Predictive Validity of a Survey Measure of Physician Plans to Leave Practice

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CSHP

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Background

Context

- AMA classified NJ as malpractice crisis state, 2002

- White Coat Rallies and physician work stoppages, 2002 & 2003

- Media reports of OBGYNs and other high-risk specialists leaving practice

- 2004 NJ Medical Care Access and Responsibility and Patients First Act

Selected Physician Comments…

"The undertone of physician dissatisfaction has exploded this year. … This should be watched closely as well as the reasons why."

"… OBGYN doctors need to be able to practice in NJ without being driven out of business by high malpractice premiums."

"…increased malpractice rates will make me retire earlier than I first planned."

Source: NJ State Physician Census, 2002

Change in Non-Resident NJ-Based Patient Care Physician Supply

Selected Specialties	2001	2004	% Change
OBGYN	1,238	1,208	-2.4
Anesthesiology	1,011	1,034	2.3
Radiology	836	887	6.1
Surgery	2,914	2,938	0.8
Gen/Family Practice	1,663	1,588	-0.7
Internal Medicine	5,663	5,624	-4.5
TOTAL	**18,342**	**18,351**	**0.1**

Sources: NJBME licensure list and AMA Master File
Note: 2001 data are as of December and 2004 data are as of October

Research Questions

- Are physicians in high-risk specialties leaving New Jersey or retiring from practice?

- Are survey responses about physician plans good predictors of leaving the state or retiring?

- What other physician or practice characteristics are predictive of leaving the state or retiring?

Data Sources

- NJ Board of Medical Examiners list of licensed physicians, 2001 & 2004

- AMA Physician Masterfile, 2001 & 2004 (thru Oct)
  - Practice status & primary location

- "New Jersey State Physician Census", 2002
  - Endorsed by NJ Board of Medical Examiners and others
  - Conducted by Rutgers Center for State Health Policy
  - Eight page questionnaire
  - Primarily mail, limited e-mail outreach & telephone follow-up

Study Population

- ## New Jersey Licensed Physicians, 2001
  - **N=18,343** - patient care, non-resident physicians with main practice address in New Jersey

- ## Survey Respondents, 2002
  - **n=4,937, Response rate=26.9%**
  - **n=4,651 (retired analysis); n=4,558 (left NJ analysis)**
  - Higher response rate: Older, IMG, pediatrics, OBGYN, and private practice
  - Lower response rate: Younger, USMG, internal medicine, anesthesiology, radiology, facility-based practice

