

Can Pharmaceuticals Cost-Effectively Meet the Challenges of Treating & Preventing Disease?

The Varro E. Tyler Distinguished Lectureship
Purdue University

School of Pharmacy and Pharmaceutical Sciences
November 14-15, 2005

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Educational Objectives

- ❑ Explain economic and quality factors in the management of disease
- ❑ Demonstrate impact of disease on productivity and quality of life
- ❑ Explain the role of Medicare Modernization Act and disease
- ❑ Identify value of patient/consumer in managing conditions/diseases

ACCESS

VALUE

COST

QUALITY



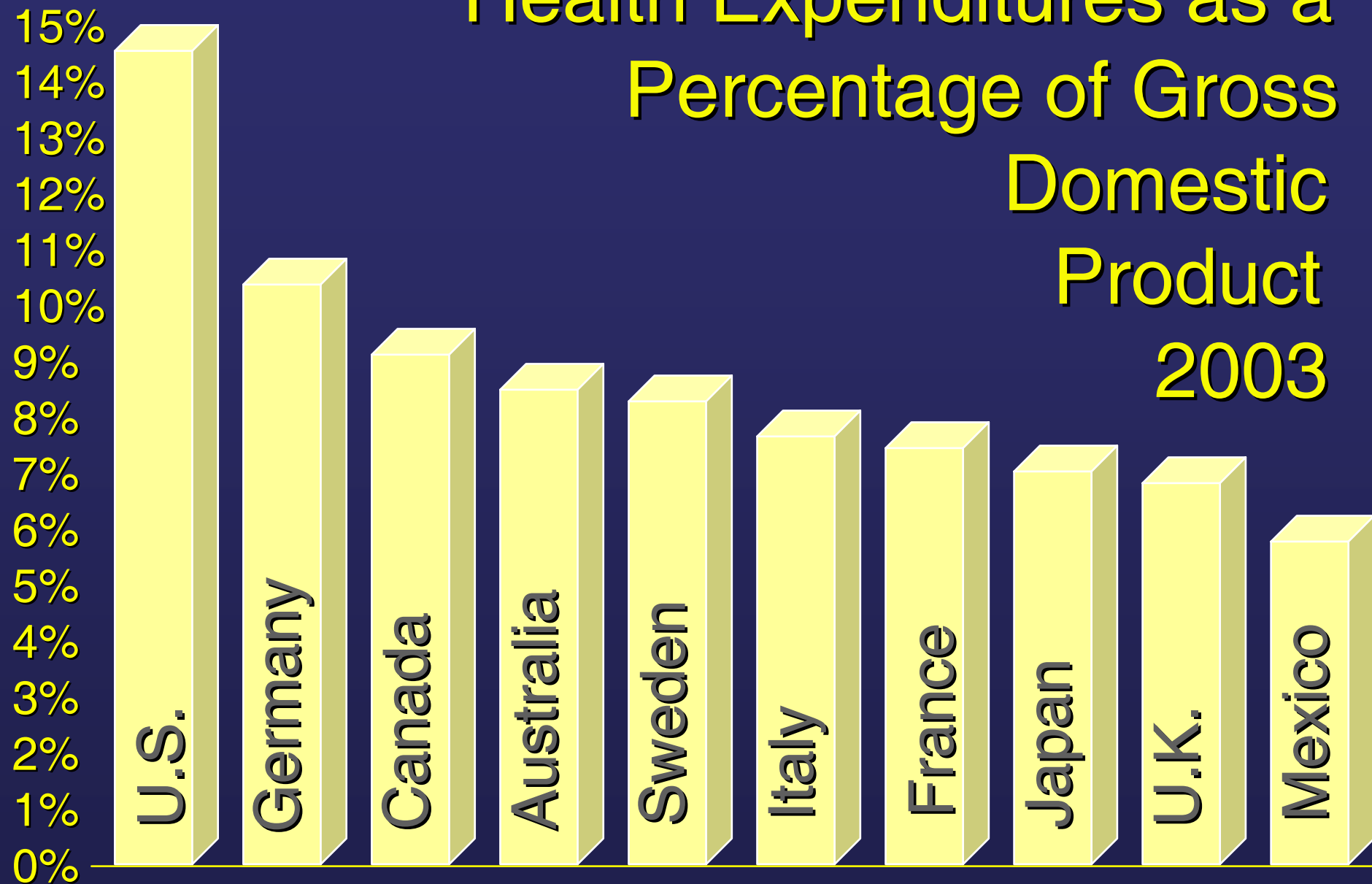
Trends in U.S. Health Care

- ❑ Aging Society
- ❑ Finance/Reimbursement
- ❑ Corporatization
- ❑ Technology (Genomics)
- ❑ Outcomes vs. Cost

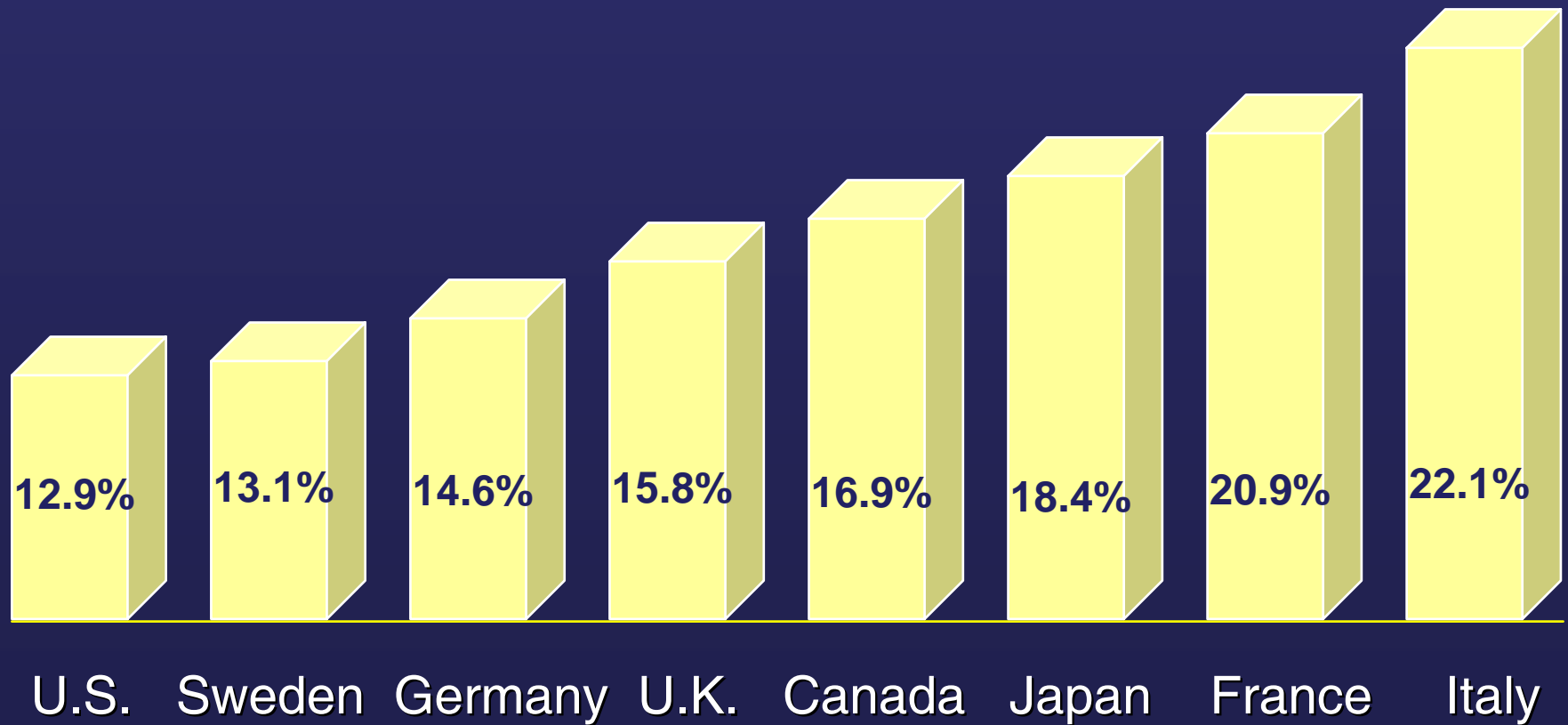
Major Diseases in US: Prevalence and Cost

