

How Being Uninsured Impacts Health Status



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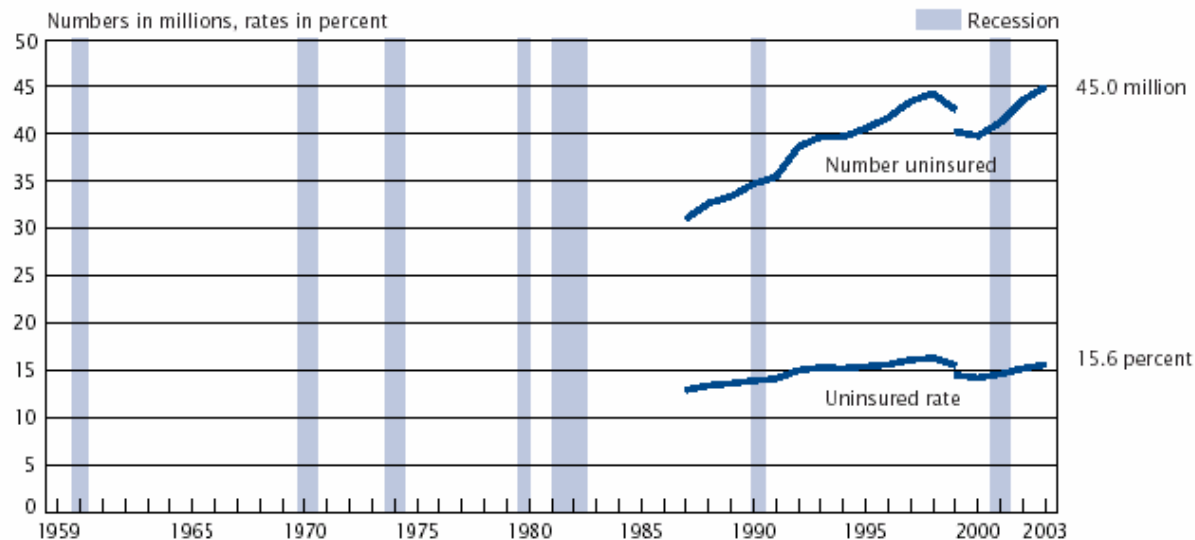
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**Director, Health Sector Management Program
Fuqua School of Business
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Uninsured: 1987 - 2003

Figure 6.
Number Uninsured and Uninsured Rate: 1987 to 2003

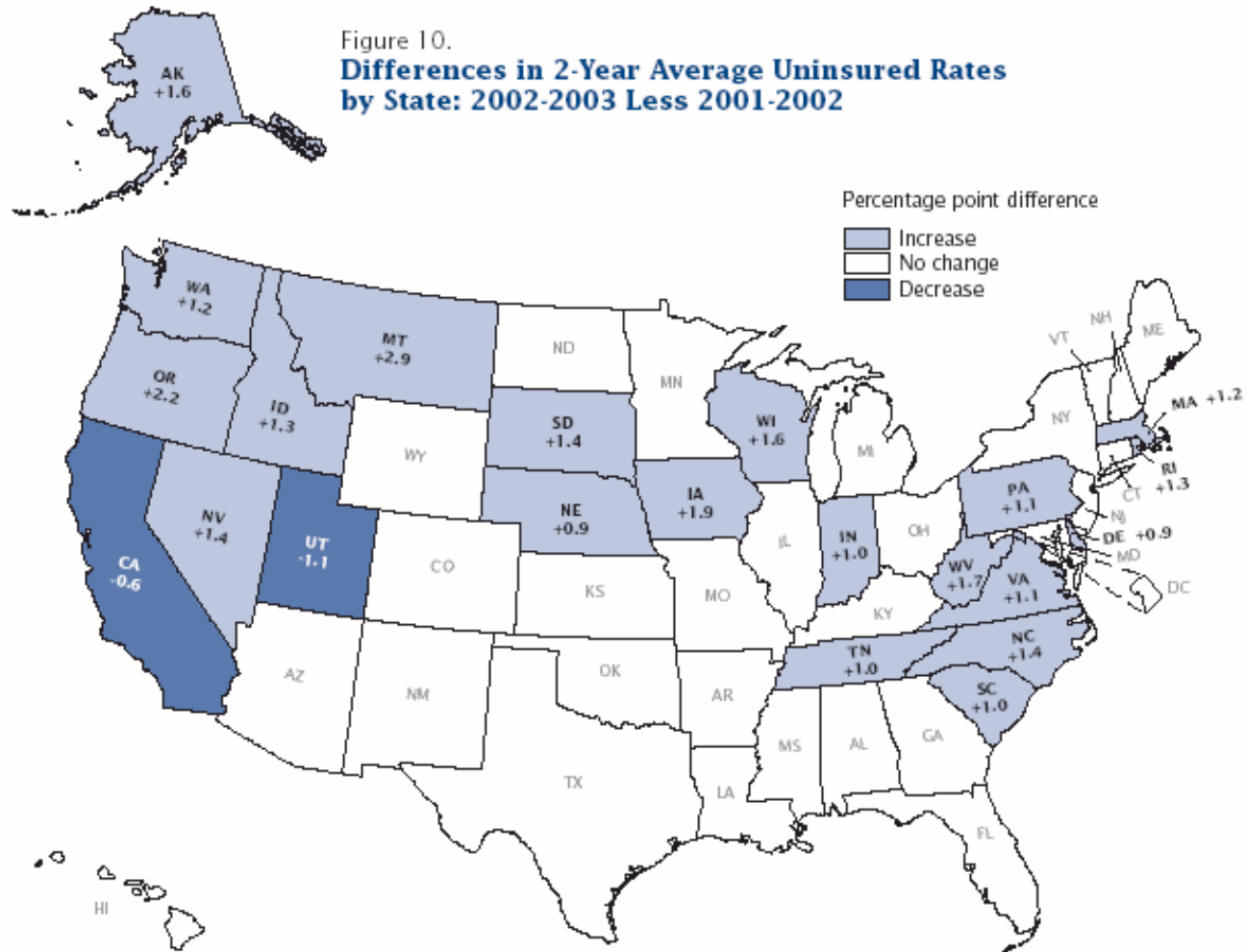


Notes: Respondents were not asked detailed health insurance questions before the 1988 Current Population Survey. Implementation of Census 2000-based population controls occurred for the 2000 ASEC, which collected data for 1999. These estimates also reflect the results of follow-up verification questions which were asked of people who responded "no" to all questions about specific types of health insurance coverage in order to verify whether they were actually uninsured. This change increased the number and percentage of people covered by health insurance, bringing the CPS more in line with estimates from other national surveys.

The data points are placed at the midpoints of the respective years.

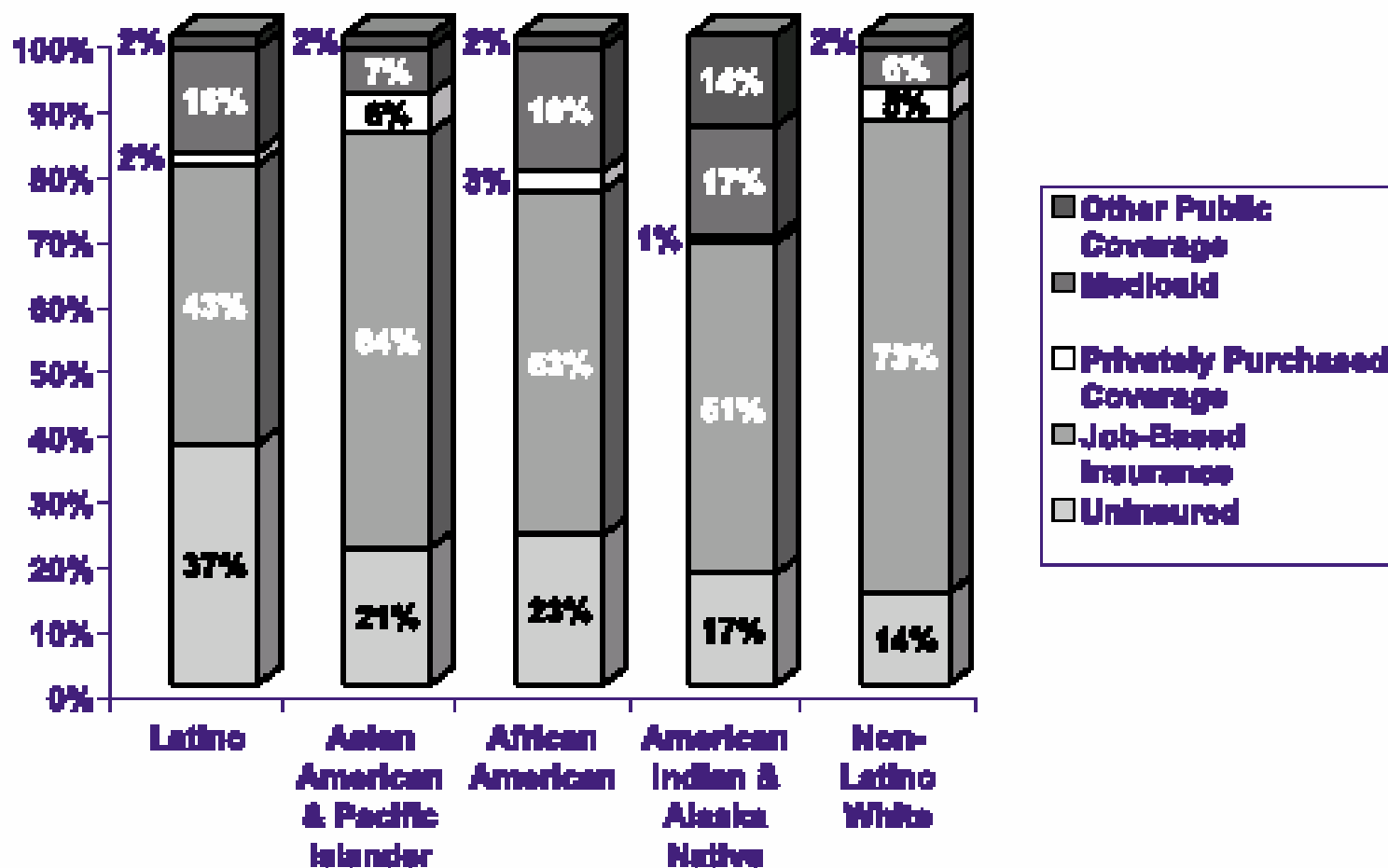
Source: U.S. Census Bureau, Current Population Survey, 1988 to 2004 Annual Social and Economic Supplements.

