

APHA Annual Meeting 2007

Relative Profit Margins and the Allocation of Hospital Outpatient and Inpatient Services

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Background

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- The cost of providing outpatient care is less than the cost of providing inpatient care for procedures that can be performed in either setting.

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- Offering a higher net income for inpatient care might induce hospitals to admit more patients than necessary and increase the total cost of care.

Research Questions

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- Do hospitals assign treatment setting based on net income?

The Relative PCR Test

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 - Net Income: payment - cost

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then

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- I. **$PCR_{IP} < PCR_{OP}$**

Do Any Payer-types Pay Higher Net Incomes for Inpatient Care?

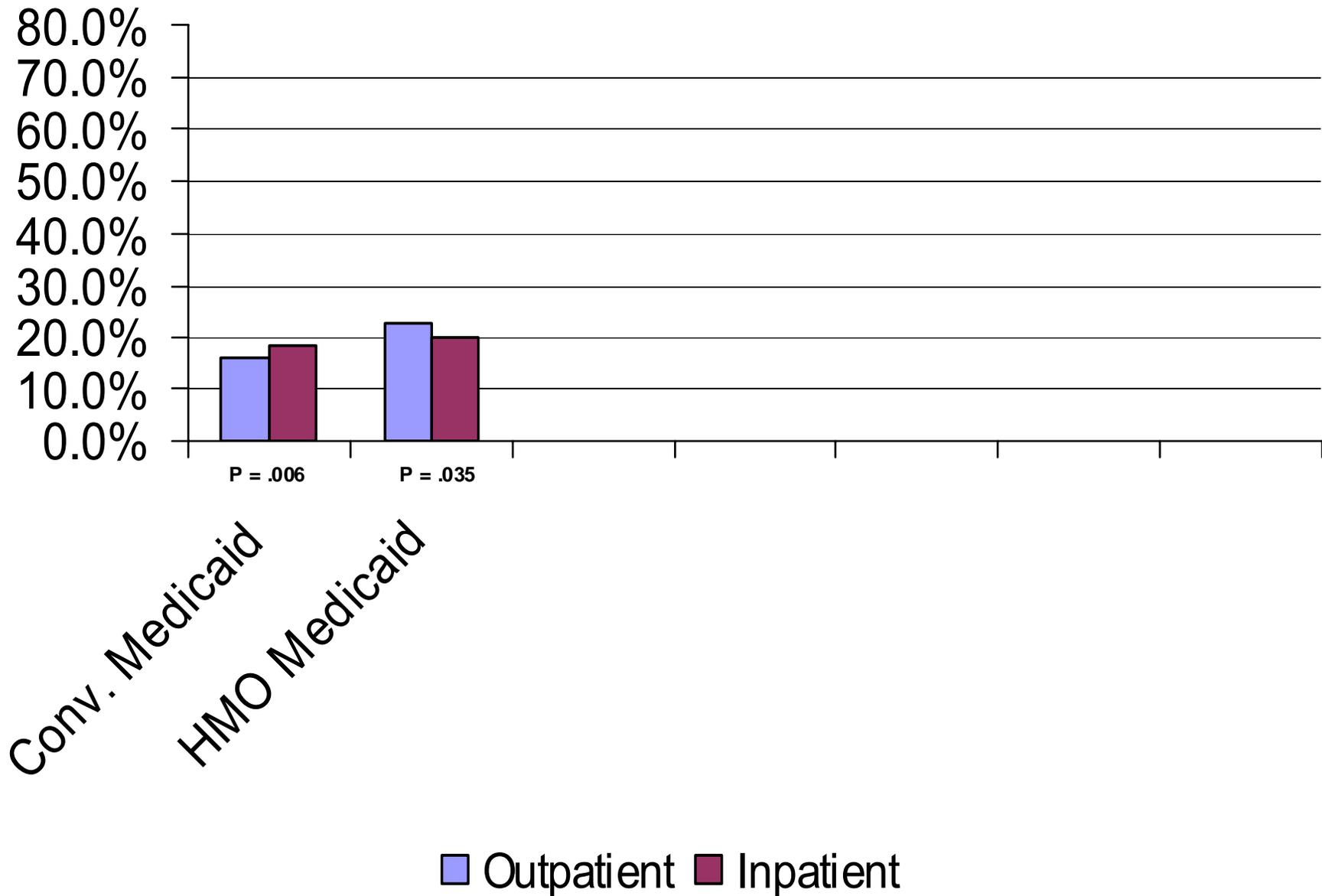
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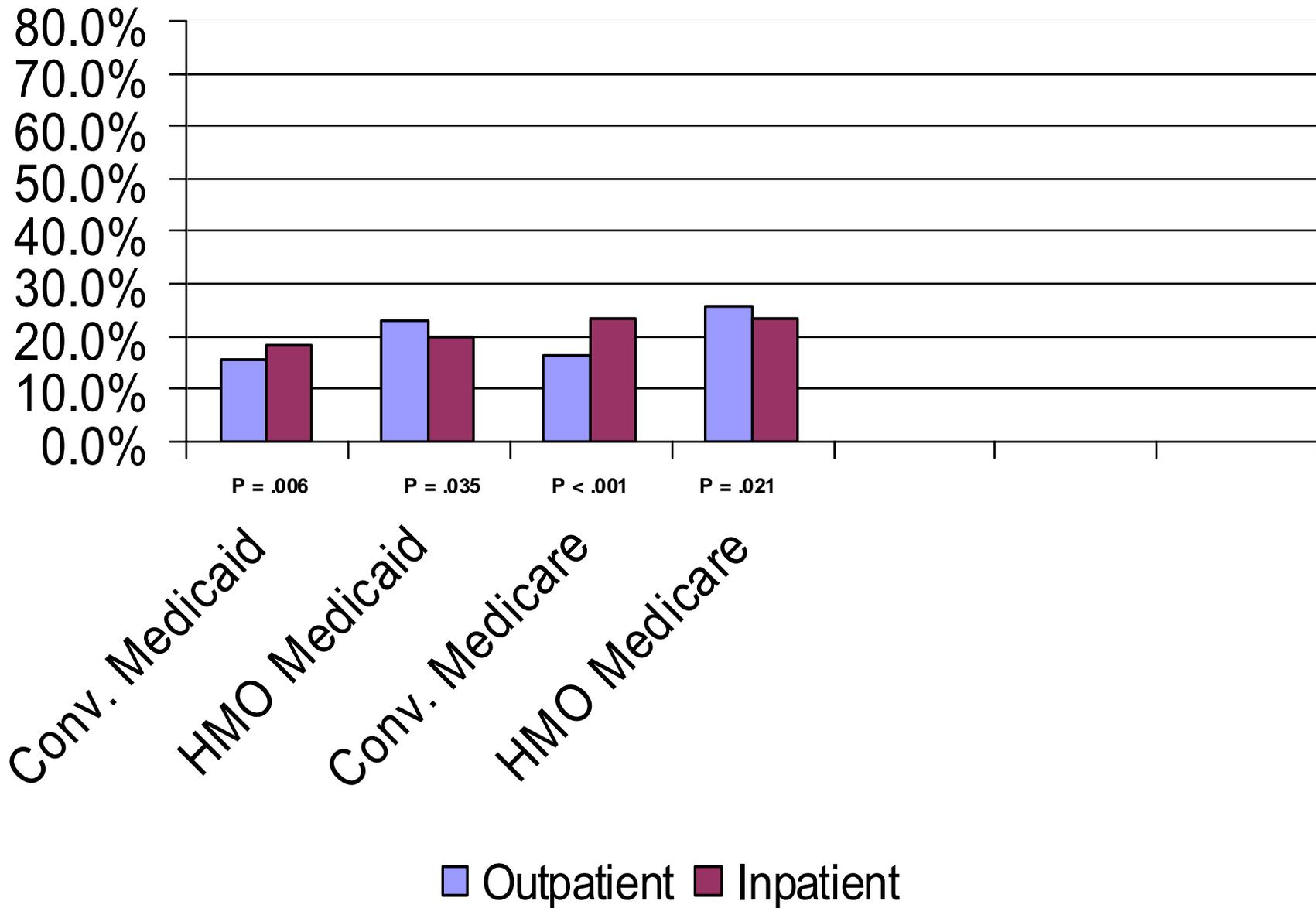
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- Florida Agency for Health Care Administration collected financial reports from acute care hospitals from 2003 to 2005
- 59 hospitals reported both payments and charges for inpatients and outpatients separately for seven types of payers