<u>Disease</u>	<u>Prevalence</u>	<u>Estimated Annual Cost</u>
Alzheimer's Disease	4 Million Adults	\$100 Billion
Arthritis	70 Million Adults	\$65 Billion
Asthma	14 Million Total	\$12.7 Billion
Cancer	8.9 Million Total	\$156.7 Billion
Congestive Heart Disease	4.9 Million Adults	\$24.3 Billion
Coronary Heart Disease	12.9 Million Adults	\$129.9 Billion
Depression	18.8 Million Adults	\$44 Billion
Diabetes	17 Million Total	\$98 Billion
Hypertensive Disease	50 Million Adults	\$50.3 Billion
Irritable Bowel Syndrome	30 Million Total	\$30 Billion
Osteoporosis	10 Million Adults	\$17 Billion
Schizophrenia	2.2 Million Adults	\$32.5 Billion
Stroke	4.7 Million Adults	\$51.2 Billion

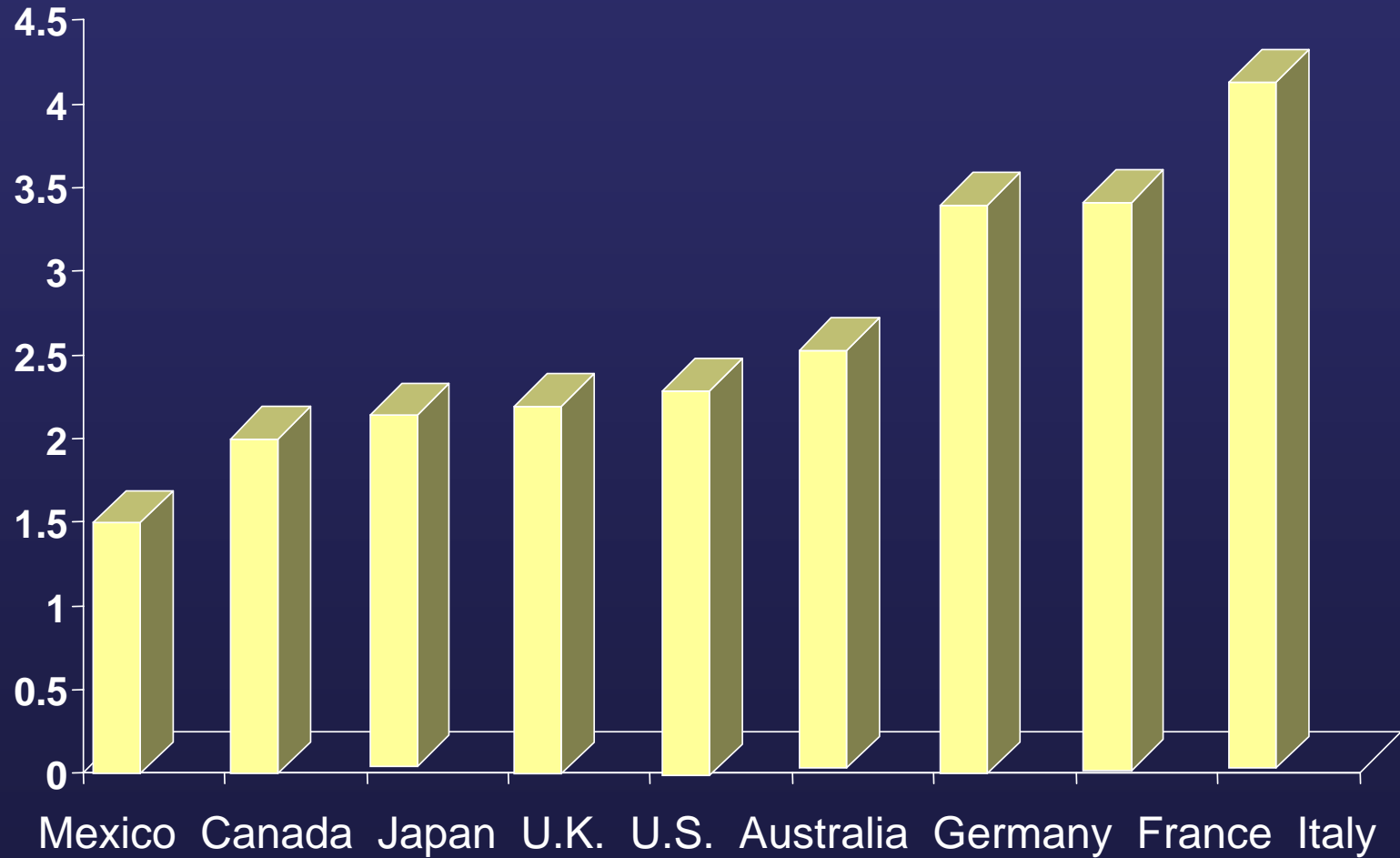
Health Expenditures as a Percentage of Gross Domestic Product 2003



Drugs as a Percentage of Healthcare Costs 2003



MD's/1000 ?



Pharmacists/1000



U.S. Pharmaceutical Expenditures 2003

Diagnostic	\$ 5 Billion
Over the Counter	\$ 25 Billion
Rx	<u>\$179 Billion</u>
Total Pharmaceutical Market	\$209 Billion

Projected Rx Market by 2004 ~\$250 Billion

**Employers as
Healthcare
Purchasers:**

An Evolving System

Individual Risks That Impact Overall Health Care Costs, Absenteeism and Productivity

For every 100 employees:

- ❑ **60 are sedentary**
- ❑ **50 have high cholesterol**
- ❑ **50 feel distressed or depressed**
- ❑ **27 have cardiovascular disease**
- ❑ **25 smoke**
- ❑ **24 have high blood pressure**
- ❑ **20 are at least 20% overweight**
- ❑ **10 have diabetes**

Pharmaceutical Development

Pre-1940

- Basically Nonexistent

1940 - 2000

- Complex Drug Development
- Cellular Structure Analysis
- Molecular and Immunological Sciences

Prevalence and Medicines in Development for Selected Major Diseases in the United States