Uninsured in the US



Source: U.S. Census Bureau, Current Population Survey, 2002 to 2004 Annual Social and Economic Supplements.

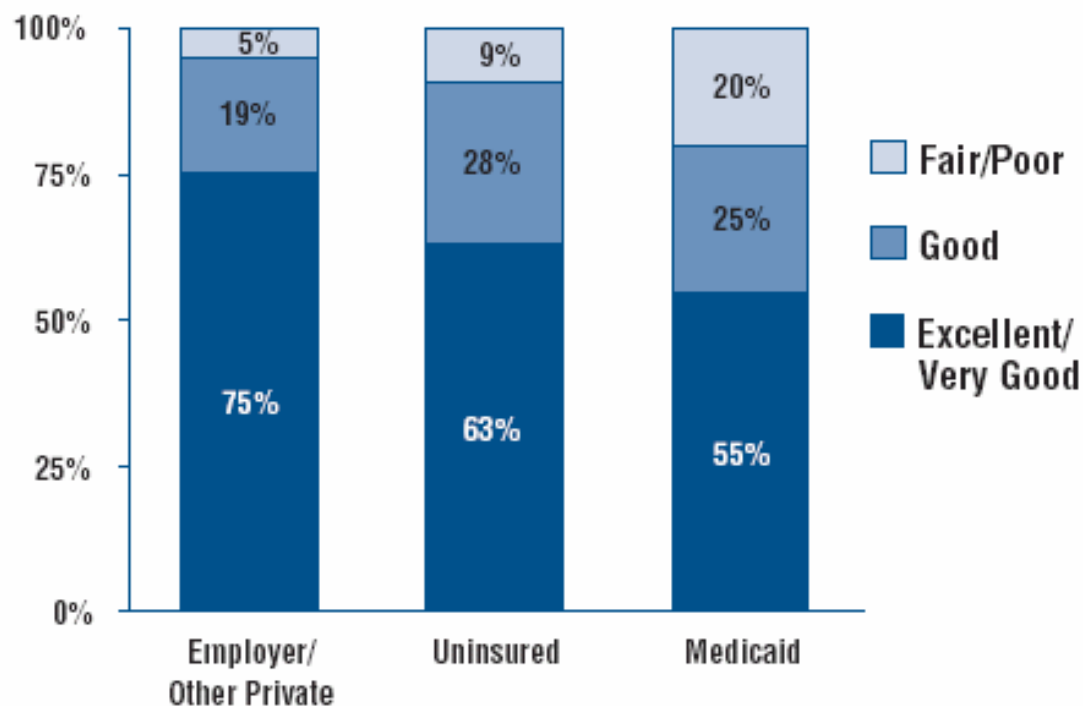
Health Insurance Coverage by Race/Ethnicity Ages 0-64, US 1997



Health Status by Insurance Group

Figure 10

Health Status Within Health Insurance Coverage Types, 2003

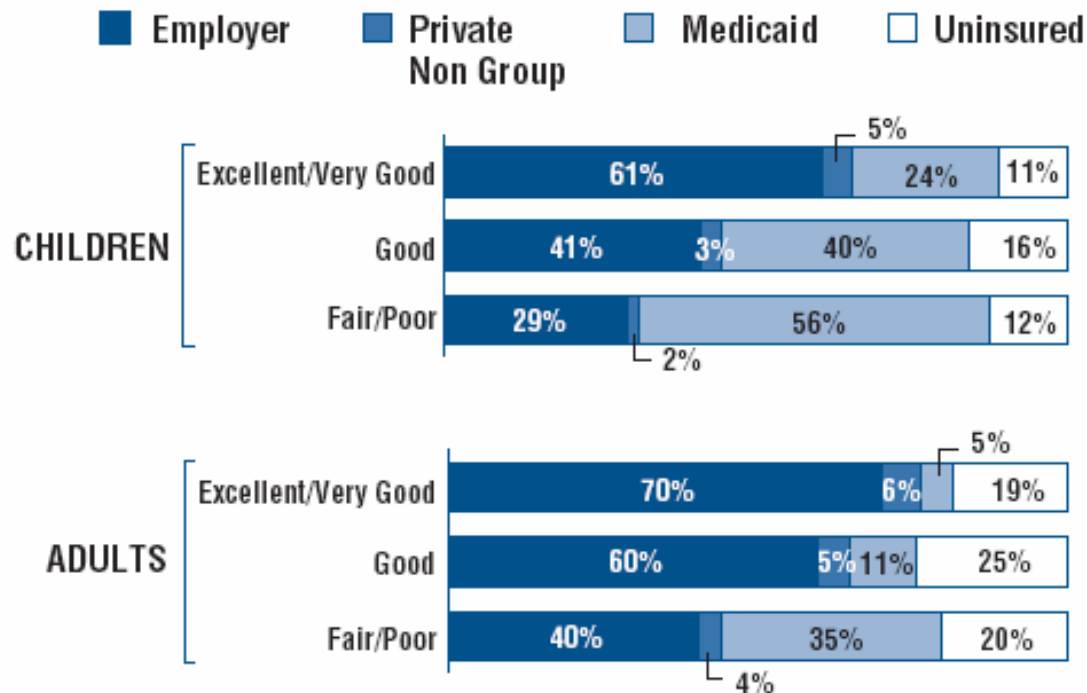


Medicaid also includes S-CHIP, other state programs, Medicare, and military-related coverage.
Data may not total 100% due to rounding.
KCMU/Urban Institute 2004

Coverage by Health Status

Figure 11

Health Insurance Coverage of Children and Adults by Health Status, 2003



Medicaid also includes S-CHIP, other state programs, Medicare, and military-related coverage.

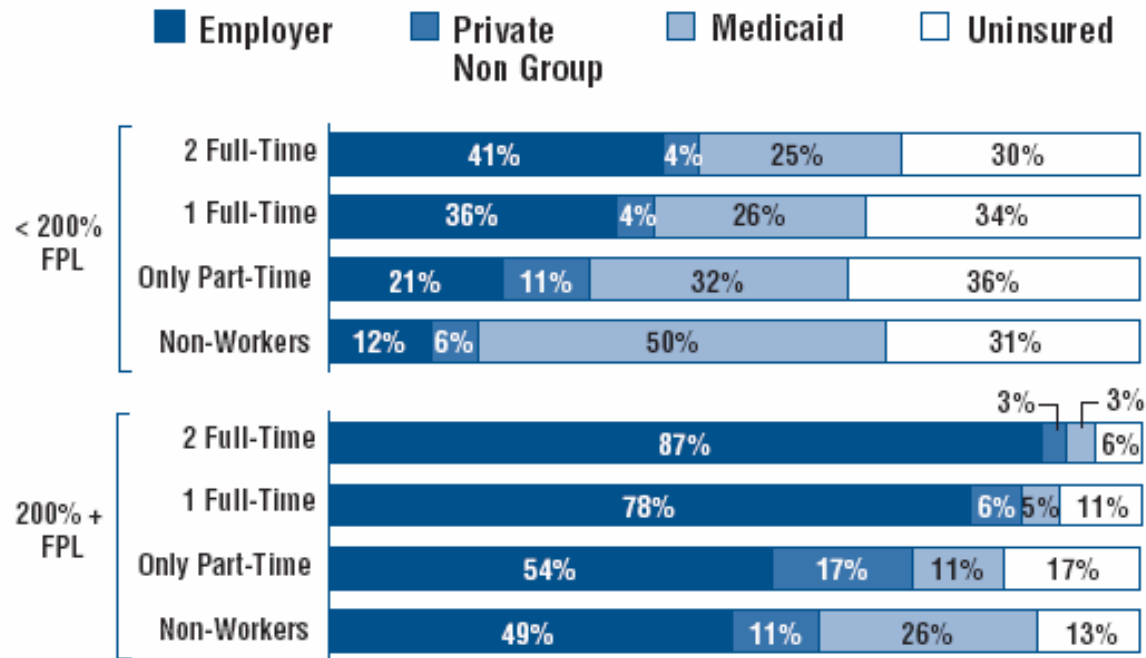
Data may not total 100% due to rounding.

