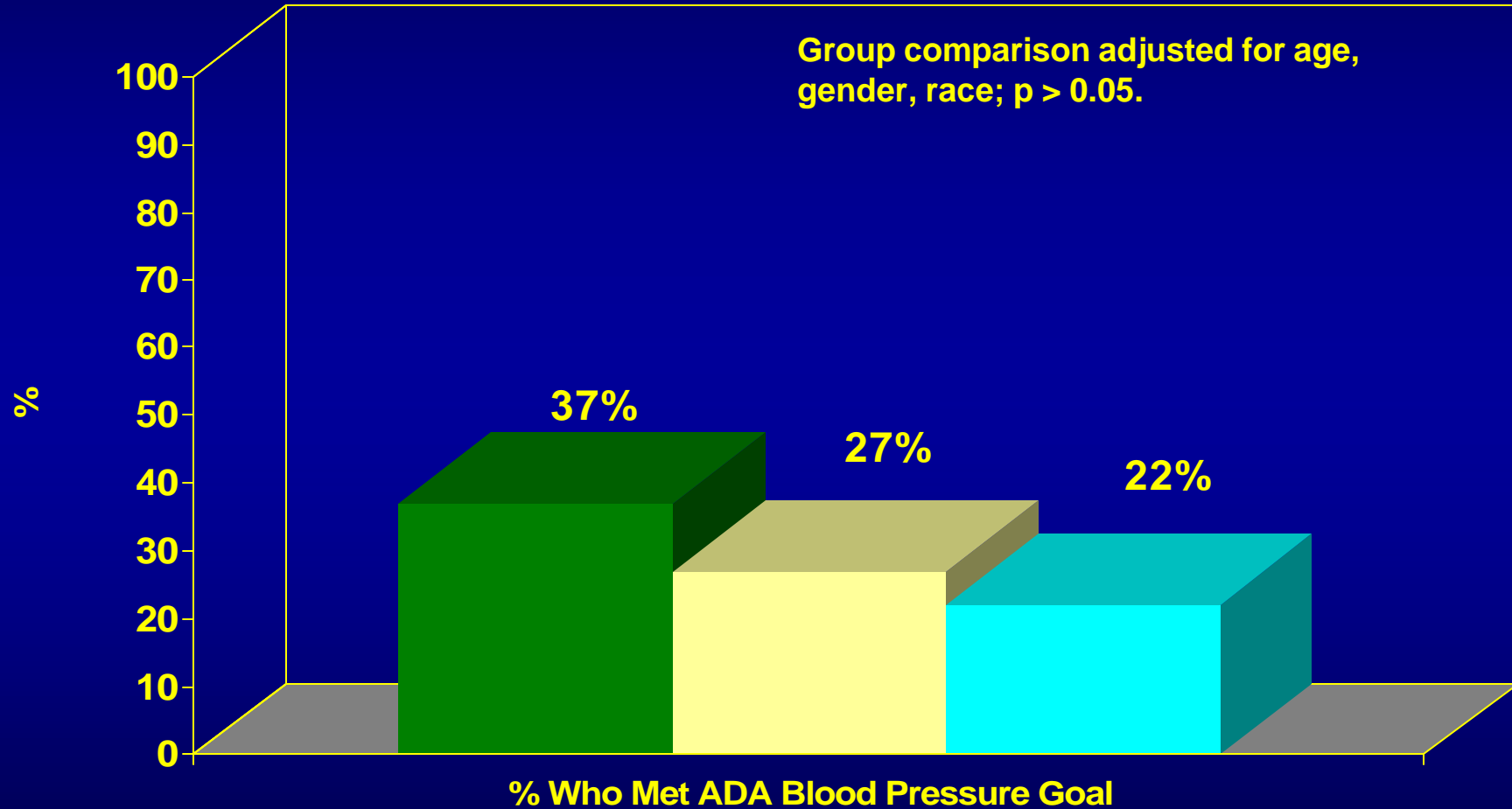


■ Schizophrenia (n=50) ■ Major Mood Disorder (n=45) ■ No Serious Mental Illness (n=48)

Kreyenbuhl J et al. *J Nerv Mental Dis.* 2006; 194: 404-410.