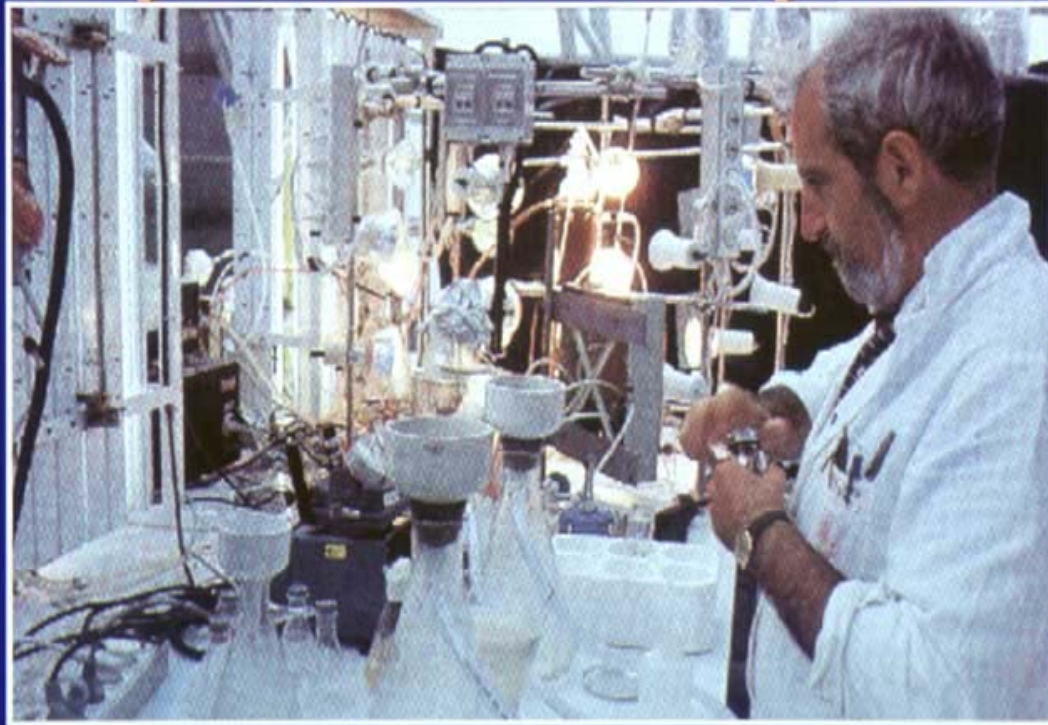
Approximate Number of Medicines

	<u>Prevalence</u>	<u>Development</u>
Alzheimer's Disease	4,000,000	26
Arthritis	40,000,000	28
Asthma	14,000,000	21
Cancer	8,000,000	402
Congestive Heart Failure	4,900,000	18
Coronary Heart Disease	13,900,000	42
Depression	17,600,000	26
Diabetes	15,700,000	25
Hypertensive Disease	50,000,000	11
Osteoporosis	10,000,000	14
Schizophrenia	1,500,000	16
Stroke	4,000,000	18

Pharmaceutical Growth Drivers

- ❑ Consumer Demand
- ❑ Enhanced Product Development (>7500)
- ❑ Human Genome Project (# Drug Targets from 500 to 10,000)