Methods

- Compare characteristics of physicians with *plans* in 2002 to leave the state or retire from clinical practice with those of physicians *actually* leaving or retiring by 2004
  - Unadjusted relative odds
  - Adjusted relative odds, using logistic regression controlling for significant covariates (selected through backward elimination)
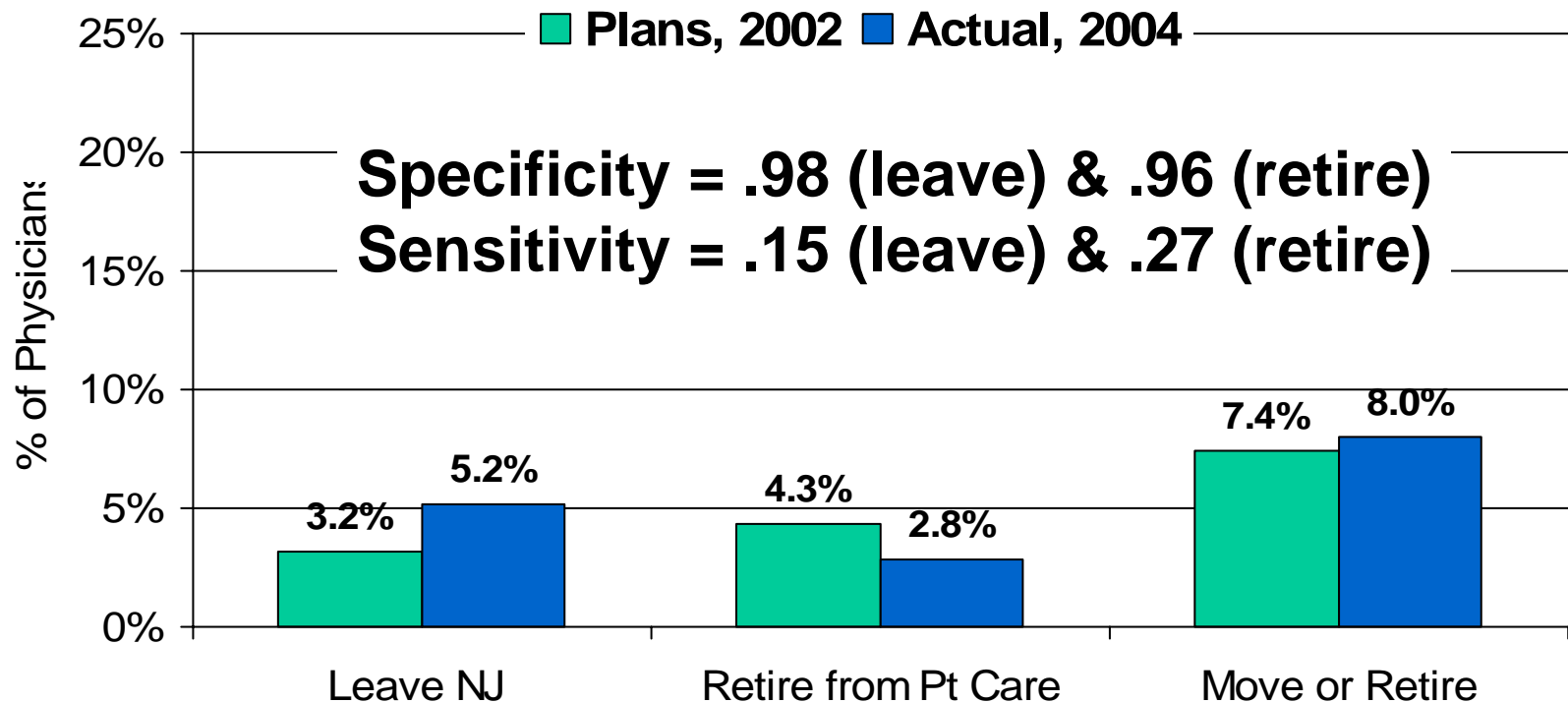
Dependent Variables

In the next 24 months, do you plan to:

- *Move your practice out of state*
  - Compared to those remaining in NJ-based patient care practice only

