

A National Study of Primary Care Provided by Osteopathic Physicians

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Context: The establishment of a single accreditation system for graduate medical education in the United States suggests a convergence of osteopathic and allopathic medicine.

Objective: To compare the characteristics of medical care provided by osteopathic and allopathic physicians.

Methods: Five-year data from the National Ambulatory Medical Care Survey were used to study patient visits for primary care, including those for low back pain, neck pain, upper respiratory infection, hypertension, and diabetes mellitus. Patient status, primary reason for the visit, chronicity of the presenting problem, injury status, medication orders, physician referrals, source of payment, and time spent with the physician were used to compare osteopathic and allopathic patient visits.

Results: A total of 134,369 patient visits were surveyed, representing a population (SE) of 4.57 billion (220.2 million) patient visits. Osteopathic physicians provided 335.6 (29.9) million patient visits (7.3%), including 217.1 (20.9) million visits for primary care (9.7%). The 5 sentinel symptoms and medical diagnoses accounted for 233.0 (12.4) million primary care visits (10.4%). The mean age of patients seen during primary care visits provided by osteopathic physicians was 46.0 years (95% CI, 44.1-47.9 years) vs 39.9 years (95% CI, 38.8-41.0 years) during visits provided by allopathic physicians ($P<.001$). Osteopathic patient visits were less likely to involve preventive care (OR, 0.55; 95% CI, 0.44-0.68) and more likely to include care for injuries (OR, 1.60; 95% CI, 1.43-1.78). Osteopathic physicians spent slightly less time with patients during visits (mean, 16.4 minutes; 95% CI, 15.7-17.2 minutes) than allopathic physicians (mean, 18.2 minutes; 95% CI, 17.2-19.3 minutes). The most distinctive aspect of osteopathic medical care involved management of low back pain. Therein, osteopathic physicians were less likely to order medication (OR, 0.33; 95% CI, 0.15-0.75) or to refer patients to another physician (OR, 0.47; 95% CI, 0.23-0.94), despite having more visits paid through Worker's Compensation (OR, 3.63; 95% CI, 1.01-13.07). Osteopathic and allopathic medical care for upper respiratory infection, hypertension, and diabetes mellitus were comparable.

Conclusion: Practice patterns of osteopathic physicians generally mirror those of allopathic physicians except that osteopathic physicians deliver more medical care for older patients and at later stages of disease. Osteopathic medicine should be promoted more vigorously among younger and healthier persons. New opportunities may arise for osteopathic physicians to demonstrate a distinctive approach to low back pain as changes emerge in graduate medical education.

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It has long been thought that colleges of osteopathic medicine select students who are compatible with a unique osteopathic philosophy and style of practice. However, a distinct osteopathic professional identity remains enigmatic.¹ Moreover, the recent establishment of a single accreditation system for graduate medical education in the United States² now suggests that osteopathic and allopathic medicine are converging and that preservation of professional philosophies and practice patterns is less central than the broader objective of providing adequate physician training opportunities. This shift raises 2 important and related issues for osteopathic medicine. First, can and to what degree will greater exposure to allopathic graduate medical education affect the foundations of a traditional osteopathic undergraduate medical education? Second, is the single accreditation system a harbinger of things to come or simply a manifestation of existing commonalities in osteopathic and allopathic practice patterns? The purpose of the present study was to address the latter question by using data from the National Ambulatory Medical Care Survey (NAMCS) to compare osteopathic and allopathic practice patterns in primary care, including in the treatment of patients with 5 sentinel symptoms and medical diagnoses.