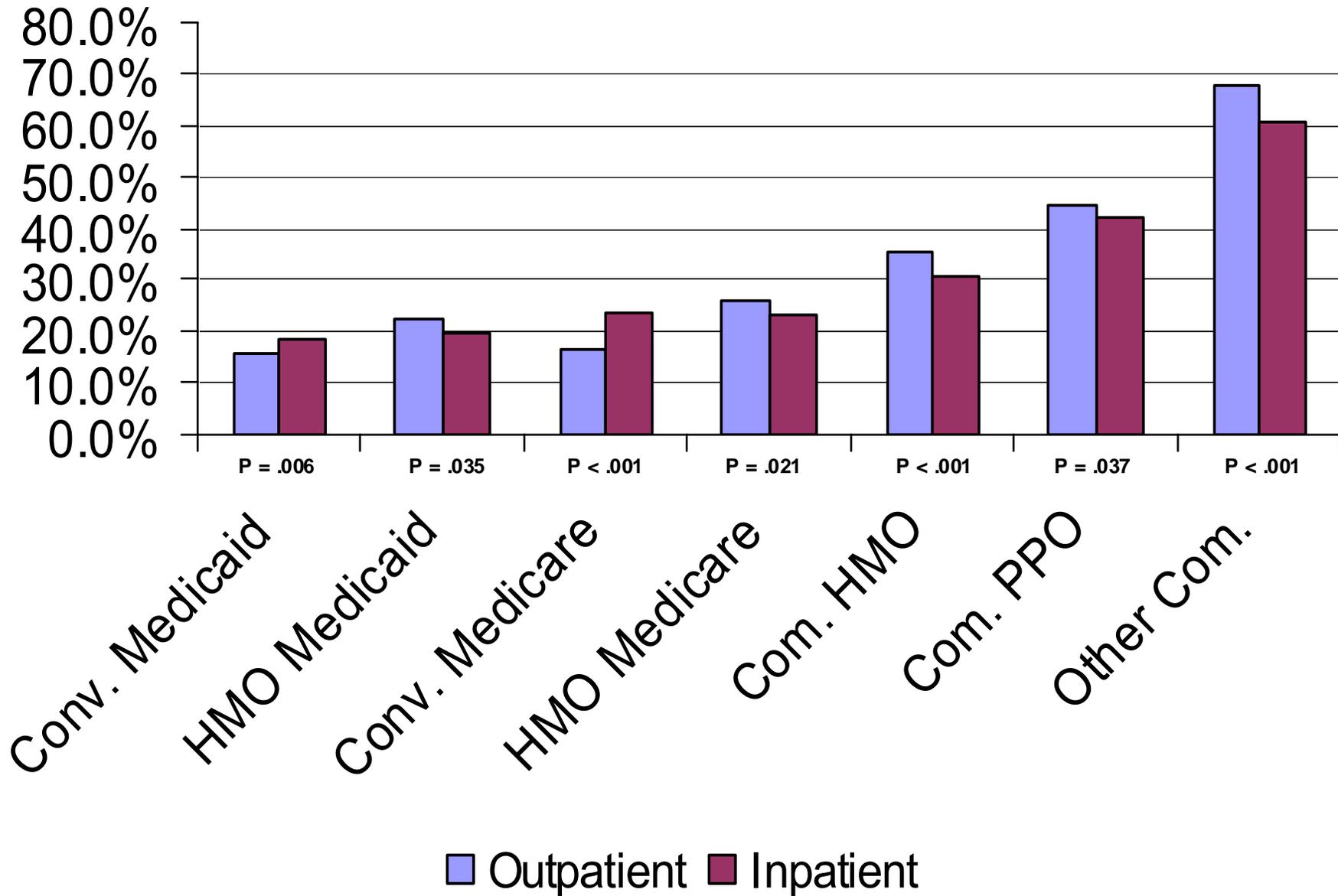
Payments-to-Charges Ratios, Florida 2003-2005