- *Retire from clinical medicine*
  - Includes retired, semi-retired and non-patient care practice
  - Compared to those remaining in patient care practice regardless of location
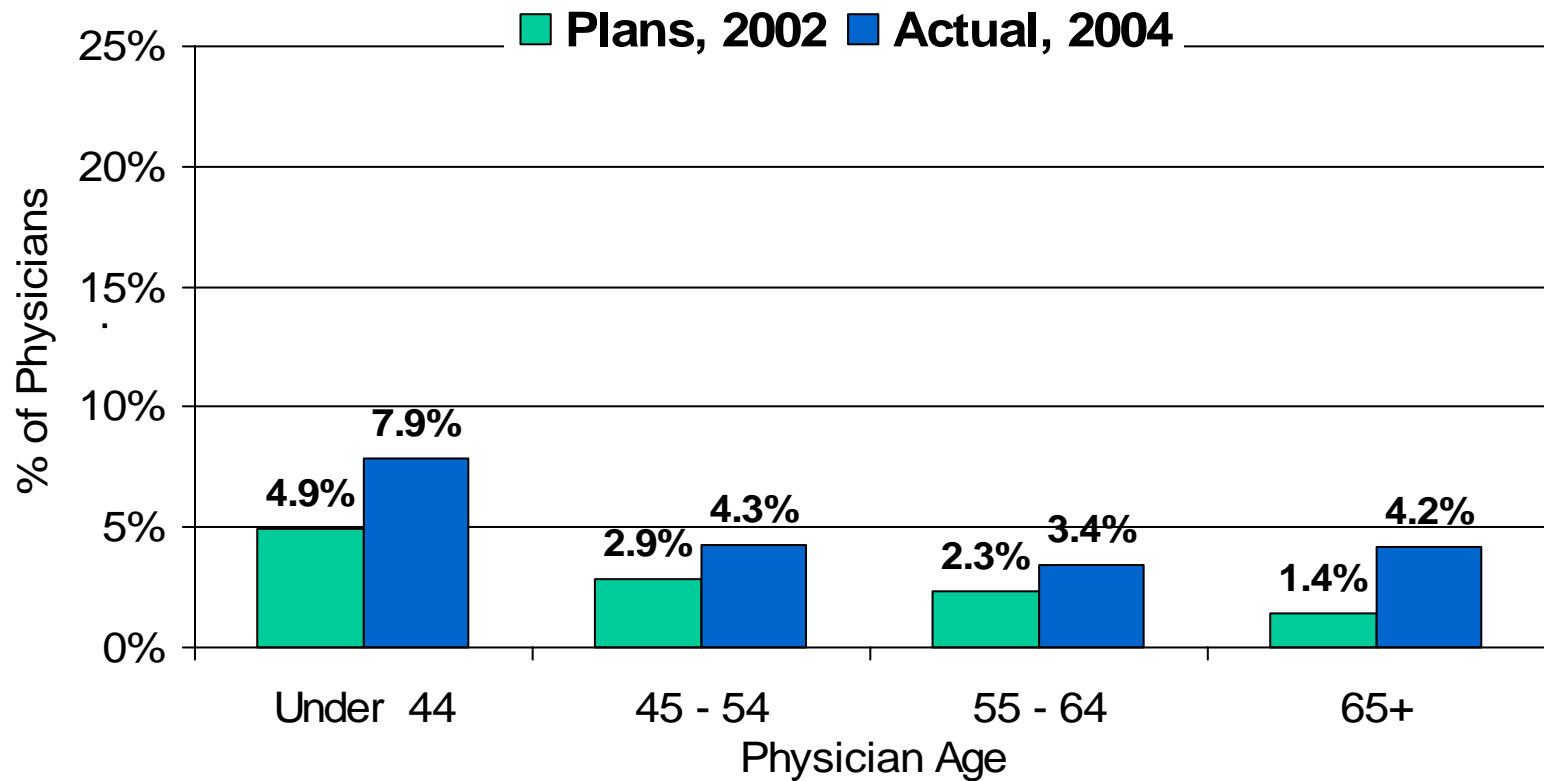
Independent Variables

- Age
- Gender
- Race/Ethnicity
  - White non-Hispanic
  - Black non-Hispanic
  - Hispanic
  - Other
- IMG Status
  - IMG foreign born
  - IMG US born
  - US medical graduate
- Specialty (10 categories)
- Self-Employment Status

- Practice Setting
  - Private – Solo
  - Private – Small group (2-6)
  - Private – Large group
  - Health center
  - Hospital ambulatory
  - Other
- "Job" satisfaction (5-point scale)
- "Patient care" satisfaction (5-point scale)
- Payer mix (approx. quartiles)
- Managed care (approx. quartiles)

Leaving NJ Practice and Retiring: Plans versus Actual Behavior

Bar chart comparing Plans, 2002 (green) and Actual, 2004 (blue).

% of Physicians

Overlaid text:
Specificity = .98 (leave) & .96 (retire)
Sensitivity = .15 (leave) & .27 (retire)