Biotechnology — Manipulation and Exploration



- Genetic

- Molecular

- Enzyme

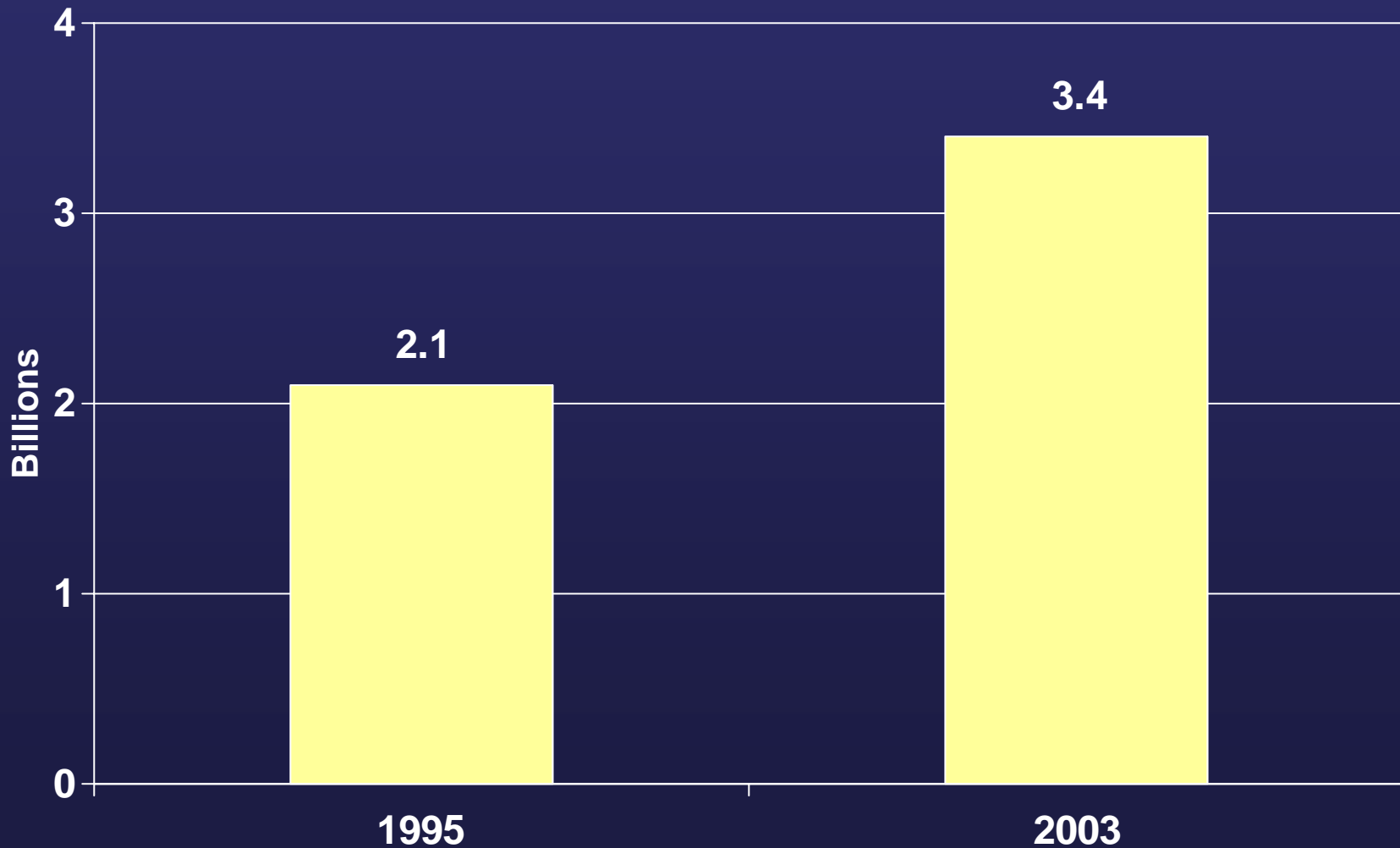
Complex Drug Development/Treatment



Chronic Conditions and Costs

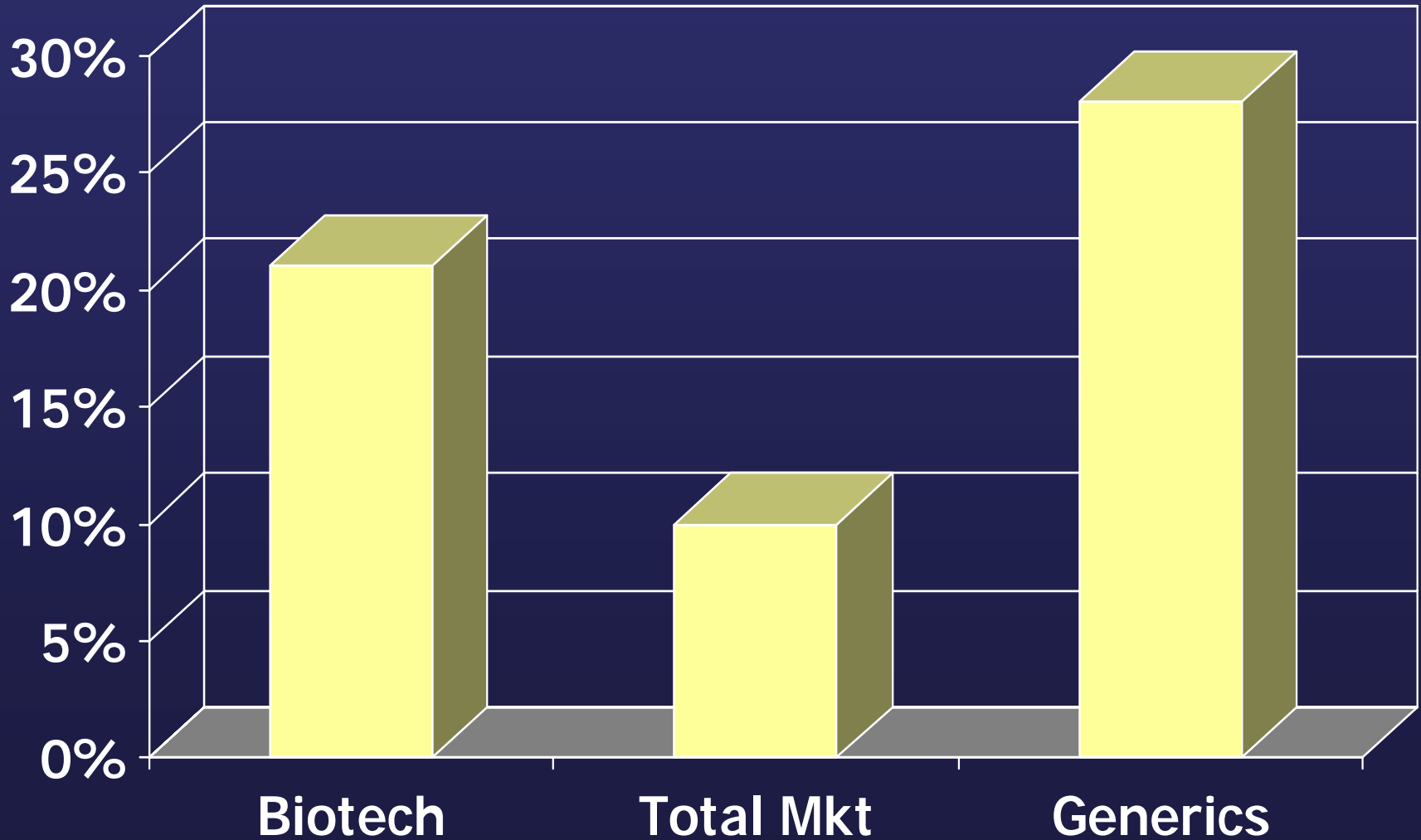
- ❑ 15 Conditions account for 56% of increased healthcare spending 1987-2003
- ❑ 5 Conditions account for 1/3 of costs
 - Heart Disease, Pulmonary, Mental Disorders, Cancer, Hypertension
- ❑ Prescription drugs and procedures account for a significant amount - as much as 70%

Prescriptions Filled in the US Retail Pharmacy Sector



Generics and Biologics Continue to Post Strong Dollar Growth

(MAT June 2003 vs. Mat June 2002)



Biotechnology will Play a Major Role in Treatment and Cost:

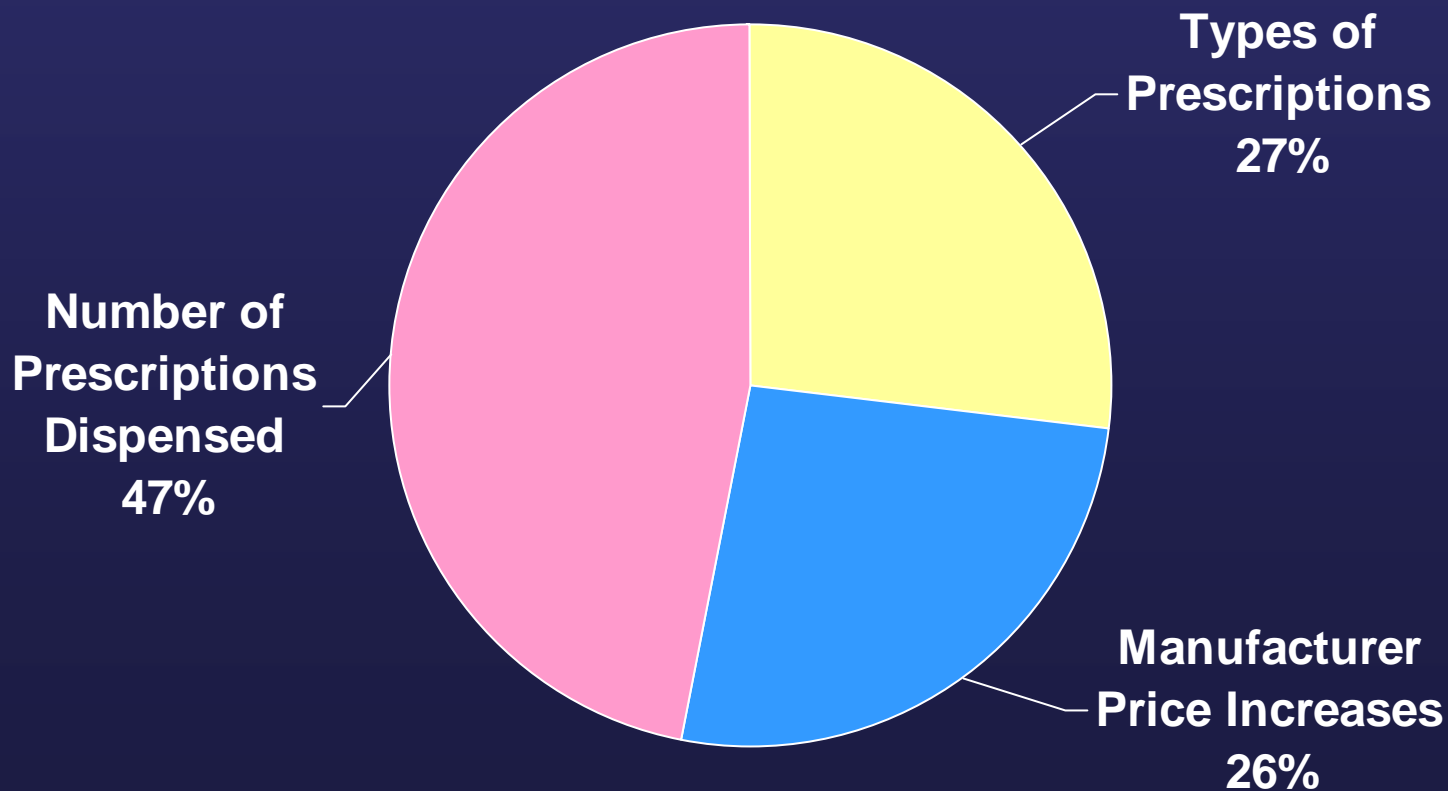
More than 80% of biotech products are being developed for Chronic Conditions

