Payment for Health Service Differs Depending on Type of Providers

Richard Dehn, MPA, PA-C
Bettie Coplan, MPAS, PS-C
Joseph Benitez, MPH, PhD Candidate
Roderick S. Hooker, PhD, PA

UIC SCHOOL OF PUBLIC HEALTH
UNIVERSITY OF ILLINOIS AT CHICAGO

Conflicts of Interest

None of the authors have any conflicts of interest to report regarding this project

Research Objective

- The source of payment for healthcare services in the US depends on a number of factors and varies widely depending on employment and geography.
- Growing evidence suggests that source of payment may be associated with type of provider.
- In this study, we examine source of payment by physician, physician assistant (PA), and nurse practitioner (NP).

Methods

- Data: Outpatient visit sample from the National Hospital Ambulatory Medical Care Survey (NHAMCS) for years 2006 – 2010
  - NHAMCS is a nationally representative survey of visits to non-federal outpatient departments and is collected by the Centers for Disease Control and Prevention
- Eight mutually exclusive primary sources of payment for health care that include:
  - Private Health Insurance (38%)
  - Medicare only (11%)
  - Medicaid only (30%)
  - Workman's Comp (1%)
  - Self Pay/Out of Pocket (7%)
  - Uncompensated/Charity Care (4%)
  - Medicare & Medicaid (3%)
  - Medicare & Private Insurance (6%).

Methods

- Source of payment by insurance type relationship to provider type
  - multinomial logistic regression model where the dependent variable is the provider type (i.e. Physician, PA, or NP)
  - The multinomial logistic regression is a variation of the binomial logistic regression model that allows for analysis of more than two discrete outcomes

Methods

- Also of interest is how responsiveness changes depending on the patient's major reason for visit (RFV) at the outpatient department
- We condition on each major RFV (as well as the RFV-undifferentiated population), so we are looking at how provider choice varies within the patient's major reason for coming to the OPD.

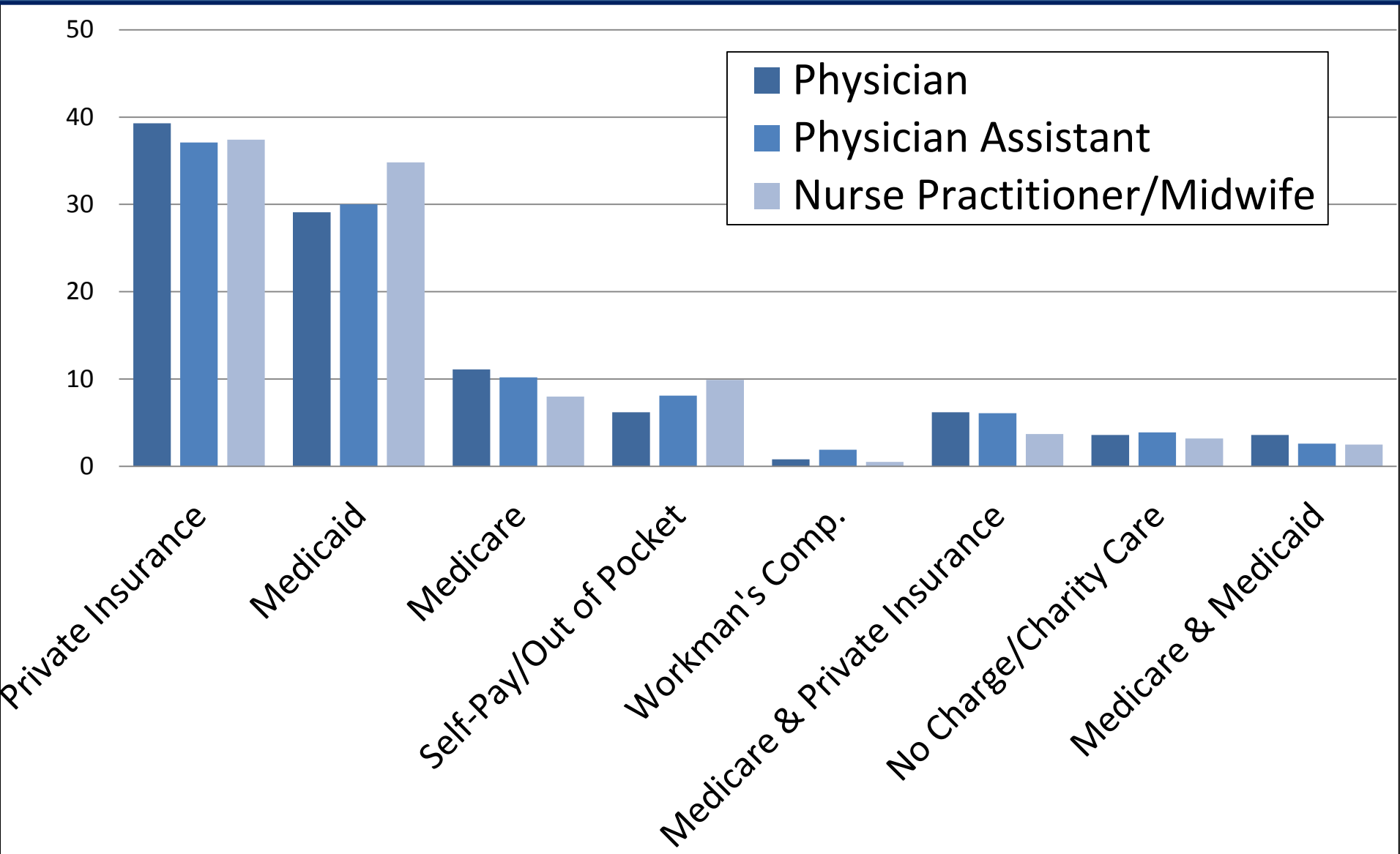
Reason for Visit (RFV) Definitions

Major Reason for Visit	**Definition**
New Problem	*A visit for a condition, illness, or injury having a relatively sudden or recent onset (within three months of this visit).*
Chronic Problem, Routine	*A visit primarily to receive care or examination for a pre-existing chronic condition, illness or injury (onset of condition was three months or more before this visit).*
Chronic Problem, Flare – Up	*A visit primarily due to sudden exacerbation of a pre-existing chronic condition.*
Pre/Post Surgery	*A visit scheduled primarily for care required prior to or following surgery (e.g., pre – surgery tests, removing sutures).*
Preventive Care	*General examinations and routine periodic examinations. Includes prenatal and postnatal care, annual physicals, well-child exams, screening, and insurance examinations.*