Quality of Intermediate Outcomes of Diabetes Care for Individuals with SMI

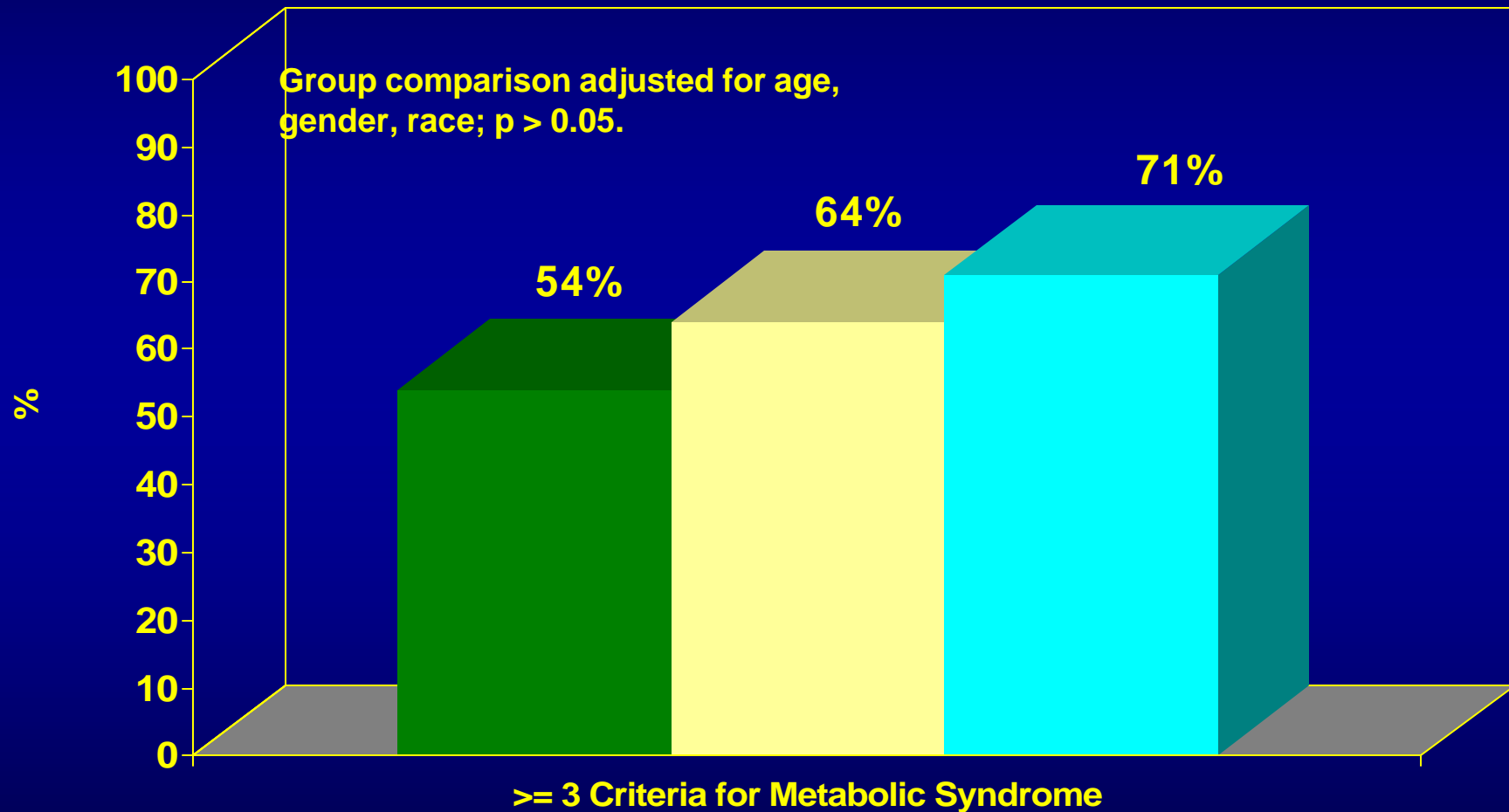
ADA Recommended Goal for **Blood Pressure**: < 130/80 mmHg



■ Schizophrenia (n=50) ■ Major Mood Disorder (n=45) ■ No Serious Mental Illness (n=48)

Quality of Intermediate Outcomes of Diabetes Care for Individuals with SMI

Extent of Prevalence of the **Metabolic Syndrome**



■ Schizophrenia (n=50) ■ Major Mood Disorder (n=45) ■ No Serious Mental Illness (n=48)

Conclusions

- Quality of diabetes care provided to persons with SMI, particularly for reduction of cardiovascular risk, is inadequate.
 - Processes of care
 - Lipid monitoring
 - Use of cardioprotective statins and ACE-I/ARBs
 - Referral to smoking cessation programs
 - Intermediate outcomes of care
 - ADA recommended HbA1c, blood pressure, and cholesterol goals
 - Rate of metabolic syndrome
 - Rate of smoking
- Diabetes knowledge is problematic in patients with schizophrenia.
 - Interventions to enhance provision of diabetes education and self-care reminders by providers may improve patients' knowledge and health status.

Conclusions

- Patients prescribed olanzapine exhibited higher HbA1c values than patients prescribed other antipsychotic agents.
 - Careful risk-benefit analyses informed by results of health monitoring should be conducted when initiating or changing antipsychotic treatment in patients with Type 2 diabetes.
- Some aspects of the quality of diabetes care provided to patients with SMI is reassuring.
 - Annual HbA1c, foot, urine, and blood pressure monitoring.
 - Inquiry about smoking habits.

National Association of State Mental Health Program Directors (NASMHPD)

Technical Report on Morbidity and Mortality in People with SMI

- Recommendations to improve physical health status in SMI patients
 - Track and monitor morbidity and mortality in patients served by public mental health systems (surveillance).
 - Improve access and promote coordinated and integrated mental health and physical healthcare.
 - Ensure provision of quality, evidence-based physical and mental healthcare.
 - Support wellness and empowerment of persons with SMI, to improve mental and physical well-being.

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