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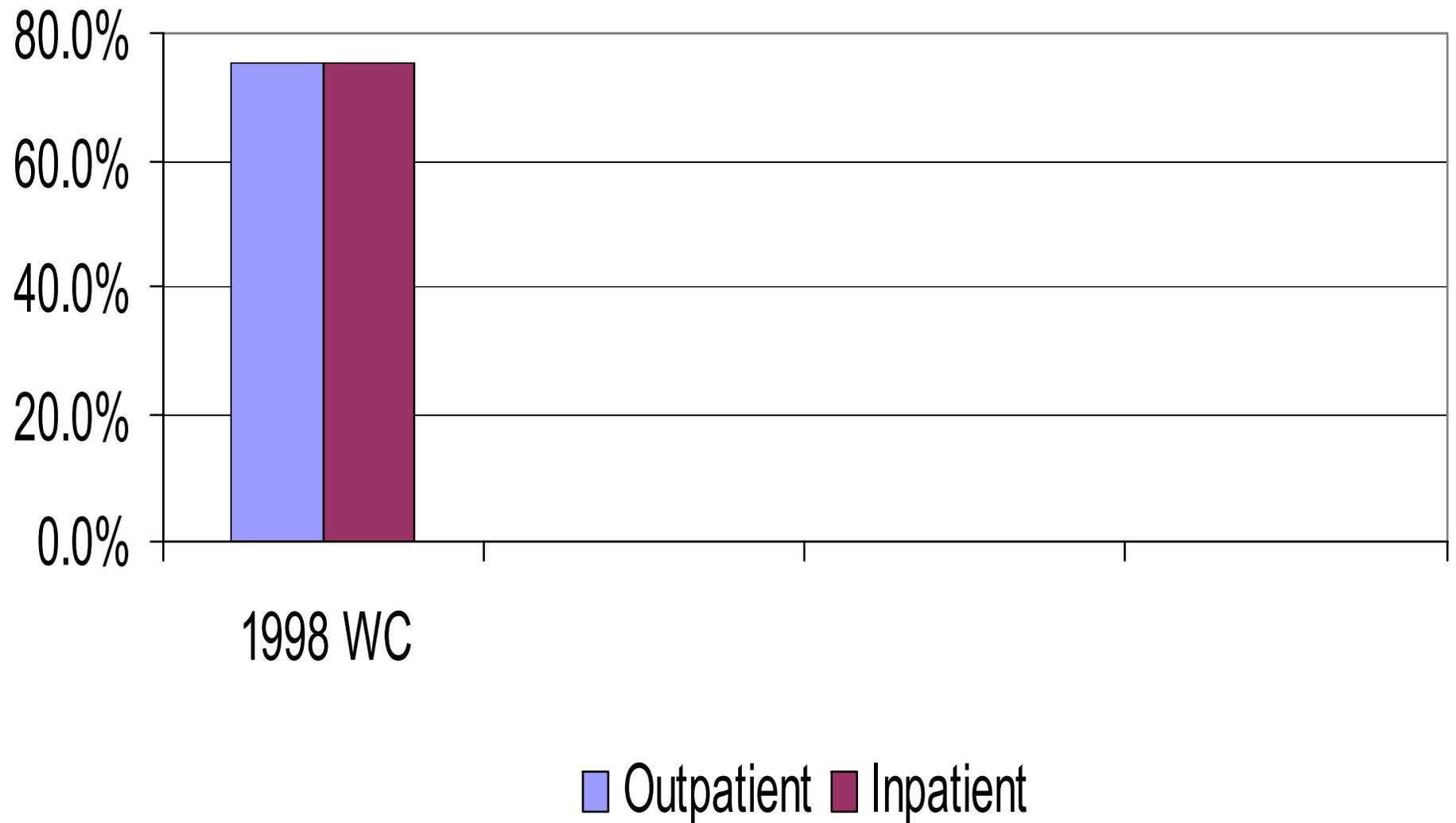
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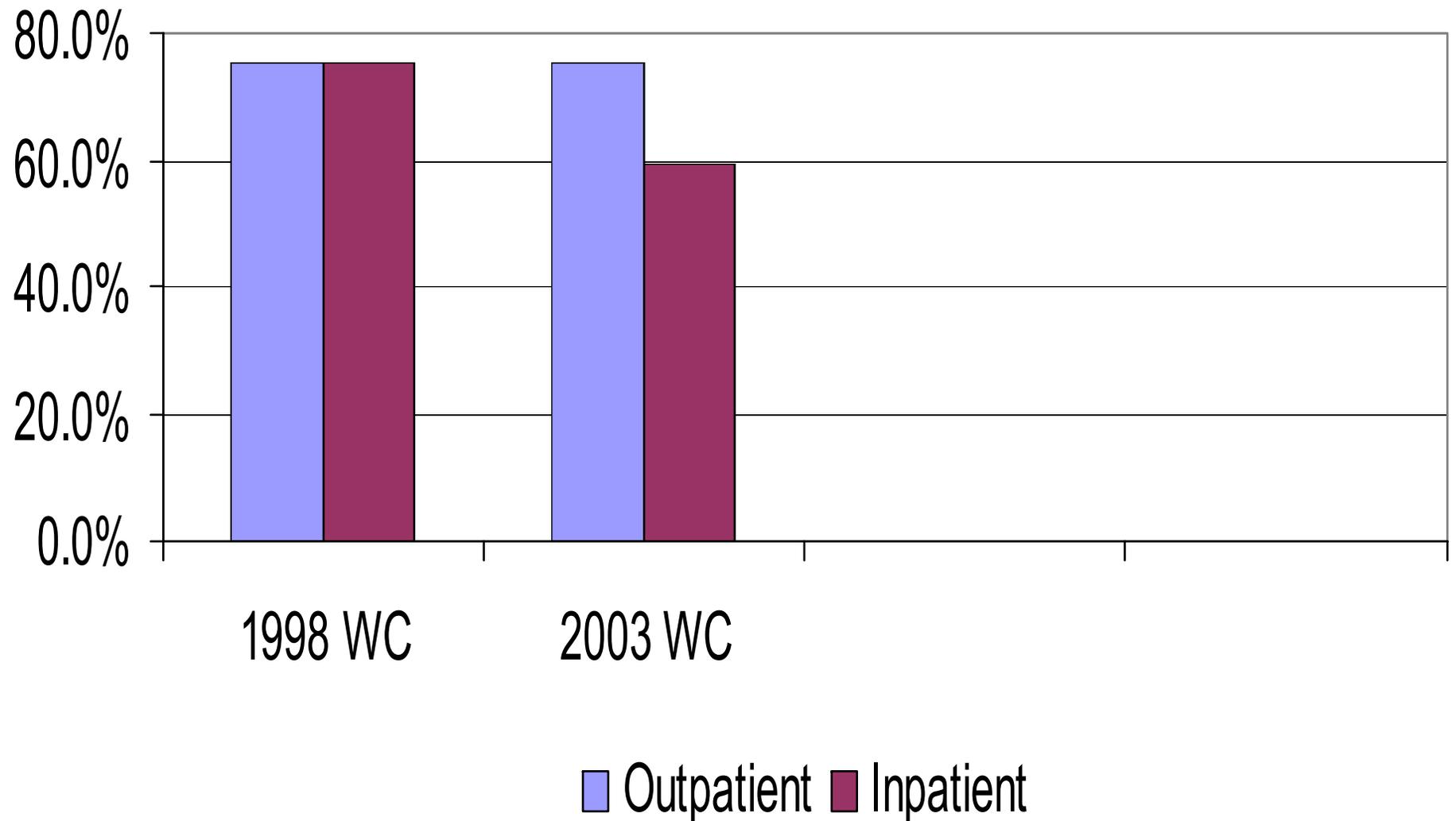
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- Direct comparisons of inpatient/outpatient percentages by payer-type for one time period aren't persuasive
- Surgery setting can be associated with the health of the patient or other unobserved confounders
- Need to compare changes in PCR's and surgery settings over time