Reasons for Rising Drug Demand and Utilization

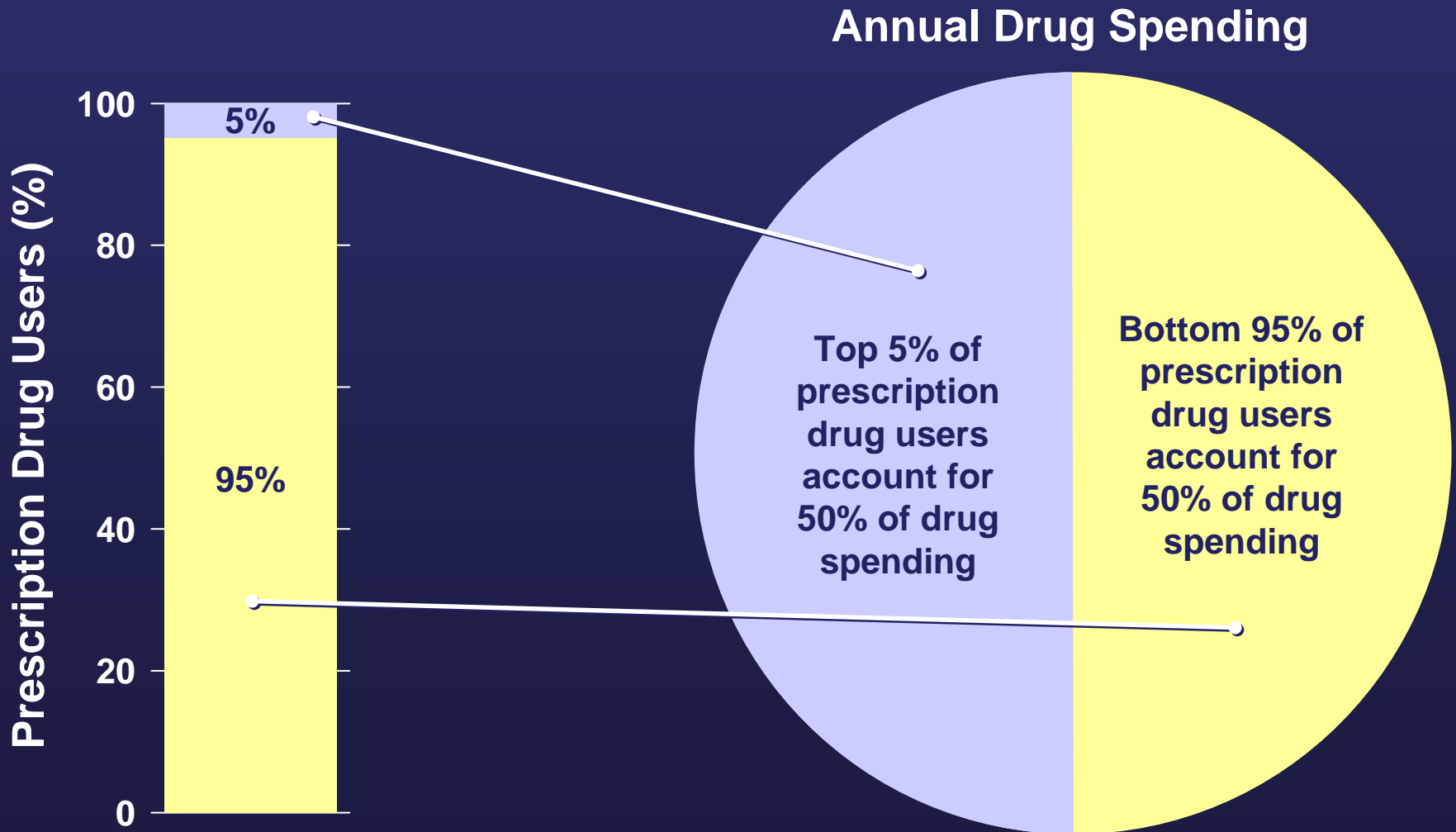
- ❑ Growth in third-party coverage based on low copays
 - More people are able to afford prescription drugs
- ❑ More attention devoted to disease prevention and improved diagnosis
- ❑ Increasing commitment to evidence-based medicine
- ❑ Aging of America
- ❑ Increased prevalence and incidence of chronic conditions

Drug Utilization: 1997–2001

Relative Contributions of Price, Utilization, and Types of Prescription Drugs Used to Rising Prescription Drug Expenditures, 1997–2001



Pharmaceutical Spending & Utilization



Institute of Medicine Report - Crossing the Quality Chasm: A New Health System for the 21st Century

- ❑ Evidence-Based Practice
- ❑ Consumer Involvement
- ❑ Payment Restructuring
- ❑ Informatics
- ❑ Interdisciplinary Approach
- ❑ Chronic Disease/Condition

Commitment to Improve Care in Six Areas

- ❑ Safe
- ❑ Effective
- ❑ Patient Centered
- ❑ Timely
- ❑ Efficient
- ❑ Equitable

Rules to Guide Patient-Clinician Relationship

- ❑ Based upon continuous healing relationship
- ❑ Care should be customized based on patient needs/values
- ❑ Control should reside with patient
- ❑ Patient should have access to all information

Rules to Guide Patient-Clinician Relationship (Continued)

- ❑ Clinical decisions should be evidence-based
- ❑ Care system should be safe
- ❑ Health system more transparent
- ❑ System should anticipate need, not just react

Rules to Guide Patient-Clinician Relationship (Continued)

- ❑ System should not waste resources
- ❑ Cooperation among clinicians

Redesign of Health Insurance Benefits, Payment and Performance Improvement IOM Project

Will address four categories of high value services that are not adequately addressed:

- ❑ Prevention
- ❑ Management of chronic condition
- ❑ Care Coordination
- ❑ End of life care

Redesign of Health Insurance Benefits, Payment and Performance Improvement IOM Project (Continued)

- Address payment schedule fee-for-service vs. pay for performance
- Effectiveness of QIP

Leadership is Needed

**Academic Health Centers need
to prepare work force to do
their work differently and
evolve new types of health
care delivery organizations**