Table 1. Multinomial Logistic Regression Models of Provider Choice

	1	*2*	*3*	*4*	*5*	*6*
	Not Stratified by Major RFV	New/Acute Problem	Chronic Problem, Routine	Chronic Problem, Flare Up	Pre-/Post-Surgery	Preventive Care
Panel A. Physician Assistant						
Medicare	1.05	0.96	1.01	0.81	1.06	1.52*
	0.91 - 1.21	0.75 - 1.22	0.79 - 1.28	0.50 - 1.32	0.64 - 1.74	0.99 - 2.32
Medicaid	1.11**	1.14**	1.07	1.11	1.03	1.31**
	1.02 - 1.22	1.01 - 1.30	0.88 - 1.31	0.79 - 1.55	0.68 - 1.56	1.06 - 1.61
Workman's Comp.	2.23***	1.97***	1.31	1.5	1.94	14.1***
	1.78 - 2.79	1.48 - 2.62	0.68 - 2.53	0.44 - 5.09	0.80 - 4.71	6.63 - 29.8
Self – Pay/Out of Pocket	1.57***	1.38***	1.51***	1.2	1.09	2.53***
	1.39 - 1.77	1.16 - 1.64	1.11 - 2.05	0.71 - 2.02	0.56 - 2.13	1.93 - 3.31
No Charge/Charity Care	1.80***	1.68***	1.28	2.51***	3.05***	1.96***
	1.50 - 2.17	1.22 - 2.31	0.88 - 1.87	1.40 - 4.51	1.73 - 5.36	1.28 - 2.99
Medicare & Medicaid	0.83*	0.86	0.79	0.75	0.43*	1.25
	0.68 - 1.01	0.62 - 1.20	0.57 - 1.10	0.40 - 1.42	0.16 - 1.11	0.67 - 2.34
Medicare & Private Ins.	0.90	0.84	0.83	1.06	0.71	1.02
	0.75 - 1.07	0.63 - 1.13	0.61 - 1.12	0.62 - 1.80	0.39 - 1.29	0.56 - 1.87
Panel B. Nurse Practitioner/Nurse Midwife						
Medicare	1.04	0.82*	1.32***	0.99	1.00	1.02
	0.93 - 1.15	0.66 - 1.01	1.12 - 1.56	0.70 - 1.39	0.58 - 1.71	0.78 - 1.32
Medicaid	1.09***	1.04	1.23***	0.76**	0.83	1.05
	1.03 - 1.16	0.95 - 1.15	1.08 - 1.40	0.60 - 0.98	0.56 - 1.23	0.95 - 1.17
Workman's Comp.	0.48***	0.39***	0.75	0.35	1.09	0.84
	0.34 - 0.66	0.25 - 0.61	0.39 - 1.42	0.083 - 1.46	0.33 - 3.59	0.25 - 2.84
Self – Pay/Out of Pocket	1.29***	1.42***	1.55***	0.87	0.62	1.14*
	1.19 - 1.41	1.25 - 1.62	1.25 - 1.90	0.60 - 1.26	0.32 - 1.19	0.98 - 1.32
No Charge/Charity Care	1.10	0.99	1.61***	0.63*	0.70	1.04
	0.97 - 1.24	0.78 - 1.26	1.29 - 2.03	0.38 - 1.07	0.33 - 1.51	0.84 - 1.27
Medicare & Medicaid	0.84**	0.56***	1.36***	0.41***	0.48	0.54**
	0.72 - 0.98	0.40 - 0.79	1.10 - 1.67	0.21 - 0.79	0.17 - 1.35	0.33 - 0.88
Medicare & Private Ins.	0.79***	0.71**	1.00	0.55**	0.60	0.58**
	0.68 - 0.92	0.54 - 0.94	0.80 - 1.26	0.32 - 0.95	0.29 - 1.26	0.35 - 0.98
Observations	118,189	37,669	38,503	8,990	8,139	24,888

Primary Source of Payment by Provider Type, 2006 - 2010



Conclusions

- After accounting for patient characteristics, including why the patient came to the outpatient department during that visit, there appears to be some evidence that the probability of being treated by a particular type of provider group is conditional on patient method of payment.

Conclusions

- Lower labor costs of PAs and NPs may be one strategy to divert lower payments to lower paid employees. Although this study was an exploratory analysis, we suggest the results provide the basis for further inquiry into sorting based on patient primary source of payment.

Conclusions

- There may exist an optimal physician to PA/NP provider ratio in outpatient settings to deliver high quality care at the lowest cost to the clinic or hospital, however this is likely to a function of the local demography and state laws that regulate the extent of non-physician provider privileges.

Conclusions

- Because we see variation in the provider responsiveness based on the method of payment in multiple regression specifications suggests efforts to determine this relationship at the OPD level would be warranted in future research.

Limitations

- Results only show association
- Confounding forces
  - PAs and NPs utilized at a higher rate in rural and economically poorer communities, thus we might be reporting this finding as it is expressed in a provider-payment source relationship.

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