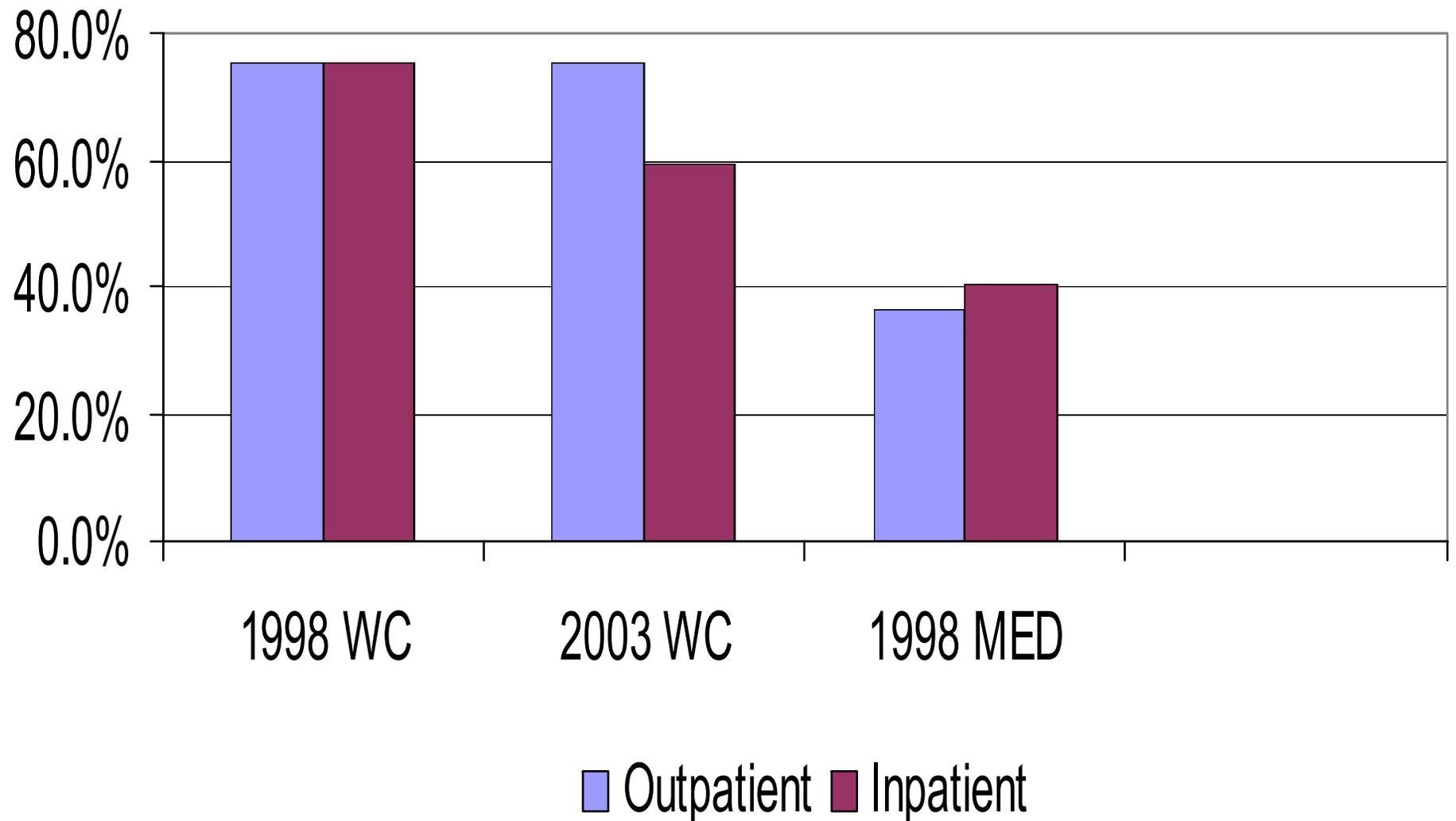
Workers Compensation and Medicare PCR



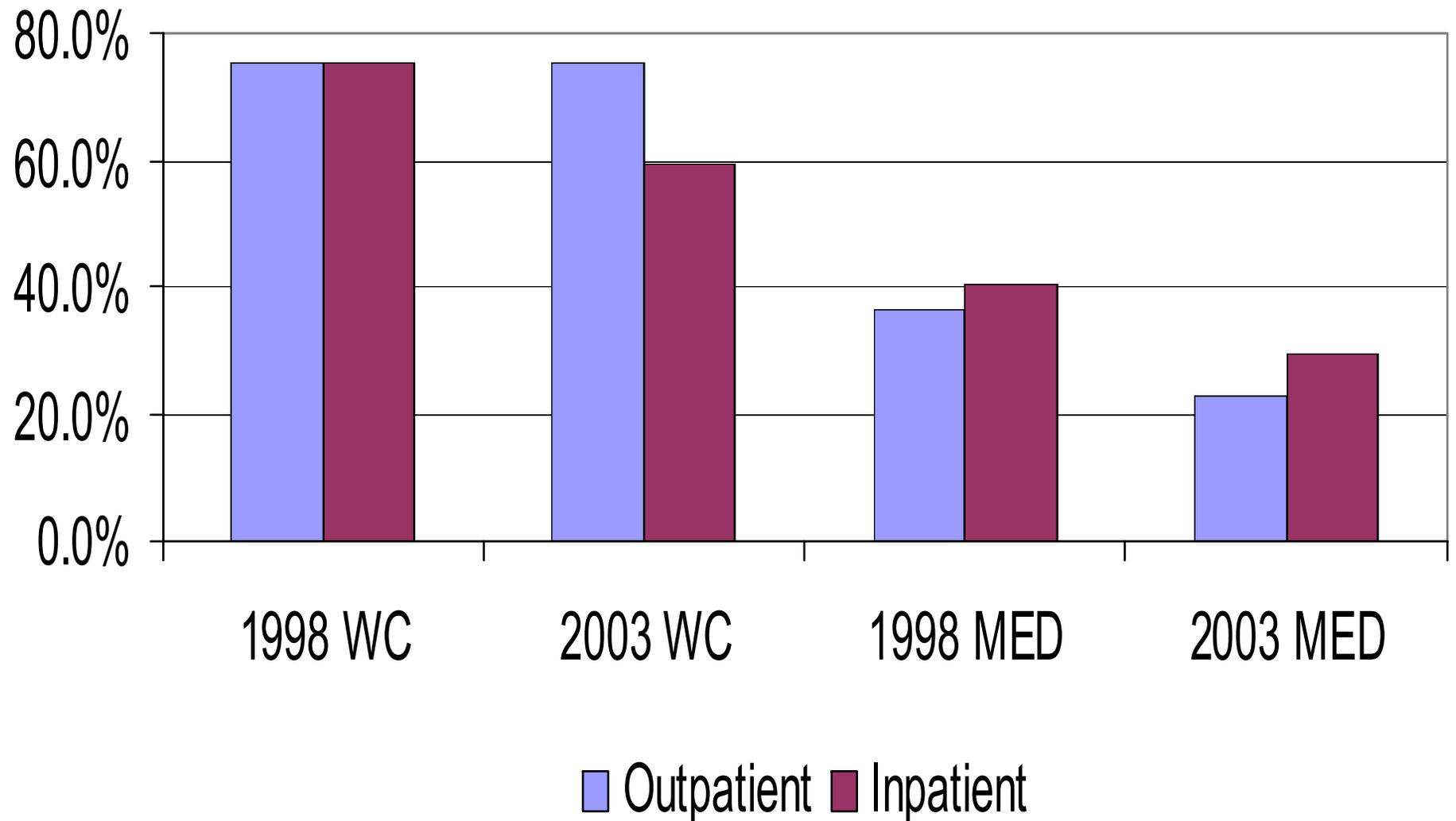
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Logistic Regression Models of Treatment Setting Assignment