Methods

The NAMCS

This study involved medical care provided from January 2002 through December 2006. The NAMCS methodology ensures a representative cross-section of patient visits throughout the United States by using a multistage probability sample. The sampling frame includes physicians who meet the criteria of being office-based, principally engaged in patient care activities, nonfederally employed, and not in the specialties of anesthesiology, pathology, or radiology. The data are collected and validated using quality checks at several stages during the survey process. This process ensures that item nonresponse rates are 5% or less for most variables. Neverthe-

less, any missing data for birth year, sex, race, ethnicity, and time spent with the physician are imputed. Each patient visit is assigned a weight based on the probability of being selected by the 3-stage sampling design, adjustments for nonresponse and physician specialty group, and weight smoothing to minimize the impact of physician outliers. These weights, combined with a large number of patient visits surveyed, generally enable precise estimates of national population parameters and facilitate valid comparisons of medical care provided by osteopathic and allopathic physicians. Estimates and comparisons may be unreliable if based on fewer than 30 patient visits or relative SEs greater than 0.30.^{3,4} Detailed descriptions of the NAMCS survey instrument, methodology, and data files relating to this study are available elsewhere.³⁻⁷

Sentinel Symptoms and Medical Diagnoses

Two common presenting symptoms (low back pain and neck pain) and 3 medical diagnoses (upper respiratory infection, hypertension, and diabetes mellitus) served as the basis for this study. Low back pain consisted of NAMCS primary reason for visit (RFV) codes 1905.0 through 1905.5 (relating to back pain) and 1910.0 through 1910.5 (relating to low back pain), which included the terms “pain, ache, soreness, discomfort, cramps, contractures, spasms, limitation of movement, stiffness, weakness, or swelling.” Patient visits involving a lump, mass, or tumor were excluded. Neck pain consisted of RFV codes 1900.0 through 1900.5, which also included the terms listed above for low back pain and excluded visits involving a lump, mass, or tumor. Upper respiratory infection consisted of RFV codes 1445.0 (head cold) and 1400.0 (nasal congestion). The latter included the terms “drippy nose, excess mucus, nasal obstruction, post-nasal drip, runny nose, sniffles, and stuffy nose.” Hypertension consisted of RFV code 2510.0, which excluded hypertension diagnoses with target organ involvement, such as hypertensive heart disease, pulmonary hypertension, and renal hypertension.

Diabetes mellitus consisted of RFD code 2205.0, which included both type 1 and type 2 diabetes mellitus.

Characteristics of

Ambulatory Medical Care

The characteristics of interest for each visit included patient status (new vs established patient), primary reason for the visit (disease management; symptom management; diagnostic, screening, and preventive services; treatment; injury or adverse effect; test results review; and administrative), chronicity of the problem (routine chronic problem; flare-up of a chronic problem; acute problem; pre- or postsurgical care; and preventive care), whether the visit was related to an injury (including poisoning or adverse effect of medical care), ordering of medication during the visit (including number of medications ordered), referral to another physician during the visit, primary source of payment (private insurance, Medicare, Medicaid, Worker's Compensation, or self-pay), and time spent with the physician.

Statistical Analyses

The characteristics of patient visits provided by osteopathic and allopathic physicians were compared using ORs and 95% CIs for categorical variables and *t* tests for continuous variables. Multivariate analyses were performed to assess the effects of potential confounders on the observed results, and sensitivity analyses were conducted to assess the impact of imputing missing data for time spent with the physician. All hypotheses were assessed at the .05 level of statistical significance using 2-tailed tests and SPSS for Microsoft Windows software (IBM Corp). Because the multistage probability design of the NAMCS included clustering, stratification, and the assignment of unequal probabilities of selection to sample units, all analyses were performed with the complex samples module to accurately compute national population estimates and their SEs.⁸

Results

Number of Patient Visits

A total of 134,369 patient visits were studied, representing a population (SE) of 4.57 billion (220.2 million) patient visits nationally from 2002 through 2006 (Figure).