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Coverage by Poverty Level

Figure 9

Health Insurance Coverage by Family Poverty Level and Work Status, 2003



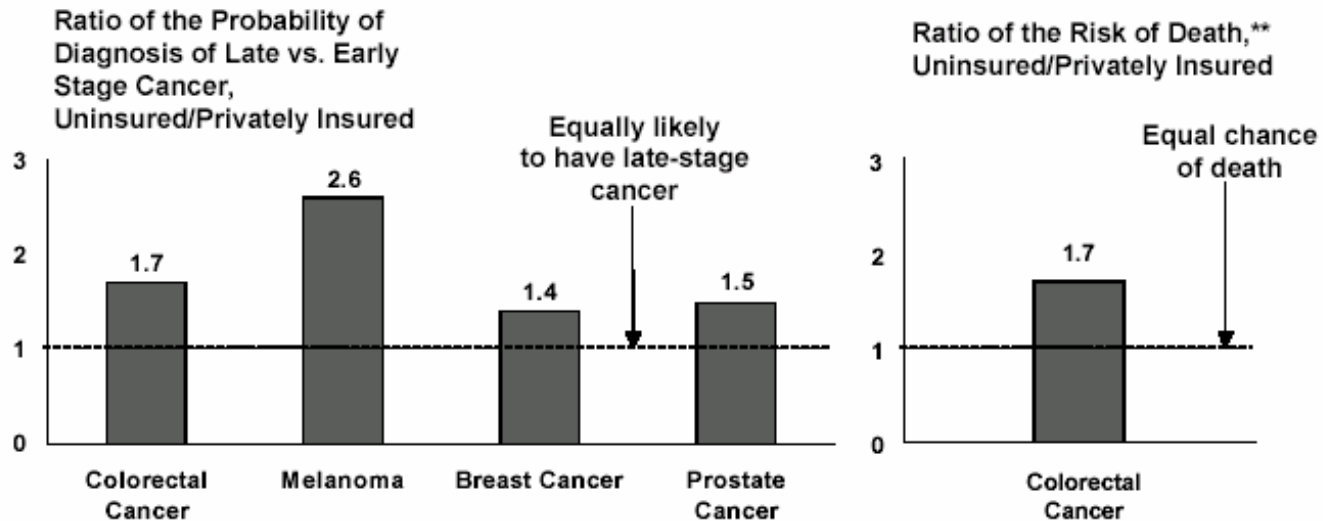
Medicaid also includes S-CHIP, other state programs, Medicare, and military-related coverage. 200% of the poverty level was \$37,620 for a family of four in 2003. Data may not total 100% due to rounding.

KCMU/Urban Institute 2004

Uninsurance and Mortality

Figure 6

Diagnosis of Late-Stage Cancer, Uninsured vs. Privately Insured*



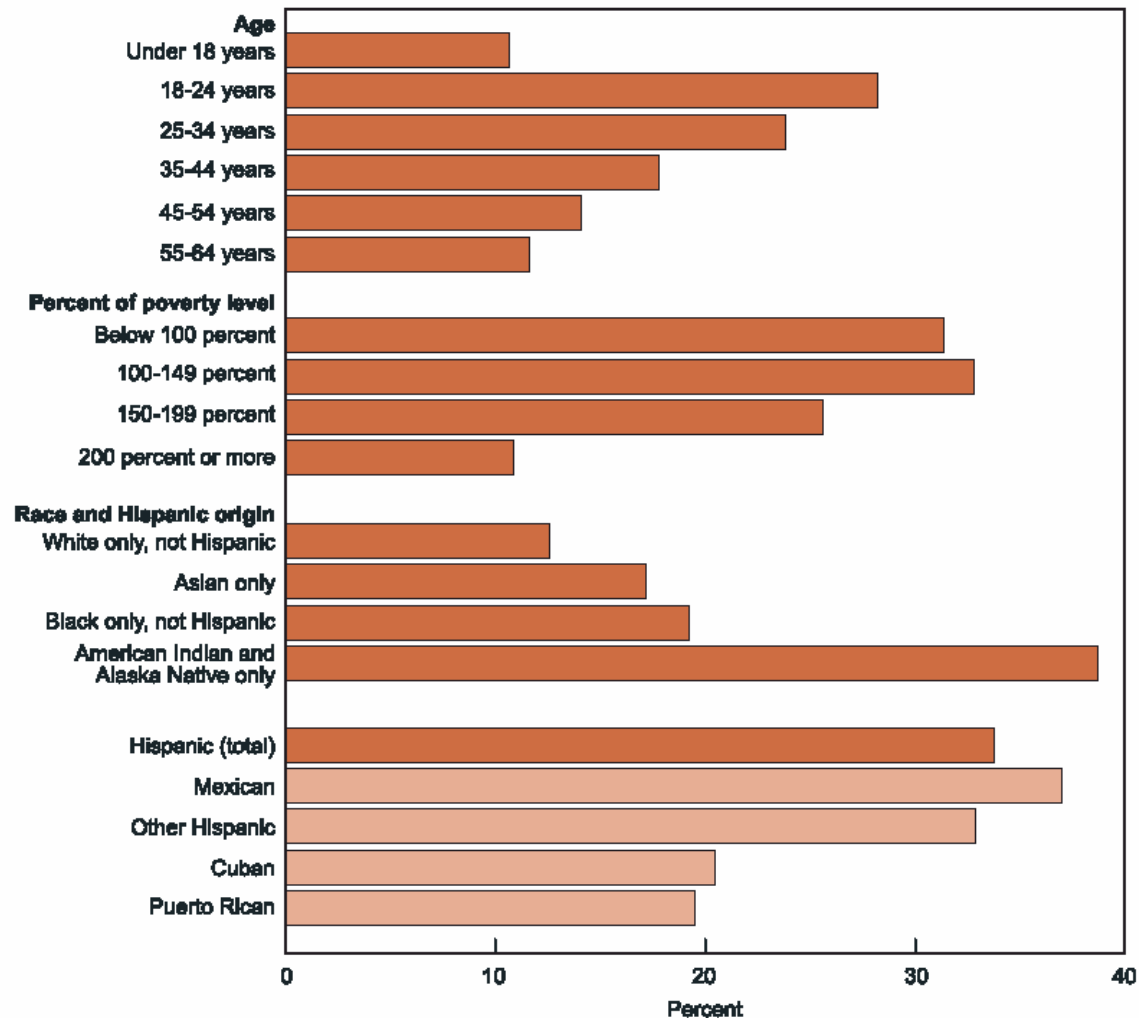
Notes: * Privately insured all had commercial indemnity plans.

** Among cancer cases identified in 1994; mortality follow-up through 1997.

All differences are statistically significant after adjusting for age, sex, race/ethnicity, comorbidity, marital status (when appropriate), smoking status, socioeconomic status, education, stage at diagnosis, and treatment.

SOURCE: Roetzheim RG, et. al., 1999, 2000 from Hadley, J., *Sicker and Poorer: The Consequences of Being Uninsured*, 2003, prepared for KCMU.

Figure 7. No health insurance coverage among persons under 65 years of age by selected characteristics: United States, 2002



NOTES: Percents by poverty level, Hispanic origin, and race are age adjusted. Persons of Hispanic origin may be of any race. Asian and American Indian and Alaska Native races include persons of Hispanic and non-Hispanic origin. See Data Table for data points graphed, standard errors, and additional notes.

SOURCE: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey.

Table 153. Persons under 65 years of age without health insurance coverage by State: United States, selected years 1987–2002

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

[Click here to view spreadsheet](#)