- Leave NJ: Plans 3.2%, Actual 5.2%
- Retire from Pt Care: Plans 4.3%, Actual 2.8%
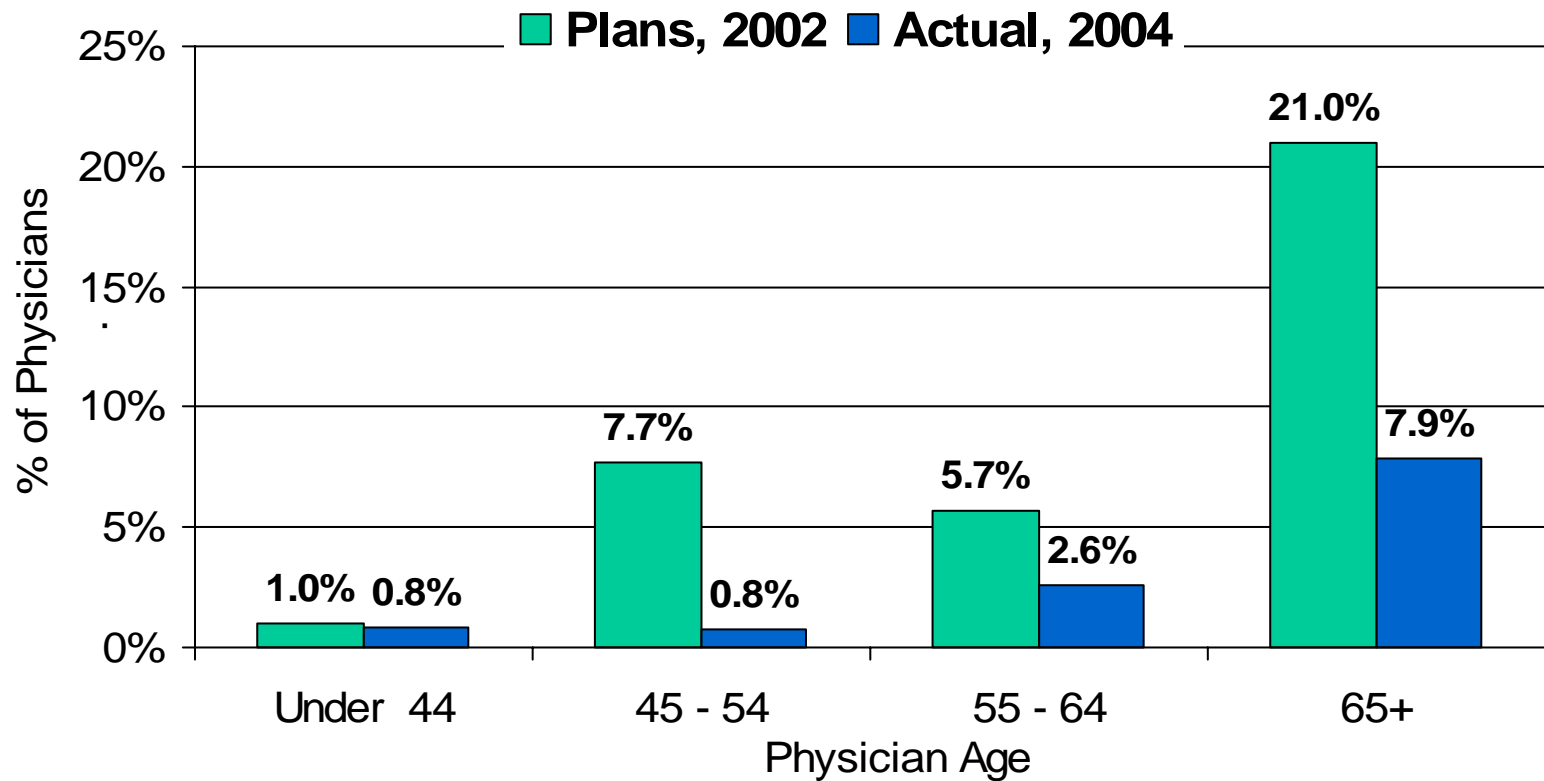- Move or Retire: Plans 7.4%, Actual 8.0%