Osteopathic physicians provided 335.6 (29.9) million patient visits (7.3%) overall, including 217.1 (20.9) million visits (9.7%) for primary care. The 5 sentinel symptoms and medical diagnoses accounted for 233.0 (12.4) million patient visits (10.4%) in primary care. Osteopathic physicians provided disproportionately large percentages of medical care for neck pain (23.9%) and low back pain (19.1%) in primary care. By comparison with the 9.7% of patient visits provided in primary care, osteopathic physicians provided more medical care than expected for diabetes mellitus (12.7%), about expected levels of care for upper respiratory infection (9.8%), and less care than expected for hypertension (8.6%).

General Characteristics of Patient Visits

The mean age of patients seen during primary care visits provided by osteopathic physicians was 46.0 years (95% CI, 44.1-47.9 years) vs 39.9 years (95% CI, 38.8-41.0 years) during visits provided by allopathic physicians ($P<.001$). Women comprised 57.7% and 57.0% of patient visits provided by osteopathic and allopathic physicians, respectively ($P=.50$). There were several significant differences between osteopathic and allopathic physicians in the delivery of primary care (Table 1). The most notable were that osteopathic patient visits were less likely to involve preventive care (OR, 0.55; 95% CI, 0.44-0.68) and more likely to include care for injuries (OR, 1.60; 95% CI, 1.43-1.78). Correspondingly, osteopathic patient visits were more likely to have Worker's Compensation as the primary source of payment (OR, 2.92; 95% CI, 1.22-6.98). Additionally, osteopathic patient visits were more likely to involve medication orders (OR, 1.30; 95% CI, 1.06-1.59).

Patient Visits for Sentinel Symptoms and Medical Diagnoses

In accord with the overall findings, osteopathic patient visits for low back pain were more likely to have Worker's Compensation as the primary source of payment (OR, 3.63; 95% CI, 1.01-13.07) (Table 2). However, medication was ordered less often during such visits (OR, 0.33; 95% CI, 0.15-0.75). Referral to another physician was also less likely (OR, 0.47; 95% CI, 0.23-0.94).