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- Only WC and Medicare patients
- Hospital length of stay = 1 day
- Dependent variable: 1 if outpatient, 0 if inpatient
- Adjustment variables: WC, Y2003, Age, Race and Sex

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- Hypothesis: Odds Ratio > 1.0
- In other words, I hypothesize that the proportion of WC outpatients to inpatients increased from 1998 to 2003 relative to the proportion of Medicare patients.

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- Outpatient data have CPT procedure codes

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- Both inpatient and outpatient data have a ICD-9 primary diagnostic code
- The four most frequently occurring outpatient primary diagnostic codes for WC patients were for spinal injuries: 722.0, 722.10, 722.52, 724.02

Displacement of Lumbar Intervertebral Disc Without Myelopathy

Variable	OR	95% CI
Y2003×WC	2.452	1.705 - 3.527
Payer/Setting	<u>1998</u>	<u>2003</u>
WC		
Outpatient	1,456	1,442
Inpatient	643	521
Medicare		
Outpatient	1,602	1,605
Inpatient	372	763

Degeneration of Lumbar or Lumbosacral Intervertebral Disc

Variable	OR	95% CI
Y2003×WC	2.413	1.037 - 5.611
<u>Payer/Setting</u>	<u>1998</u>	<u>2003</u>
WC		
Outpatient	593	775
Inpatient	17	14
Medicare		
Outpatient	2,089	3,138
Inpatient	36	81

Displacement of Cervical Intervertebral Disc Without Myelopathy

Variable	OR	95% CI
Y2003×WC	1.604	1.005 - 2.560

Payer/Setting	1998	2003
WC		
Outpatient	276	240
Inpatient	254	306
Medicare		
Outpatient	195	135
Inpatient	114	211

Spinal Stenosis, Lumbar Region

<u>Variable</u>	<u>OR</u>	<u>95% CI</u>
Y2003×WC	4.930	2.517 - 9.656
<u>Payer/Setting</u>	<u>1998</u>	<u>2003</u>
WC		
Outpatient	209	222
Inpatient	32	27
Medicare		
Outpatient	3,466	3,934
Inpatient	138	562

Conclusions

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- Privately-managed payers calibrate their payments so that hospitals might have an incentive to provide outpatient services.

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- Privately-managed payers calibrate their payments so that hospitals might have an incentive to provide outpatient services.
- The Medicare and Florida Medicaid payment systems do not follow this strategy.

Policy Recommendation

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- By increasing outpatient payment rates, Medicaid in Florida and Medicare could decrease the overall costs of care.