Leaving NJ Practice by Age Group: Plans versus Actual Behavior

Leaving NJ Practice by Specialty: Plans versus Actual Behavior
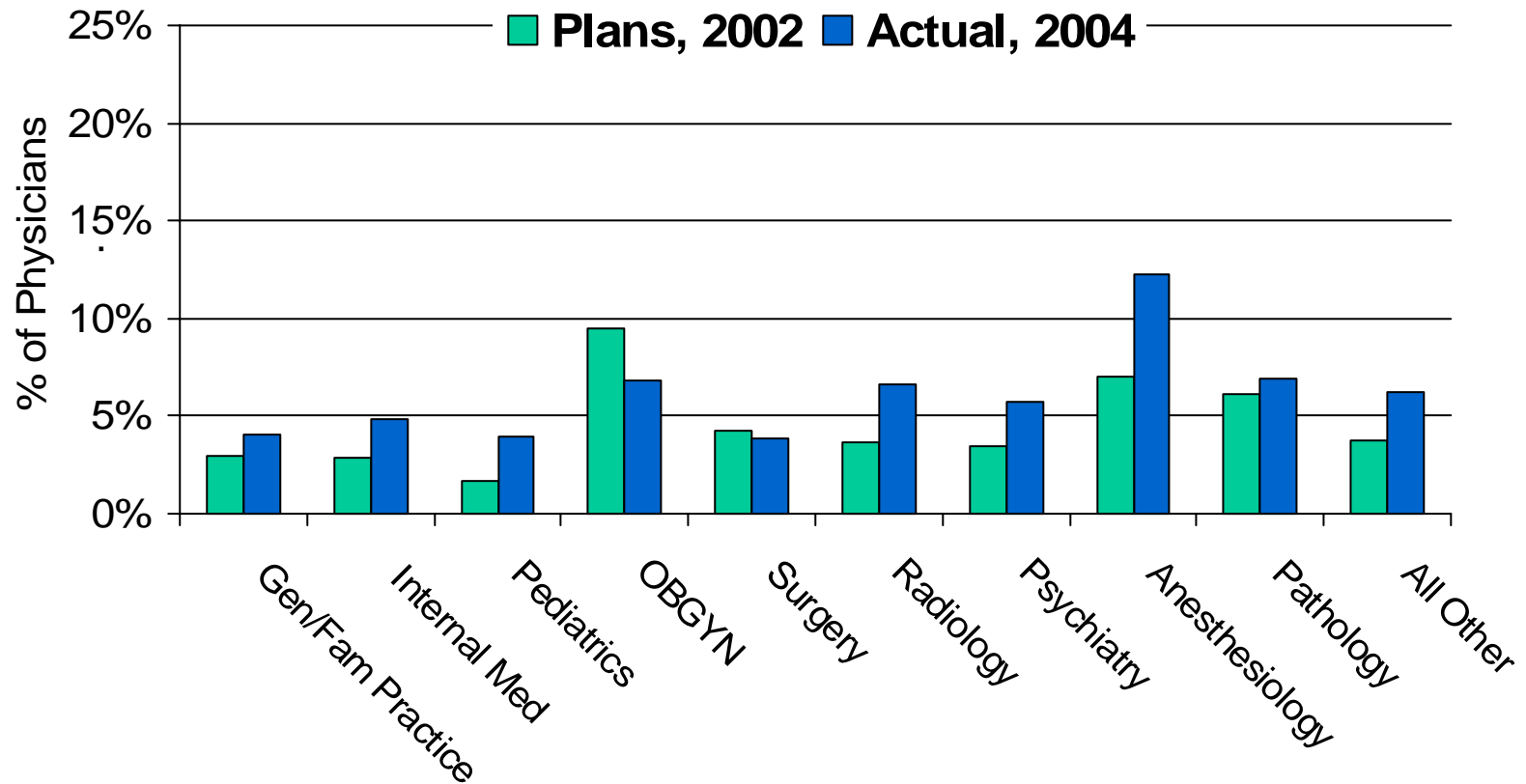
Retirement by Age Group: Plans versus Actual Behavior