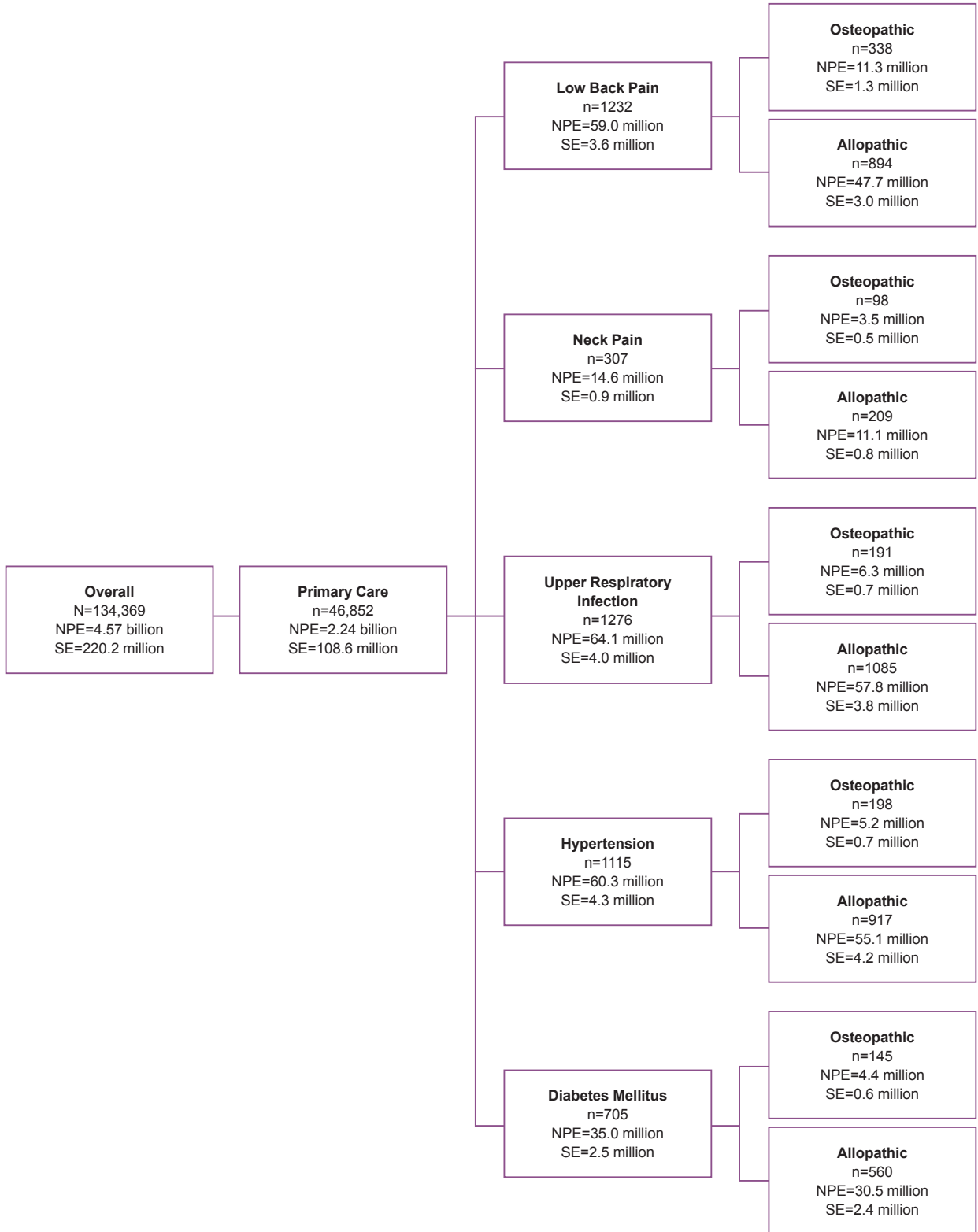


Figure. Distribution of patient visits for primary care. *Abbreviation:* NPE, national population estimate.

Table 1.
Characteristics Associated With Patient Visits to DOs for Primary Care^a

Characteristic	Visits, %		OR	95% CI
	DO	MD		
Patient Status				
New patient	4.9	4.4	1.00	...
Established patient	95.1	95.6	0.89	0.69-1.13
Primary RFV				
Disease management (RFV codes 2001-2999)	10.5	11.3	1.00	...
Symptom management (RFV codes 1001-1999)	53.9	50.7	1.14	0.96-1.35
Diagnostic, screening, and preventive services (RFV codes 3100-3599)	16.9	22.4	0.80	0.63-1.02
Treatment (RFV codes 4100-4899)	10.9	9.9	1.18	0.90-1.56
Injury or adverse effect (RFV codes 5001-5999)	2.9	2.0	1.51	1.13-2.00
Test results review (RFV codes 6100-6700)	3.9	2.7	1.58	1.18-2.11
Administrative (RFV codes 7100-7140)	1.0	1.0	1.00	0.67-1.50
Chronicity of Problem				
Routine chronic problem	29.6	26.2	1.00	...
Flare-up of chronic problem	8.5	7.7	0.98	0.79-1.20
Acute problem	46.8	42.3	0.98	0.85-1.13
Pre- or postsurgical care	1.5	1.5	0.86	0.63-1.18
Preventive care	13.7	22.2	0.55	0.44-0.68
Visit for an Injury^b				
No	87.4	91.7	1.00	...
Yes	12.6	8.3	1.60	1.43-1.78
Medication Ordered During Visit				
No	13.8	17.2	1.00	...
Yes	86.2	82.8	1.30	1.06-1.59
Referral to Another Physician During Visit				
No	91.4	91.8	1.00	...
Yes	8.6	8.2	1.05	0.87-1.26
Primary Source of Payment for Visit				
Private insurance	59.9	61.0	1.00	...
Medicare	21.9	21.0	1.06	0.91-1.24
Medicaid	12.5	14.4	0.88	0.66-1.19
Worker's Compensation	1.0	0.4	2.92	1.22-6.98
Self-pay	4.6	3.2	1.46	1.11-1.93

^a Reported percentages are based on 7190 visits to osteopathic physicians (DOs) and 39,662 visits to allopathic physicians (MDs), including patient visit weights. The ORs are for DO visits relative to MD visits.