Geographic region and State ¹	2002	1987	1990	1995	1997 ²	1998	1999 ³	2000	2001	2002
	Number in thousands					Percent of population				
United States	43,316	14.4	15.7	17.3	18.2	18.4	16.4	16.1	16.5	17.2
New England:										
Connecticut	355	7.4	8.0	10.3	13.8	14.3	10.4	11.3	11.7	12.3
Maine	144	9.9	12.6	15.4	17.1	14.6	12.2	12.8	12.3	13.4
Massachusetts	637	7.0	10.2	12.5	14.3	11.6	10.6	9.9	9.3	11.3
New Hampshire	125	11.4	11.1	11.4	13.3	12.5	10.1	9.6	11.0	11.2
Rhode Island	104	7.8	13.1	15.4	12.3	7.6	7.4	8.7	9.0	11.3
Vermont	66	11.1	10.5	14.5	10.8	11.0	12.2	9.9	10.8	12.2
Mideast:										
Delaware	79	11.9	15.6	17.2	15.1	17.1	11.2	10.6	10.5	11.2
District of Columbia	73	17.1	21.3	19.3	18.3	19.2	16.1	16.0	14.2	14.5
Maryland	725	10.9	14.2	17.2	14.9	18.9	12.8	11.8	13.8	15.0
New Jersey	1,181	9.0	11.3	16.2	18.4	18.0	13.7	14.0	15.1	15.8
New York	3,014	13.1	13.6	17.2	20.0	19.7	17.6	18.5	17.7	17.9
Pennsylvania	1,377	8.4	11.8	11.6	11.7	12.1	9.7	10.0	10.6	13.3
Great Lakes:										
Illinois	1,758	10.9	12.2	12.3	13.9	16.6	14.8	15.5	15.3	15.9
Indiana	794	15.2	12.3	14.6	12.8	16.1	10.7	12.8	13.6	14.8
Michigan	1,152	9.4	10.4	11.0	13.2	14.9	11.3	10.3	11.7	13.1
Ohio	1,331	10.3	11.7	13.5	13.1	11.7	11.6	12.8	12.8	13.5
Wisconsin	535	7.4	7.8	8.1	9.1	13.2	11.3	8.5	8.8	11.0
Plains:										
Iowa	274	8.3	9.4	12.9	13.6	10.9	8.8	10.3	8.7	10.9
Kansas	280	11.6	12.3	14.2	13.6	12.2	13.6	12.6	13.5	11.9
Minnesota	397	7.4	9.9	9.0	10.2	10.3	8.3	9.0	8.8	8.8
Missouri	646	11.8	14.2	16.7	14.7	12.1	7.7	10.7	11.6	13.2
Nebraska	173	11.0	9.6	10.3	12.2	10.2	11.6	10.3	10.8	11.6
North Dakota	69	8.7	7.2	9.4	11.7	16.5	13.8	13.2	11.2	12.7
South Dakota	84	15.4	13.5	10.8	13.7	16.3	12.4	12.9	10.9	13.0
Southeast:										
Alabama	564	17.9	19.3	15.7	18.0	19.5	15.2	14.9	14.9	14.8
Arkansas	438	23.5	20.1	20.5	28.1	21.7	16.7	16.7	18.8	18.9
Florida	2,816	20.5	21.5	21.7	23.6	21.1	21.8	21.1	20.6	20.6
Georgia	1,354	14.5	17.1	20.0	19.3	19.4	16.7	15.7	18.1	17.6
Kentucky	546	16.8	15.1	16.8	16.9	16.0	14.9	15.3	14.1	15.5
Louisiana	814	18.9	22.1	22.9	22.0	21.3	24.2	20.4	21.7	20.8
Mississippi	464	19.3	22.1	22.3	22.6	22.9	17.9	15.5	18.4	18.7
North Carolina	1,362	15.0	15.6	16.4	17.6	17.0	16.5	15.3	16.3	19.0
South Carolina	496	12.4	18.1	16.0	18.7	17.4	18.0	13.7	14.1	14.4
Tennessee	606	16.6	15.4	16.4	15.2	14.3	11.5	12.2	12.6	12.0
Virginia	962	11.4	17.3	15.2	14.1	15.8	14.9	13.0	12.2	15.2
West Virginia	254	15.9	16.0	18.3	20.5	20.8	18.4	16.5	15.8	17.3
Southwest:										
Arizona	913	20.4	18.1	23.2	27.7	26.9	23.2	18.7	20.0	19.4
New Mexico	385	25.3	24.6	28.3	25.2	24.0	28.1	27.2	23.9	24.2
Oklahoma	600	20.4	21.2	22.1	20.2	21.2	19.3	21.9	20.9	19.9
Texas	5,515	23.0	23.2	27.0	26.7	26.9	24.9	25.4	25.9	28.4
Rocky Mountains:										
Colorado	717	15.6	16.3	15.9	16.4	16.4	17.0	15.8	17.2	17.8
Idaho	233	17.2	16.9	15.9	19.9	19.7	20.8	17.3	17.9	20.2
Montana	139	17.3	15.7	14.8	22.0	21.9	20.1	19.2	15.9	17.9
Utah	305	13.4	9.8	13.0	14.8	15.1	14.5	13.6	16.0	14.3
Wyoming	86	12.7	13.7	17.6	17.4	18.8	17.0	17.8	18.1	20.0
Far West:										
Alaska	117	17.0	16.1	12.9	18.9	17.9	19.4	20.0	16.6	20.0
California	6,361	18.5	21.1	22.6	23.7	24.4	21.4	20.4	21.3	20.0
Hawaii	121	8.5	7.8	9.9	8.7	11.3	11.3	10.6	10.8	11.4
Nevada	417	17.4	18.3	21.1	19.9	23.7	20.6	18.8	17.9	22.3
Oregon	511	17.2	14.6	13.9	14.8	16.0	15.8	14.4	14.2	16.5
Washington	848	14.4	12.7	13.7	12.4	13.4	15.5	15.3	14.8	15.7

NC vs. US (2002)
19.0 vs. 17.2

NC vs. South (2002)
19.0 vs. 17.1

¹Data are shown for Bureau of Economic Analysis (BEA) regions that are constructed to show economically interdependent States. These BEA geographic regions differ from Bureau of the Census geographic divisions shown in some *Health, United States* tables. See [Appendix II, Geographic region and division](#).

²Beginning with data for 1997, people with no coverage other than access to the Indian Health Service are no longer considered covered by health insurance. The effect of this change on the number uninsured is negligible.

³Starting in 1999 estimates reflect the results of follow-up verification questions and implementation of Census 2000-based population controls. In 1999 the use of verification questions decreased the percent uninsured by 1.2 percentage points.

NOTES: Methodology and sample size changed in 1992, 1993, 1994, 1999, and 2000. See [Appendix I, Current Population Survey](#). Data for additional years are available. See [Appendix III](#). These data include revisions for 1999 and differ from previous editions of *Health, United States*.

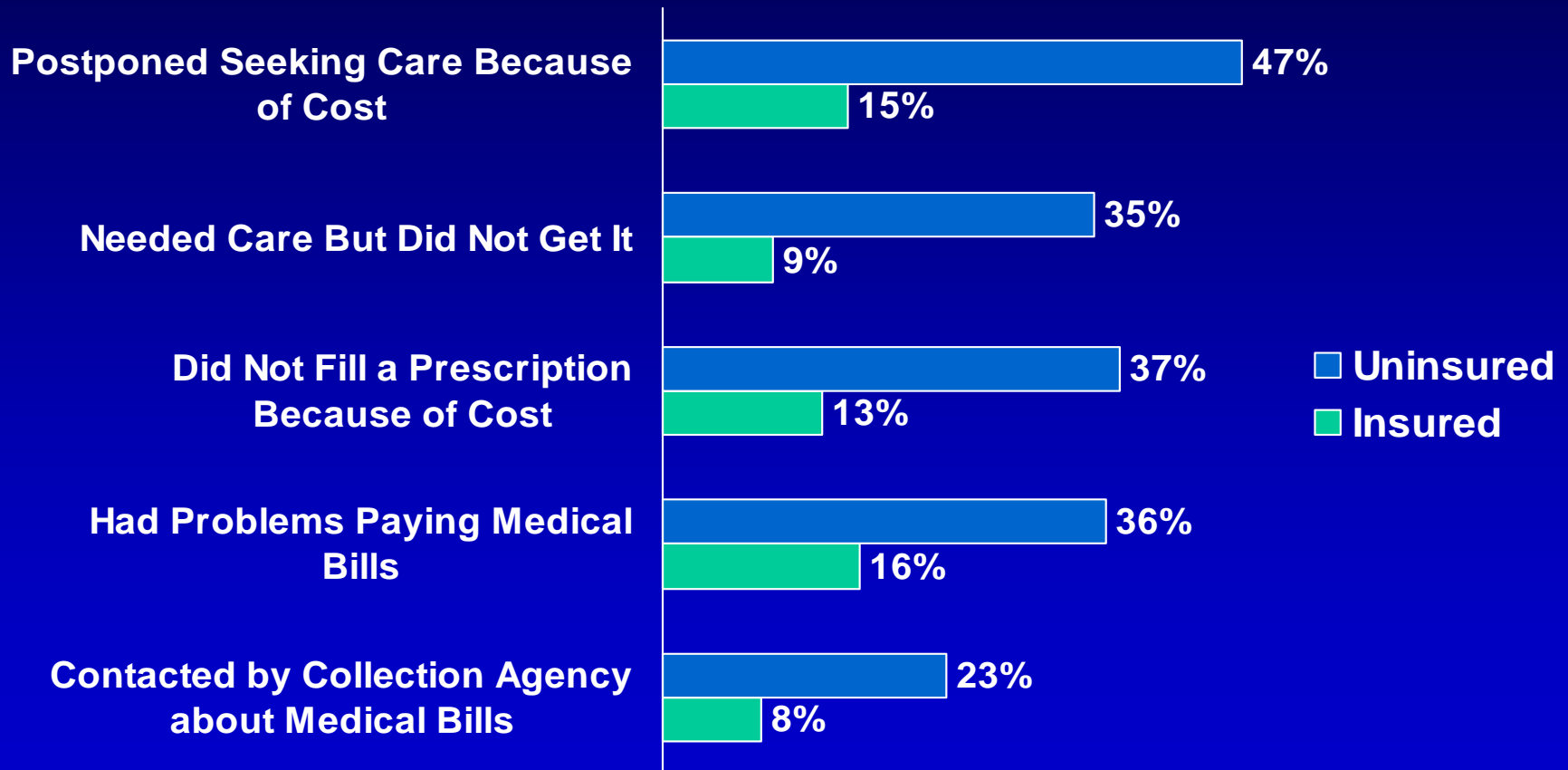
SOURCES: U.S. Bureau of the Census, Current Population Survey, March; Health insurance historical table 6. Health insurance coverage status and type of coverage by State—people under 65: 1987–2001. www.census.gov/hhes/hi/hist6/hist6.html. Oct. 23, 2003.