Retirement by Specialty: Plans versus Actual Behavior

Chart: "% of Physicians" by specialty comparing **Plans, 2002** (green) and **Actual, 2004** (blue). Vertical axis from 0% to 25%. Categories: Gen/Fam Practice, Internal Med, Pediatrics, OBGYN, Surgery, Radiology, Psychiatry, Anesthesiology, Pathology, All Other.
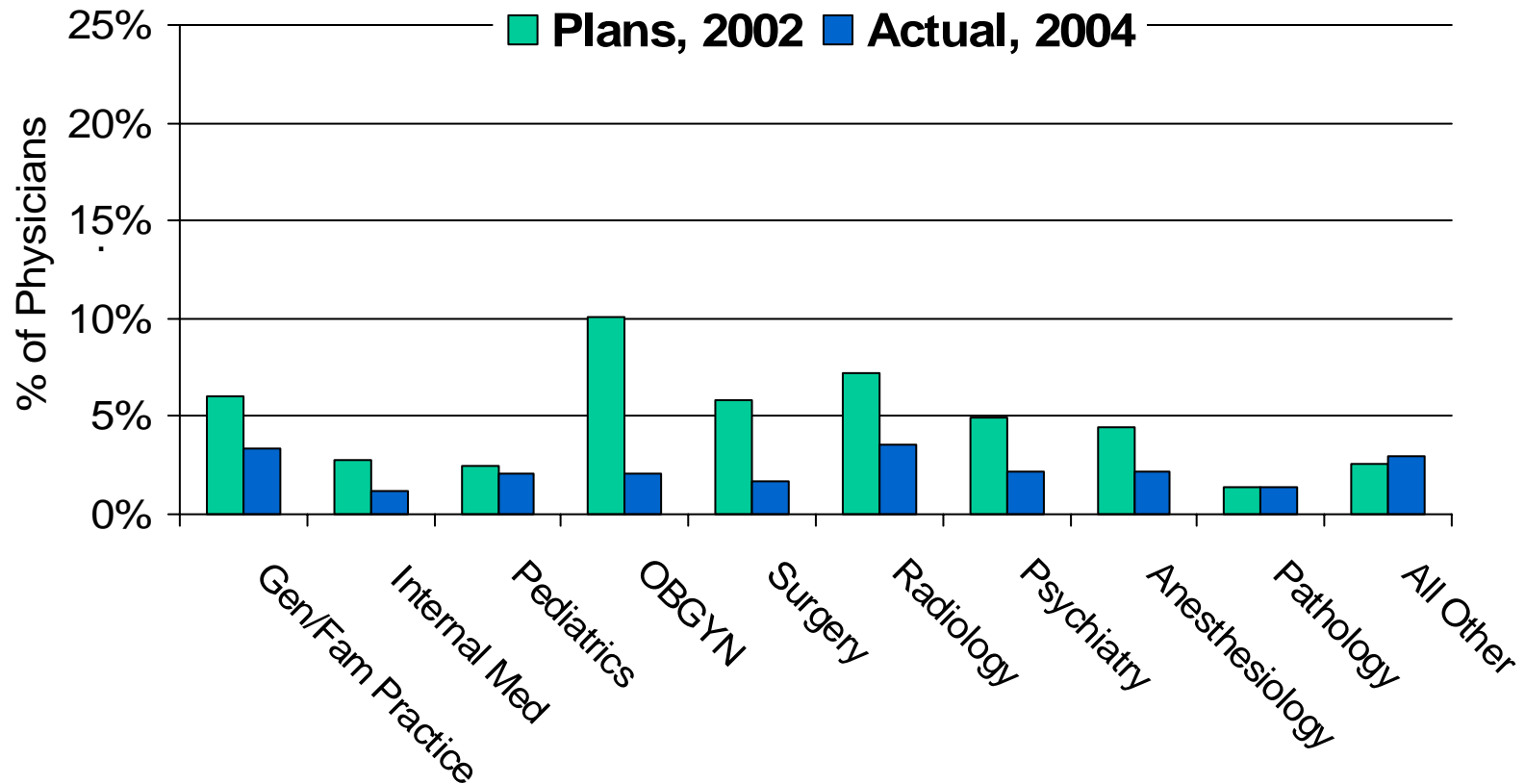
Relative Odds of Age on *Leaving NJ Practice*

	Planned, 2002		Actual, 2004	
	Unadjusted	Adjusted*	Unadjusted	Adjusted**
Under 45	**1.75**	**2.16**	**1.94**	**1.76**
45-54	--	--	--	--
55-64	0.8	0.88	0.84	0.81
65 and older	0.49	0.43	1.10	0.92

-- indicates reference group; **Bold** indicates significantly different from reference group
* Adjusted for specialty, setting, satisfaction, payer mix
**Adjusted for setting and percent managed care

Relative Odds of Specialty on *Leaving NJ Practice*

	Planned, 2002		Actual, 2004	
	Unadjusted	Adjusted*	Unadjusted	Adjusted
Gen/Family Prac	1.00	0.97	1.88	Not Significant
Int. Medicine	--	--	--	
Pediatrics	0.61	0.68	0.87	
OBGYN	**3.34**	**3.23**	1.51	
Surgery	1.83	**1.83**	0.88	

-- indicates reference group; **Bold** indicates significantly different from reference group
* Adjusted for age, setting, job and patient care satisfaction, payer mix

Relative Odds of Specialty on *Leaving NJ Practice* (continued)