IOM Report on Health Professions Education: A Bridge to Quality

Education for Health Professions is in Need of a Major Overhaul

Problems Identified

- ❑ Uneducated to work in teams for treatment of chronic disease
- ❑ Not trained to use and apply evidence-based information
- ❑ Unable to address diverse population
- ❑ Inability to analyze root cause of errors and quality problems
- ❑ Lack of training in adequately using informatics in care of patients

Health Professions Education Report “Needed Competencies”

- I. Provide Patient-Centered Care
- II. Work in Interdisciplinary Teams
- III. Employ Evidence-Based Practice
- IV. Apply Quality Improvement Strategies
- V. Utilize Informatics

Priority Areas

- ❑ Self-Management/Health Literacy
- ❑ Cancer Screening
- ❑ Hypertension
- ❑ Immunization
- ❑ Major Depression (screening)
- ❑ Pregnancy and Childbirth
- ❑ Tobacco Dependence
- ❑ Obesity

Priority Areas (Continued)

- ❑ Severe and Persistent Mental Illness
- ❑ Pain Control
- ❑ Stroke
- ❑ Asthma
- ❑ Diabetes
- ❑ Ischemic Heart Disease
- ❑ Care Coordination (cross cutting)
- ❑ Medication Management

**Do We Achieve
Optimal Value With
Pharmaceuticals in the
Treatment of Chronic
Conditions?**

Value of Medicine

□ Direct value

- Ability to improve
 - Morbidity and mortality
 - Quality of life
 - Symptom relief
- Ability to prevent or mitigate complications/expenditures

□ Indirect value

- Normal, productive lives
- Reduced absenteeism/presenteeism
- Improved employee productivity
- Improved workforce health

Presenteeism – A Hidden Cost Associated with Productivity Loss for Selected Chronic Conditions

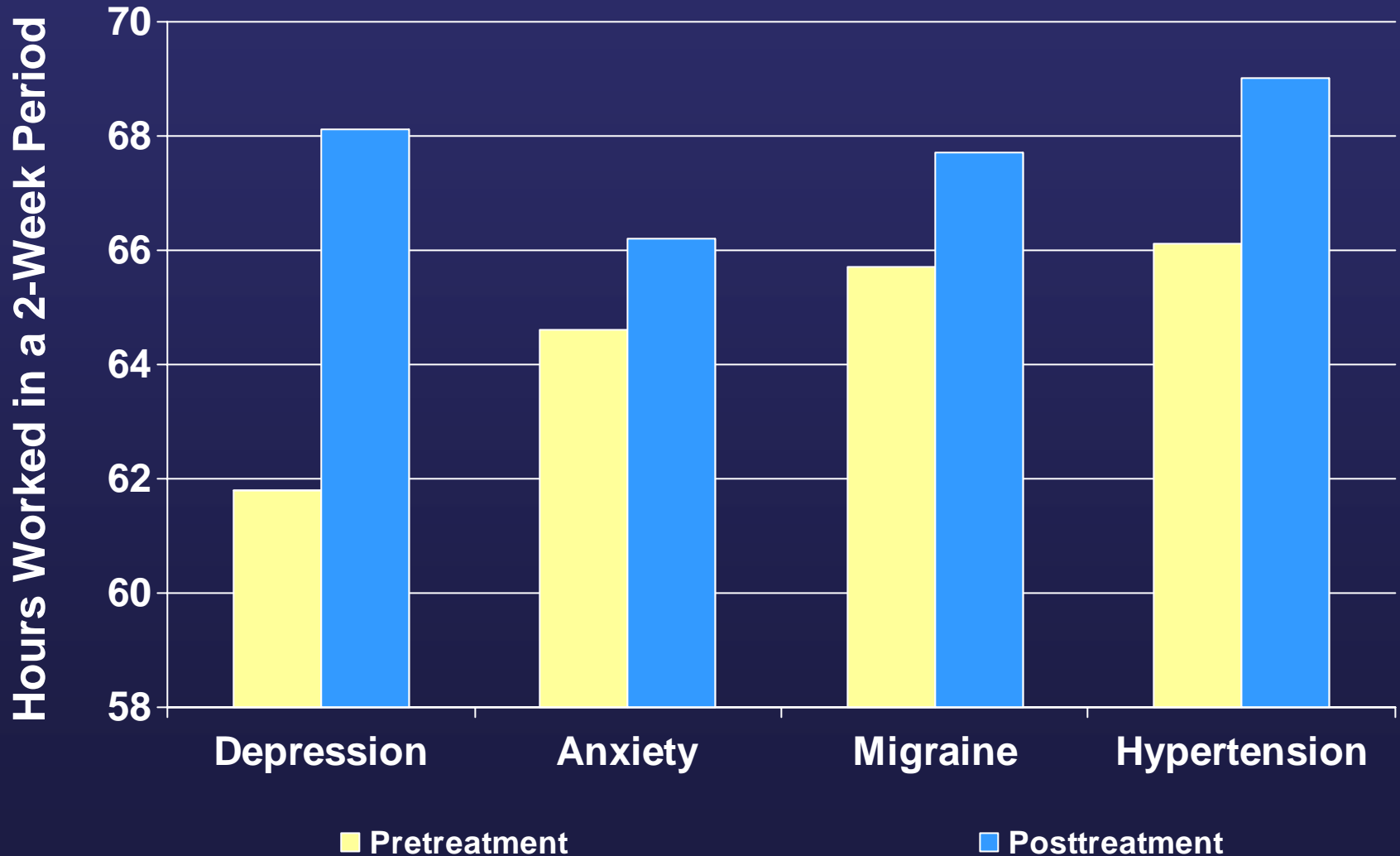
- ❑ Allergy
- ❑ Arthritis
- ❑ Asthma
- ❑ Depression
- ❑ Diabetes
- ❑ Hypertension
- ❑ Migraine

**Passage of Medicare
Prescription Drug
Improvement and
Modernization Act of 2003
suggests “Yes” to the
Value Question**

Medication Therapy Management Services Will Target Chronic Care

- ❑ Diabetes
- ❑ Asthma
- ❑ Congestive Heart Failure
- ❑ Hyperlipidemia
- ❑ Hypertension