Uninsured do Receive Some Care

- Uninsured do receive some care, e.g. hospital emergency room, community health centers, free clinics, private physicians
 - About half as much care as insured
- Total expenditures for uninsured were ~\$100 billion (2001)
 - ~1/4th paid by uninsured out-of-pocket
 - Private and public insurance for people uninsured part-year paid ~40%
 - ~35% or \$35 billion was provided in uncompensated care
- Uninsured experience difficulties obtaining care
- EMTALA - Emergency Medical Treatment and Active Labor Act

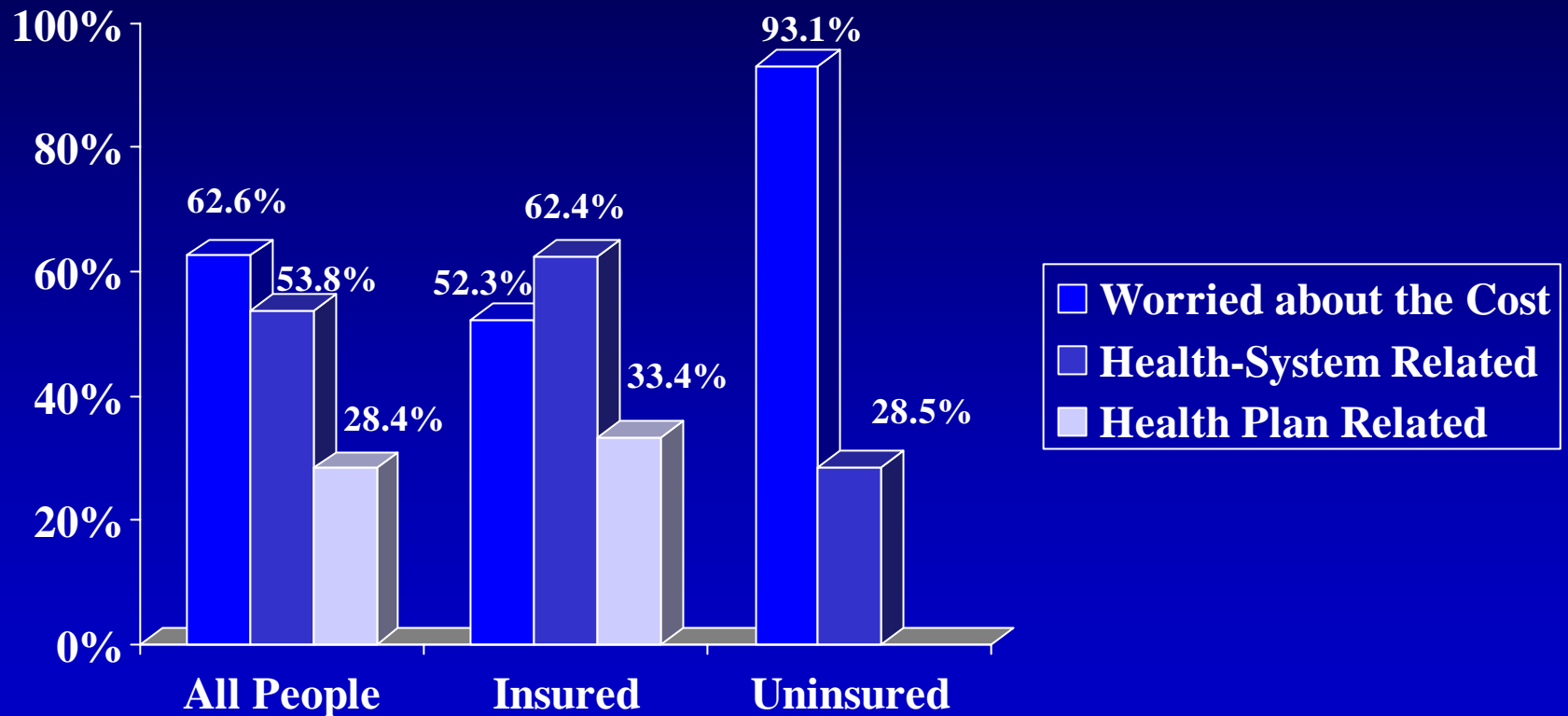
Barriers to Health Care (2003)

Percent experiencing in past 12 months:



SOURCE: Kaiser Commission on Medicaid and the Uninsured. The Uninsured and Their Access to Health Care. Fact Sheet. Dec. 2003.

Reasons for Access Problems



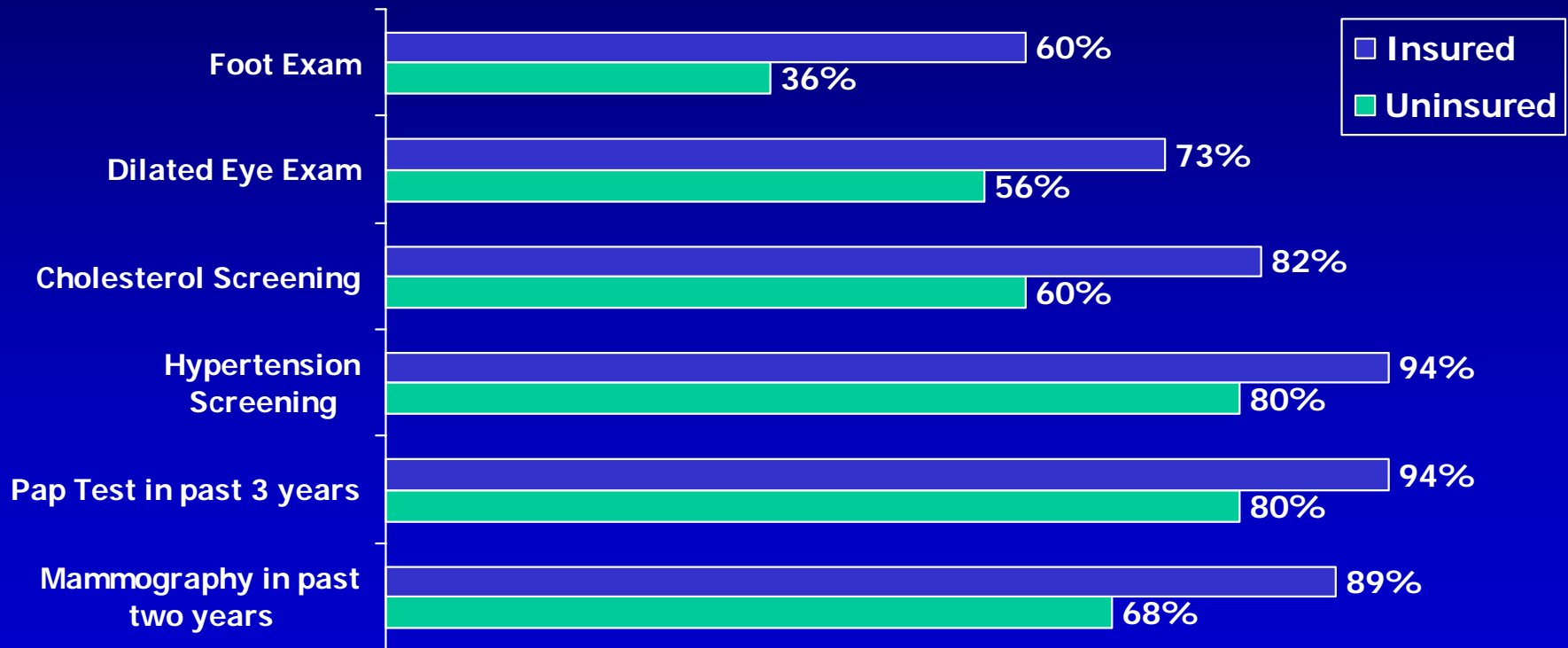
Concentration of Health Expenditures (Insured vs. Uninsured)

	Private Insurance	Private Insurance	Uninsured	Uninsured
	% Spending	Avg. Spent	% Spending	Avg. Spent
Top 5 %	51%	\$17,871	60%	\$6,651
Top 10%	65%	\$11,319	75%	\$4,134
Top 30%	87%	\$5,090	94%	\$1,732
Top 50%	95%	\$3,340	99%	\$1,098

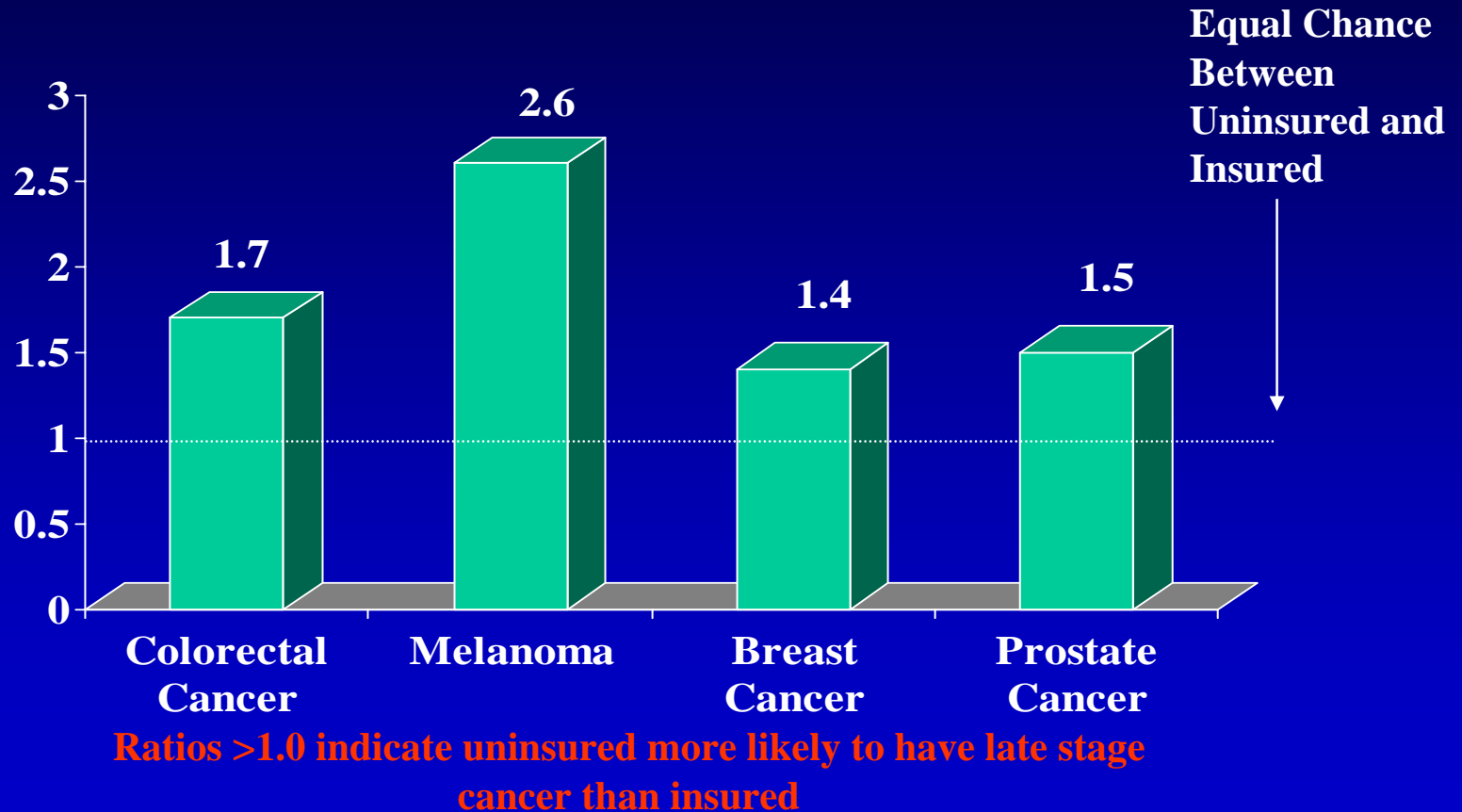
Uninsured Less Likely to Get Preventive Services