	Planned, 2002		Actual, 2004	
	Unadjusted	Adjusted*	Unadjusted	Adjusted
Radiology	1.00	0.97	1.52	Not Significant
Psychiatry	1.27	1.54	1.27	
Anesthesiology	**3.14**	2.25	**3.01**	
Pathology	2.56	3.35	1.58	
Other	1.44	1.46	1.41	

-- indicates reference group; **Bold** indicates significantly different from reference group
* Adjusted for age, setting, job and patient care satisfaction, payer mix

Relative Odds of Age on *Retirement*

	Planned, 2002		Actual, 2004	
	Unadjusted	Adjusted*	Unadjusted	Adjusted**
Under 45	1.33	1.17	1.15	1.02
45-54	--	--	--	--
55-64	**7.76**	**7.93**	**3.87**	**3.62**
65 and older	**34.47**	**37.97**	**16.87**	**11.14**

-- indicates reference group; **Bold** indicates significantly different from reference group
* Adjusted for specialty, setting, payer mix
** Adjusted for self employment status, percent managed care

Relative Odds of Specialty on *Retirement*

	Planned, 2002		Actual, 2004	
	Unadjusted	Adjusted*	Unadjusted	Adjusted
Gen/Family Prac	**2.25**	1.21	Not Significant	Not Significant
Int. Medicine	--	--		
Pediatrics	0.73	0.08		
OBGYN	**3.93**	**3.94**		
Surgery	**2.17**	**2.02**		

-- indicates reference group; **Bold** indicates significantly different from reference group
* Adjusted for age, setting, job and patient care satisfaction, payer mix

Relative Odds of Specialty on *Retirement* (continued)

	Planned, 2002		Actual, 2004	
	Unadjusted	Adjusted*	Unadjusted	Adjusted
Radiology	**2.71**	1.71	Not Significant	Not Significant
Psychiatry	1.82	0.98		
Anesthesiology	1.64	1.21		
Pathology	0.49	a		
Other	0.93	0.99		

-- indicates reference group; **Bold** indicates significantly different from reference group

* Adjusted for age, setting, patient care satisfaction

a. Unable to estimate due to small sample

Other Predictors of Intent but not Behavior
Based on Adjusted Models

- <u>Patient care satisfaction</u>
  - *Lower intent to leave* (OR=0.68)
  - *Lower intent to retire* (OR=0.65)

- <u>Job satisfaction</u>
  - *Lower intent to leave* (OR=0.80)

Other Predictors of Behavior but not Intent
Based on Adjusted Models

- <u>Self-employment</u>
  - *Less likely to actually retire* (OR=0.39)

Other Predictors of Intent & Behavior
Based on Adjusted Models

- Practice setting
  - Private group practice <u>less</u> likely to leave or retire
  - Health center/hospital ambulatory <u>more</u> likely to leave or retire
- <u>Payer mix and managed care</u> variables are sometimes significant but without a clear pattern
  - Complicated by item non-response and collinearity with age and setting

Limitations

- Did not measure changes in scope of practice/high risk activities, which may be important

- Response rate caveat, although non-respondent analysis shows fairly good representation along important dimensions

- Analysis limited to a 24-month time horizon

- Did not account for quality or adequacy of physician supply

Conclusions

- Self-reported plans predict the *overall number* of physicians leaving/retiring well, but not *which* physicians
- High-risk specialties more likely to report plans to leave/retire but *not* more likely to do so, after adjusting for other factors
- Dissatisfaction predicts plans but *not* behavior
- Self-employment predicts behavior but *not* plans
- Practice hassles (measured by payer mix and managed care) are not consistent predictors of behavior
- Age is a key predictor in expected ways

Implications

- Physician polling data likely to overstate supply response to malpractice crises

- Expressed intentions reflect dissatisfaction

- Additional research needed on changes in scope of practice, quality, and other outcomes that may result from malpractice or other stresses

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Physician Satisfaction Scores
1=Very Dissatisfied … 5=Very Satisfied

	Mean	
Income	2.89	"Personal" 2.91
Leisure	2.92	
Autonomy	3.14	"Patient Care" 3.60
Time with patients	3.16	
Quality of care	4.01	
Doctor-Patient relationship	4.07	