Pharmaceuticals and Improved Productivity



HOWEVER,

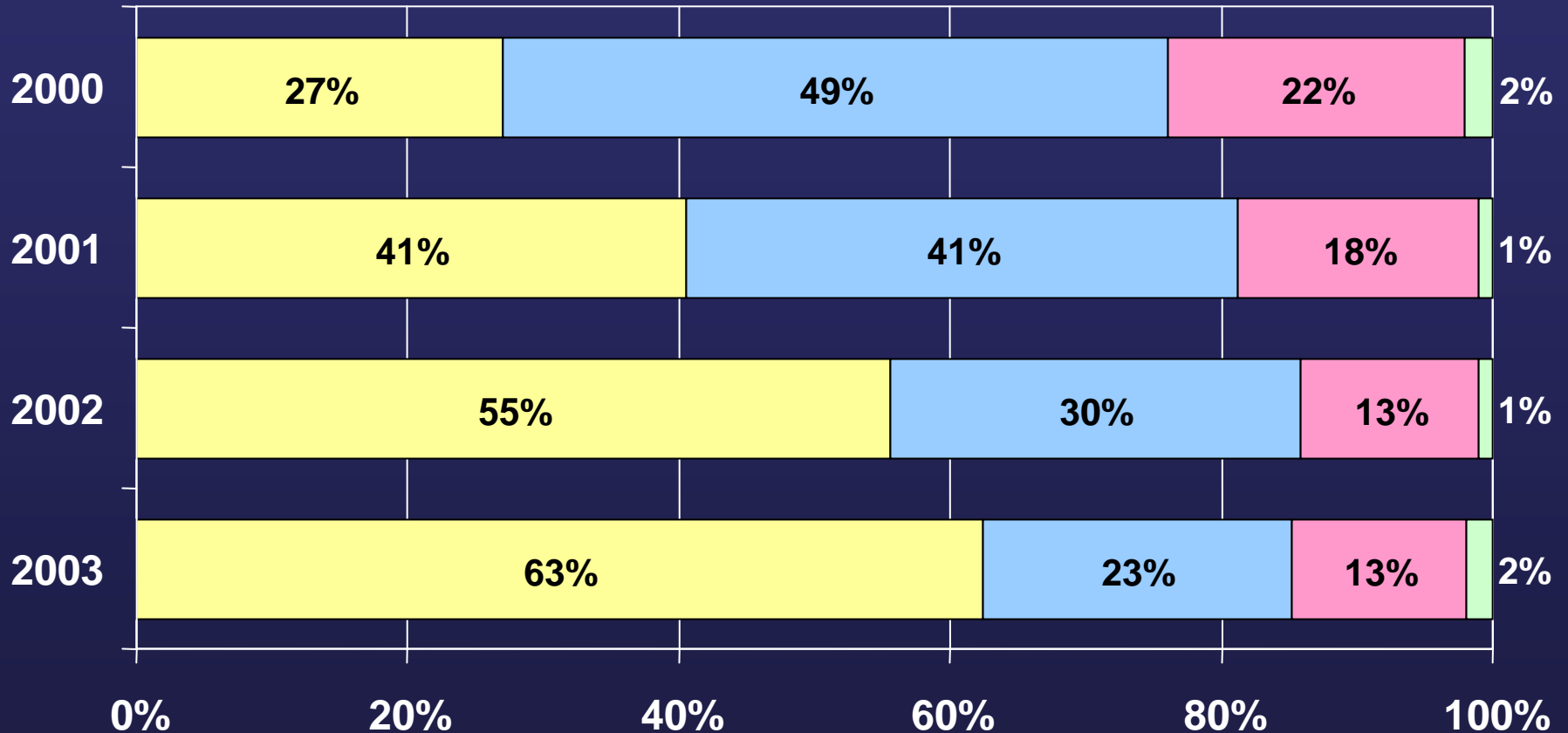
- ❑ Only 27% of patients with hypertension are under control
- ❑ 46% of diabetics have HbA_{1c} levels < 7
- ❑ Only 14% with coronary heart disease reach stable levels
- ❑ ½ tobacco users are adequately counseled
- ❑ Similar statements for Asthma, Atrial Fibrillation, Depression, Chronic Heart Failure etc...

Challenges to Providing Patient Access to Appropriate Medications

- ❑ Lack of health coverage
 - 40 million Americans with no health insurance
- ❑ Lack of, or limited, Medicare coverage for prescriptions
 - Medicare prescription drug bill
- ❑ Rising copayments for those with Rx coverage

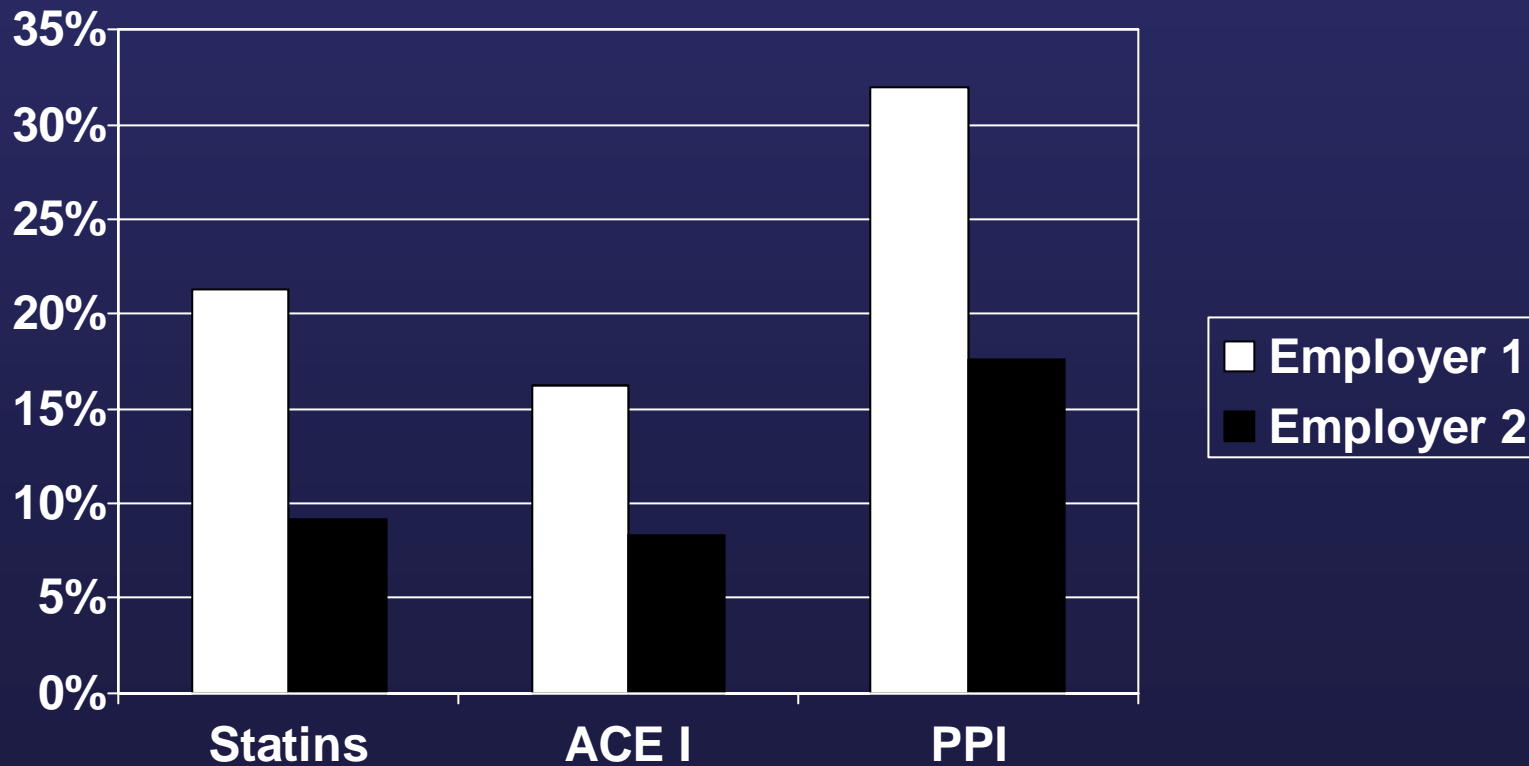
Models of Drug Benefit Redesign

Percentage of Covered Workers Facing Different Cost-Sharing Formulas for Prescription Drug Benefits, 2000–2003