Percentage of Adults Receiving Preventive Services

Uninsured (for a year or longer) vs. Insured, 1997-98

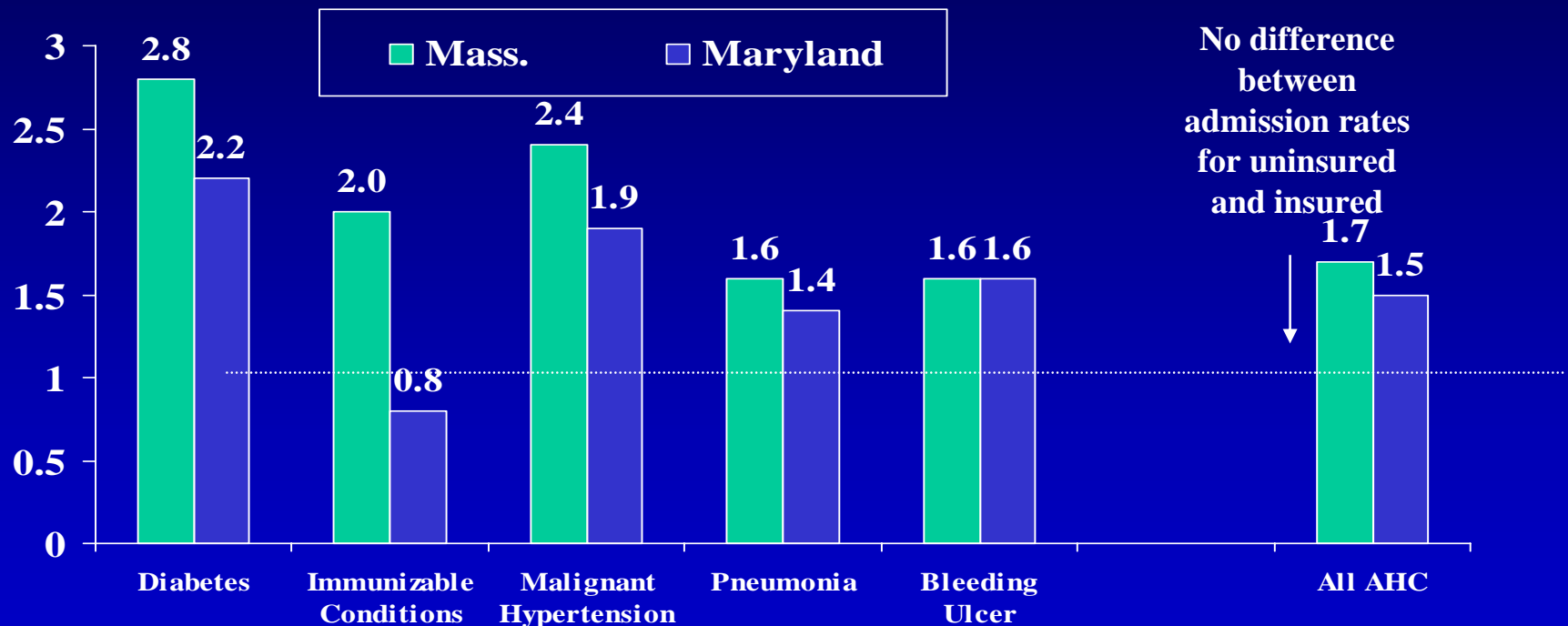


Uninsured More Likely to Be Diagnosed with Late-Stage Cancer



Source: Source: Uninsured in America: A Chart Book. Kaiser Commission on Medicaid and Uninsured. May 2000, citing Roetzheim RG, et. al. 1999. Florida Cancer Data System, 1994. Differences adjusted for age, race, sex, marital status, education, income and comorbidity.

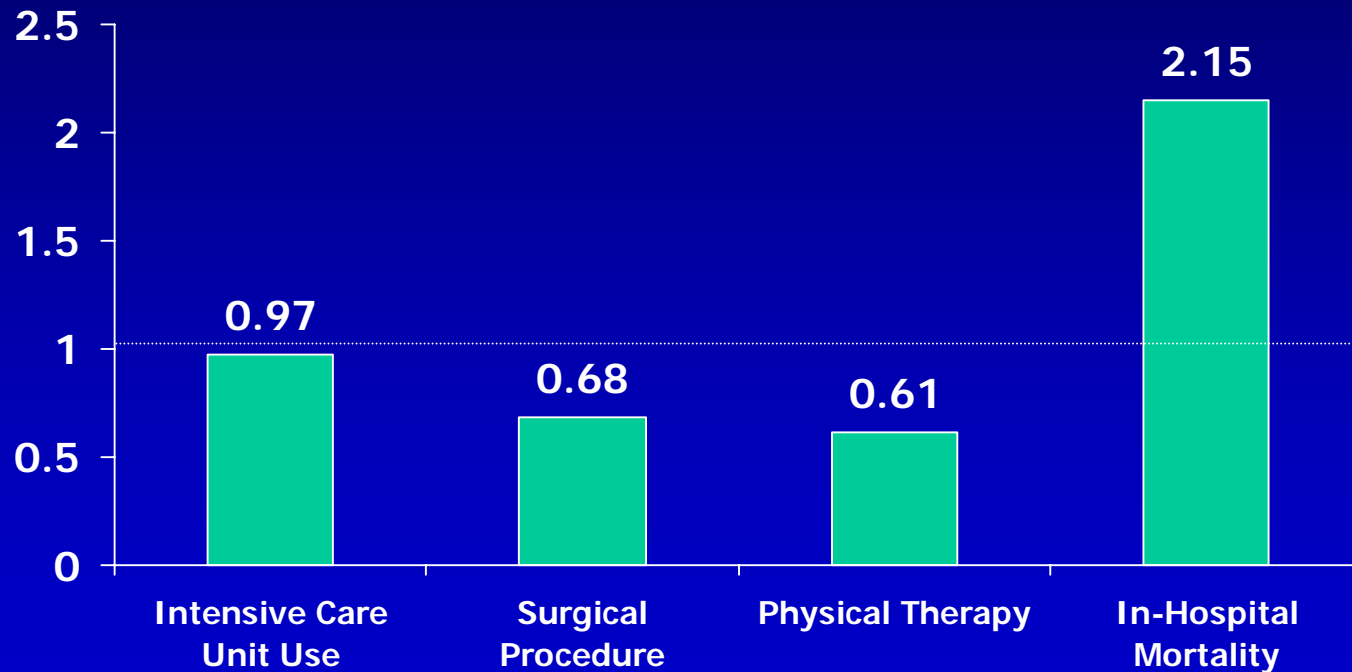
Uninsured More Likely To Be Hospitalized for Avoidable Conditions



Relative Rate >1.0 indicates uninsured more likely to be admitted for AHC than insured

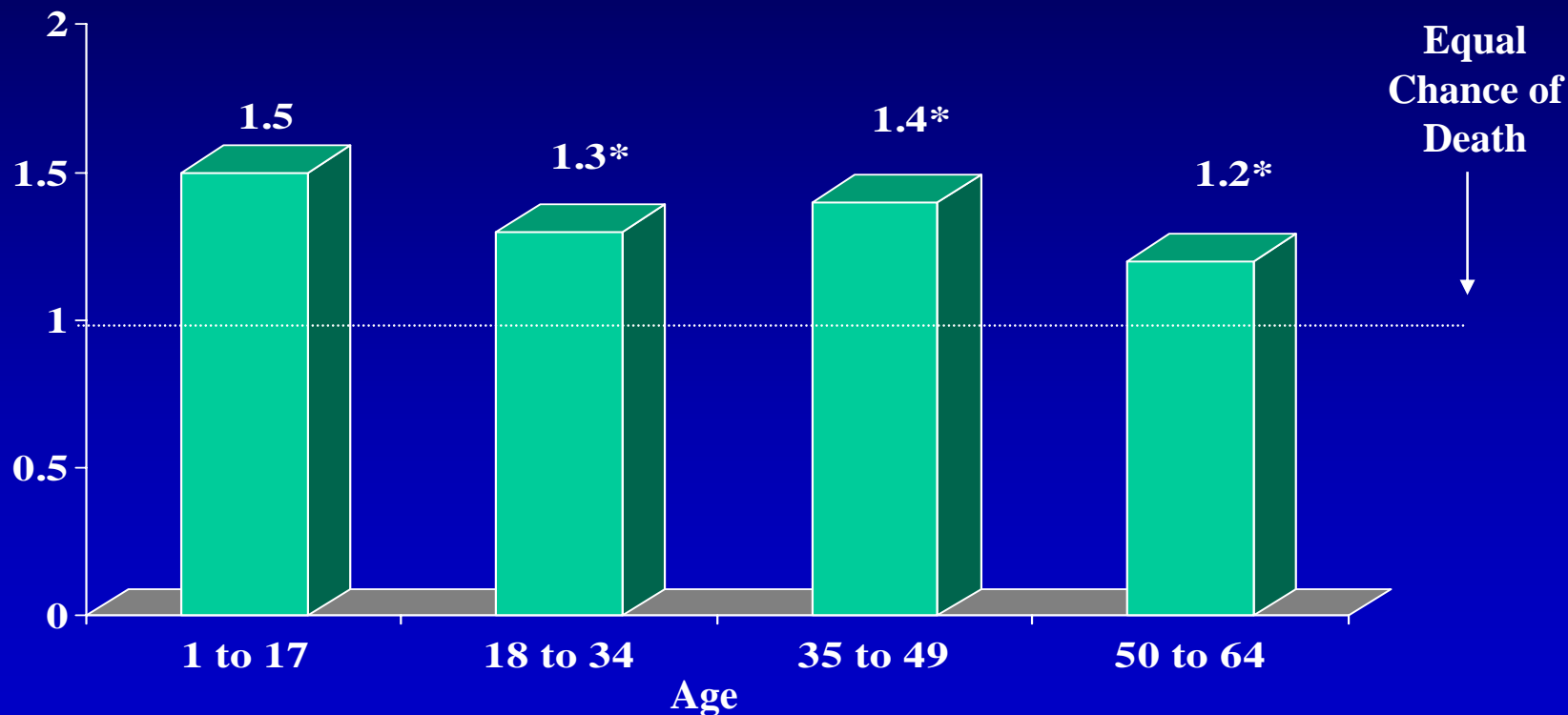
Uninsured Receive Less Therapeutic Services

Differences in Trauma-Related Care and Mortality, Uninsured vs. Private Insurance, 1990



Equal likelihood between uninsured and private insurance

Hospital Mortality Risk for Uninsured Compared to Privately Insurance Patients, 1987



Ratios > 1.0 indicate uninsured more likely to die in hospital than insured

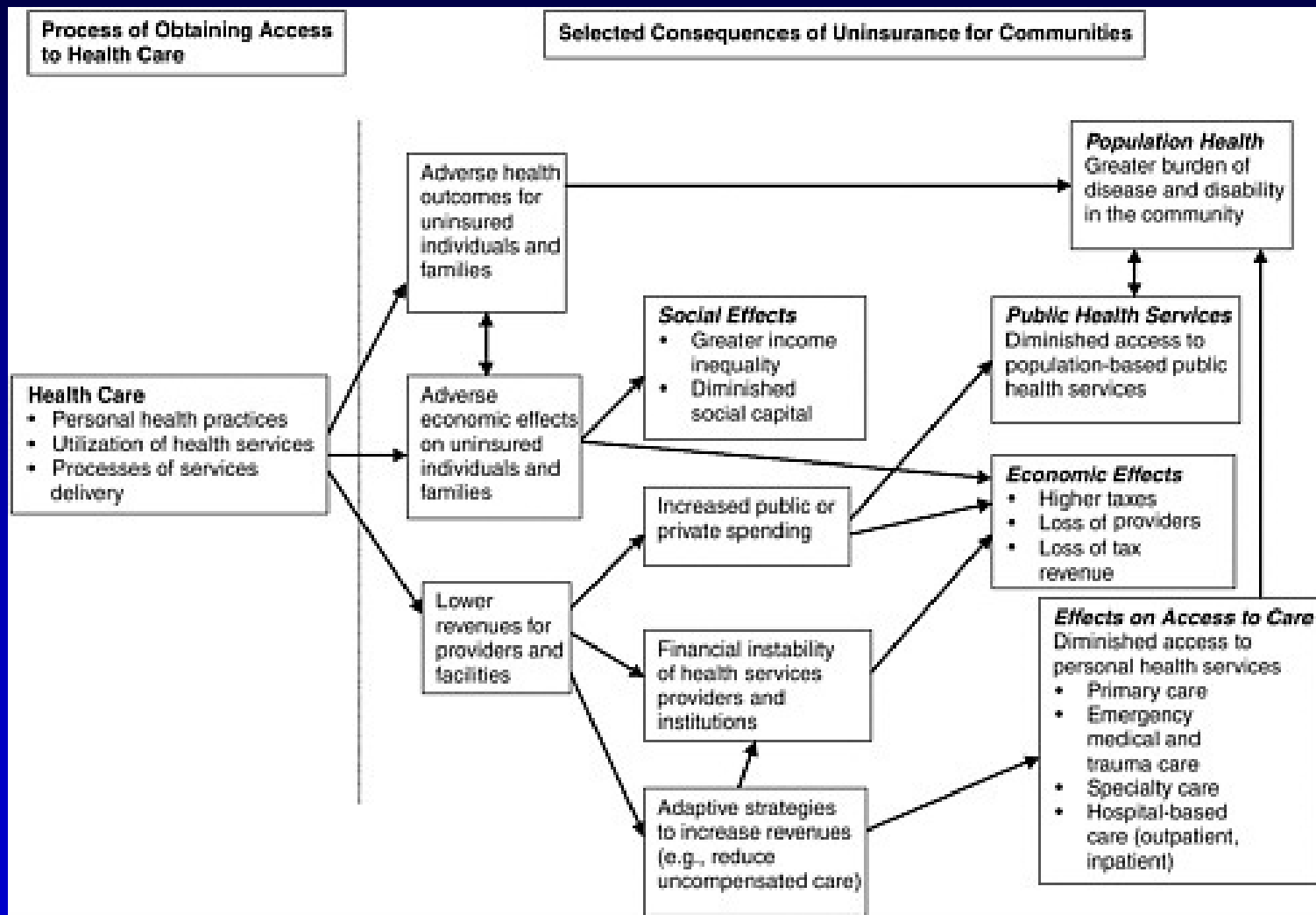
Uninsured: Use of Health Services

- On average, the uninsured use one-half to two-thirds the number and value of services compared to people with insurance
- In 2001, \$99 billion was spent on health care services for people uninsured part or all of the year. Of this:
 - 35% paid for by uninsured out of pocket

Uninsured: Impact on Health

- Uninsured are:
 - More likely to report access barriers obtaining needed health services
 - Less likely to get preventive screenings or care for ongoing chronic conditions
 - More likely to be diagnosed with severe health conditions (e.g., late stage cancers)
 - More likely to be hospitalized for preventable conditions
 - Less likely to receive major health interventions