- Three-Tier: One payment for generic drugs, another for preferred drugs, and a third for non-preferred drugs
- Two-Tier: One payment for generic drugs and one for all brand name drugs
- Payment is the same regardless of type of drug
- Other/Don't Know

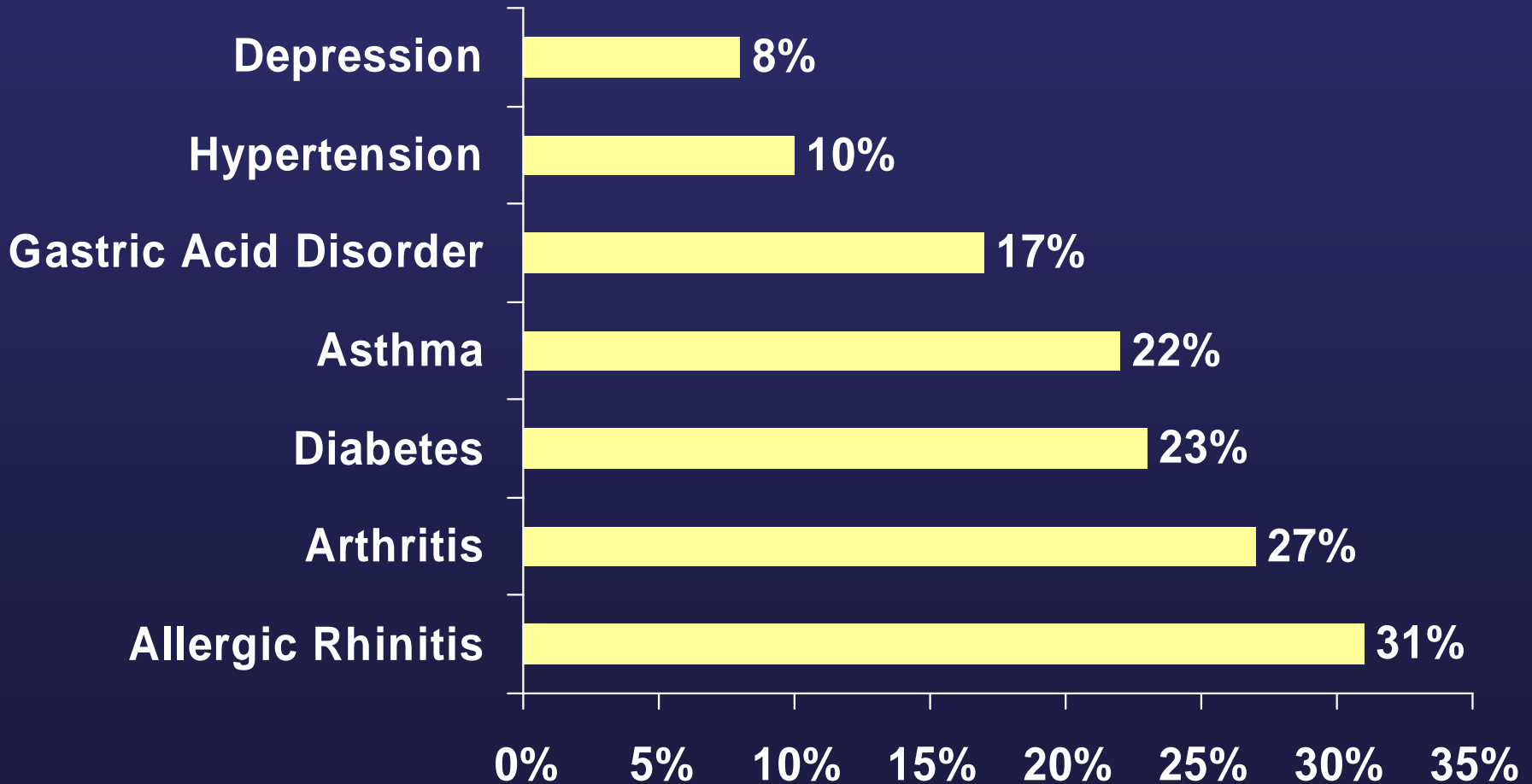
Impact of 3-Tier Formulary on Patient Discontinuation of Therapeutic Class



Higher Copays May Take Toll on Health

- ❑ Raising copays is a fairly blunt instrument in controlling rising healthcare costs
- ❑ Some worry that copays could actually increase healthcare costs for certain patients, if cutting back on medicines leads to expensive complications
- ❑ A recent Rand study found that as copays doubled for diabetes, asthma, and gastric acid disease
 - Use of prescription drugs fell between 17% & 23%
 - Visits to emergency rooms rose 17%
 - Hospital stays increased 10%

When copayments were doubled, average prescription drug use declined among people with:



The Effect of Medication Coverage on Health Outcomes

Older Americans with heart disease who decrease their medication because of cost factors were 50% more likely to suffer heart attack, stroke or angina

Challenges

- ❑ Reducing drug costs continues to be a priority among private and public payors
- ❑ Benefit design and formulary decision-makers will continue using a multi-tiered approach with higher copays for the foreseeable future

Opportunities

- ❑ Overcoming the “silo” cost mentality
- ❑ Measuring and demonstrating positive outcomes and/or productivity gains that can be directly attributed to appropriate pharmaceutical usage
- ❑ Ensuring medication compliance, timely medical follow-up, and lifestyle changes to maximize the true value of the pharmaceutical benefit

Planning for the Future

**Who will influence
cost-effective
application of
drug technology?**

The Medicare Prescription Drug Improvement and Modernization Act of 2003

- ❑ Mandates medication therapy management services to prevent, identify, and resolve medication problems (to insure value)
- ❑ Possibly placing profession of pharmacy in a key role

IOM Launches Two Year Study to Assess Quality and Safety of Medication Use Process

- ❑ Two-year comprehensive assessment of problem and solution
- ❑ Goal to provide a blue print for system wide change
- ❑ Chronic Conditions will be a major focus
- ❑ Brings to the forefront nationwide implementation to curtail and minimize medication related problems
- ❑ Provide guidance to consumers and payers as to their role
- ❑ Process is inclusive from prescription to consumption

The Strategy to Optimizing Pharmaceutical Value, Patient Health, and Productivity

- Encourage appropriate drug utilization while minimizing inappropriate utilization
- Balance the need to contain drug costs with the need to:
 - Increase patient access to valuable drug therapy
 - Optimize patient outcomes and overall cost management (i.e., total medical costs and worker productivity costs associated with non-medication use)
 - Ensure patient compliance to maximize therapy value

Optimizing Pharmaceutical Value, Patient Health and Productivity (Continued)

- Prudent balance of generic and brand utilization optimizes value in drug benefit design and management
 - Increases access to valuable drug therapy (i.e., if there were no generics, patients and payers could not afford newer, innovative drug therapies)
 - Optimizes patient outcomes and cost management

Concluding Comments

- ❑ Pharmacoeconomics and outcomes data will be increasingly critical
- ❑ Post marketing surveillance will take on a new paradigm
- ❑ Electronic information system will be key
- ❑ Current system to manage chronic disease will undergo dramatic change