Conceptual Framework for Community Effects

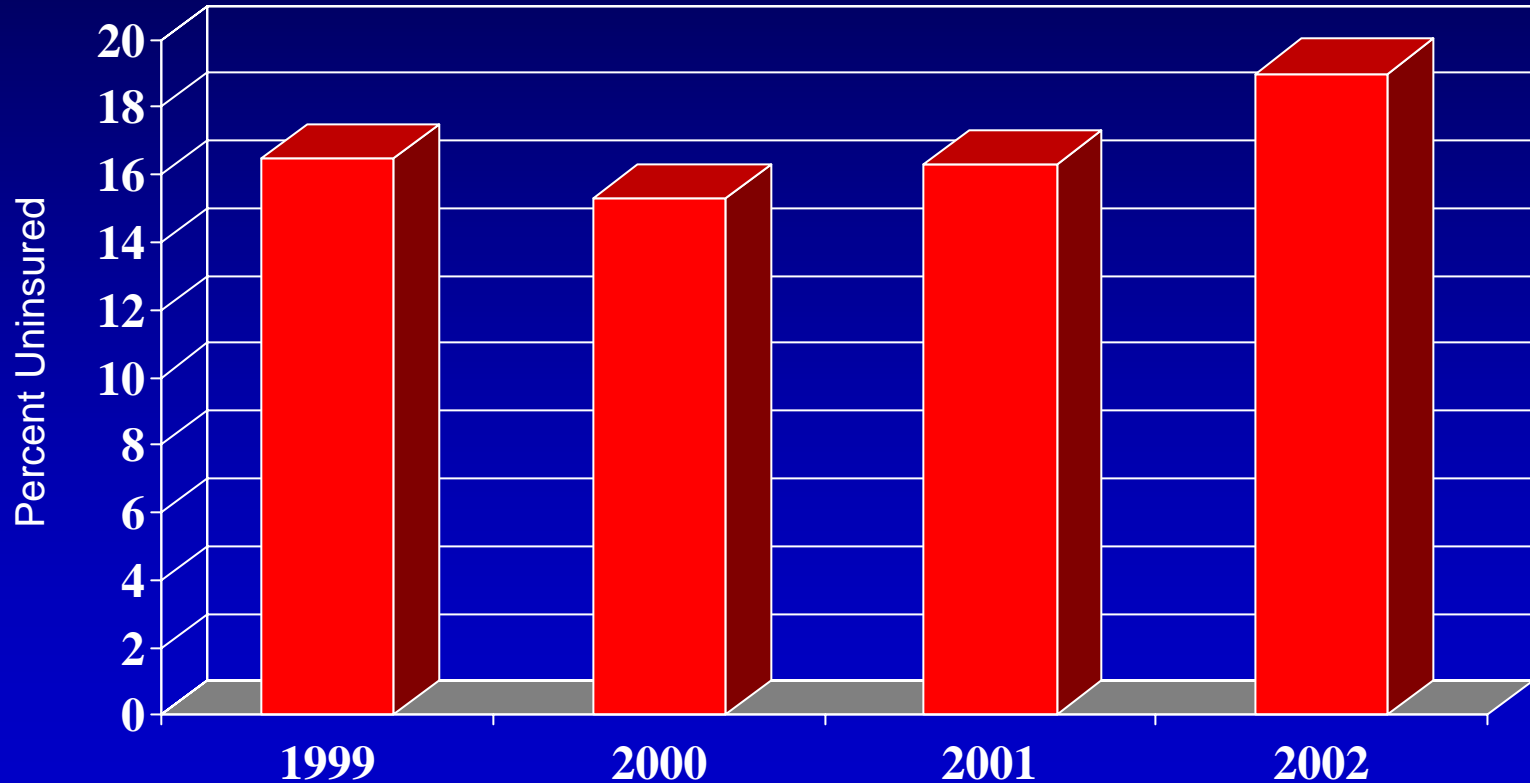


The Consequences of Being Uninsured

- Reduction in mortality of 10-15% could be expected if uninsured were continuously insured
- Better health would improve annual earnings by 10-30% and would increase educational attainment

Uninsured in North Carolina

Percent of North Carolinians Under 65 Years Uninsured
by Year



Durham Survey

	White n=392	Black n=338	Latino n=334
Age Mean (SE)	46 (1.03)	43 (1.02)	34 (.83)
Gender Male	47	38	64
Education Level At least some college	72	50	15
Work for an employer for wages Yes	60	65	75
Own or Rent Home Own	69	39	15
Country of Origin US	94	97	5
Health Insurance Status Yes	91	77	32

All numbers are presented as percentages unless otherwise indicated

Durham Survey

	Total	White	Black	Hispanic
Where do you usually go for care?				
Private Doctor	38	48	32	10
Duke Doctor	32	37	32	21
Durham Regional	5	4	8	4
Lincoln Community	8	1	10	44

Durham Survey

	Health Insurance?		
Question (%)	Yes	No	p-value
	(n=740)	(n=319)	
How would you describe your own health?			0.0018
Excellent	23	12	
Very good	35	29	
Good	26	31	
Fair	12	22	
Poor	4	5	

Durham Survey

	Health Insurance?		
Question (%)	Yes	No	p-value
	(n=740)	(n=319)	
How concerned are you about the following?			
<i>Your health will be hurt because of disease</i>			0.0012
Very concerned	24	40	
Somewhat concerned	29	18	
Not too concerned	23	19	
Not concerned at all	25	23	

Durham Survey

Question (%)	Health Insurance?		
	Yes	No	p-value
	(n=740)	(n=319)	
How long has it been since you last saw a healthcare provider?			0.0132
One year	85	67	
1-2 years	7	17	
2-5 years	4	8	
>5 years	3	5	
Never	1	2	

Durham Survey

	Health Insurance?		
Question (%)	Yes	No	p-value
	(n=740)	(n=319)	
In the last 12 months did you delay or not get a prescription prescribed to you by a healthcare provider?			0.1286
Yes	16	22	
Reasons for delaying or not getting the prescription/treatment/test			0.0202
Couldn't afford/costs too much	14	58	
No insurance	2	4	
Didn't think test/treatment/prescription was important	20	12	
Hours not convenient	12	7	

The Underinsured

Prescription Expenditures Among Insured and Uninsured Elderly

TABLE 4. Expected Effect of Prescription Drug Insurance*

Prediction	Overall	Uninsured [†]	Insured [‡]	Insurance Effect (95% CI)
Overall (\$)	689	574	757	183 (163–202)
By health status (\$)				
Excellent	342	218	419	201 (172–231)
Very good	502	411	558	148 (102–193)
Good	738	626	807	180 (149–211)
Fair/poor	1022	887	1094	207 (168–246)

*Predictions are based on the 2-part regression model shown in Table 3.

[†]Estimates assume no prescription drug insurance for the entire population.

[‡]Estimates assume prescription drug insurance for the entire population.

CI = confidence interval.

2003 Durham County Data

Admissions for Ambulatory Case Sensitive Conditions

	non-ACSC		ACSC		ACSC discharges as % of total
	n	%	n	%	
Baseline characteristics					
Primary payor					
Medicare	19028	52.6%	2910	68.2%	22.0%
Managed care	12192	32.3%	743	16.9%	5.7%
NC Medicaid	3203	8.5%	434	9.9%	11.9%
Self-pay	1238	3.3%	193	4.4%	13.5%
Other	1089	2.9%	53	1.2%	4.6%
Indemnity	1014	2.7%	55	1.3%	5.1%

3-Tier Co-payment

Table 5. Drug Utilization after Policy Changes among Enrollees Who Used Tier-3 Drugs before the Changes.*

Drug Class	Continued Use of Tier-3 Drug			Switched to Drug of Lower Tier			Discontinued Use of All Drugs in Class		
	Intervention Group <i>no./total no. (%)</i>	Comparison Group <i>no./total no. (%)</i>	P Value	Intervention Group <i>no./total no. (%)</i>	Comparison Group <i>no./total no. (%)</i>	P Value	Intervention Group <i>no./total no. (%)</i>	Comparison Group <i>no./total no. (%)</i>	P Value
Employer 1									
ACE inhibitors	238/563 (42.3)	421/471 (89.4)	<0.001	234/563 (41.6)	20/471 (4.2)	<0.001	91/563 (16.2)	30/471 (6.4)	<0.001
Proton-pump inhibitors	108/328 (32.9)	219/275 (79.6)	<0.001	115/328 (35.1)	4/275 (1.5)	<0.001	105/328 (32.0)	52/275 (18.9)	<0.001
Statins	26/89 (29.2)	75/104 (72.1)	<0.001	44/89 (49.4)	18/104 (17.3)	<0.001	19/89 (21.3)	11/104 (10.6)	0.04
Employer 2									
ACE inhibitors	79/156 (50.6)	154/222 (69.4)	<0.001	64/156 (41.0)	33/222 (14.9)	<0.001	13/156 (8.3)	35/222 (15.8)	0.03
Proton-pump inhibitors	44/68 (64.7)	111/141 (78.7)	0.03	12/68 (17.6)	3/141 (2.1)	<0.001	12/68 (17.6)	27/141 (19.1)	0.79
Statins	14/33 (42.4)	22/25 (88.0)	<0.001	16/33 (48.5)	2/25 (8.0)	<0.001	3/33 (9.1)	1/25 (4.0)	0.45

* For each class, the analysis includes only the enrollees who filled at least two 30-day prescriptions for tier-3 drugs only in the class in question during the 6 months before the adoption of a three-tier formulary (i.e., a small number of enrollees who had used drugs from multiple tiers before the policy changes were excluded). The rates of continued use of a tier-3 drug, switching to a drug of a lower tier, and discontinuation of use of all drugs in the class apply to the six months after the policy changes. If an enrollee switched to a different drug in tier 3, this was counted as continued use of a tier-3 drug. ACE denotes angiotensin-converting enzyme.

Medical Causes of Bankruptcy

EXHIBIT 2

Medical Causes Of Bankruptcy, 2001

	Percent of bankruptcies	Number of debtors and dependents in affected U.S. families annually ^a
Specific reason for bankruptcy cited by debtor		
Illness or injury	28.3	1,039,880
Birth/addition of new family member	7.7	421,256
Death in family	7.6	281,309
Alcohol or drug addiction	2.5	109,180
Uncontrolled gambling	1.2	39,566
Major medical cause (illness or injury listed as specific reason, or uncovered medical bills exceeding \$1,000, or lost at least 2 weeks of work-related income because of illness/injury, or mortgaged home to pay medical bills)		
	46.2	1,850,098
Any medical cause (any of the above)	54.5	2,227,000

SOURCE: Authors' analysis of data from the Consumer Bankruptcy Project.

^a Extrapolation based on number of bankruptcy filings during 2001 and household size of debtors citing each cause.

^b Percentage based on homeowners rather than all debtors.

Out-of-Pocket Spending

EXHIBIT 5

Out-Of-Pocket Medical Spending Since Illness Onset Of Debtors Citing Medical Reasons For Bankruptcy, By Insurance Coverage And Diagnosis, 2001

Group	Mean out-of-pocket expenditure (\$)
All debtors citing medical reasons	11,854
Insurance at onset of illness	
Private	13,460
Medicare	8,118
Medicaid	8,195
Uninsured	10,893
Covered at onset of illness but gap since then	
Yes	14,339
No	9,898
Highest-cost diagnoses	
Cancer	35,878
Neurologic diseases	15,560
Mental disorders	15,478
Death (any cause)	17,283

SOURCE: Authors' analysis of data from the Consumer Bankruptcy Project.

Summary / Conclusion

- Access to insurance is associated with improved health outcomes and health processes
- Access to insurance is a bigger issue in NC than nationally, especially among minority groups
- Underinsurance is likely to increase among those privately insured due to cost-sharing and rapidly rising health care costs