^b Includes poisoning or adverse effect of medical care.

Abbreviation: RFV, reason for visit.

Table 2. Characteristics Associated With Patient Visits to DOs for Primary Care According to Symptom or Medical Diagnosis^a

Characteristic	Low Back Pain			Neck Pain			Upper Respiratory Infection			Hypertension			Diabetes Mellitus							
	Visits, %			Visits, %			Visits, %			Visits, %			Visits, %							
	DO	MD	OR	95% CI	DO	MD	OR	95% CI	DO	MD	OR	95% CI	DO	MD	OR	95% CI				
Patient Status																				
New patient	0.7	3.7	1.00	...	5.7	5.8	1.00	...	7.7	3.2	1.00	...	2.9	2.8	1.00	...				
Established patient	99.3	96.3	5.88	1.62-21.43	94.3	94.2	1.02	0.32-3.23	92.3	96.8	0.40	0.20-0.80	97.1	97.2	0.98	0.35-2.70	95.4	97.4	0.55	0.14-2.12
Chronicity of Problem																				
Routine chronic problem	37.1	31.7	1.00	...	29.0	18.4	1.00	...	6.2	7.8	1.00	...	73.4	75.9	1.00	...	82.1	81.9	1.00	...
Flare-up of chronic problem	20.1	18.6	0.92	0.56-1.52	24.6	15.2	1.02	0.47-2.22	3.8	6.5	0.73	0.23-2.34	11.4	7.9	1.49	0.85-2.62	6.5	5.4	1.19	0.55-2.57
Acute problem	41.9	47.2	0.76	0.50-1.15	45.8	64.1	0.45	0.21-0.98	85.1	83.0	1.28	0.63-2.62	11.8	11.2	1.09	0.55-2.15	8.1	8.1	0.99	0.43-2.28
Preventive care	0.9	2.4	0.32	0.10-1.06	0.5	2.4	0.14	0.02-1.30	4.9	2.7	2.25	0.74-6.87	3.4	4.9	0.71	0.24-2.14	3.4	4.6	0.73	0.32-1.68
Visit for an Injury^b																				
No	67.9	75.5	1.00	...	49.8	73.5	1.00	...	94.6	98.2	1.00	...	95.9	96.3	1.00	...	93.0	98.1	1.00	...
Yes	32.1	24.5	1.45	0.98-2.16	50.2	26.5	2.79	1.53-5.07	5.4	1.8	3.19	1.33-7.65	4.1	3.7	1.13	0.48-2.66	7.0	1.9	3.95	0.74-21.07
Medication Ordered During Visit																				
No	21.7	8.4	1.00	...	25.8	18.3	1.00	...	2.8	7.8	1.00	...	5.4	8.7	1.00	...	6.2	14.3	1.00	...
Yes	78.3	91.6	0.33	0.15-0.75	74.2	81.7	0.64	0.26-1.59	97.2	92.2	2.96	1.00-8.76	94.6	91.3	1.66	0.86-3.22	93.8	85.7	2.53	0.97-6.57
Referral to Another Physician During Visit																				
No	93.6	87.2	1.00	...	87.6	88.2	1.00	...	96.8	97.0	1.00	...	95.1	94.4	1.00	...	87.8	92.6	1.00	...
Yes	6.4	12.8	0.47	0.23-0.94	12.4	11.8	1.06	0.35-3.15	3.2	3.0	1.07	0.47-2.47	4.9	5.6	0.87	0.42-1.80	12.2	7.4	1.73	0.67-4.49
Primary Source of Payment for Visit																				
Private insurance	59.3	59.4	1.00	...	46.5	60.8	1.00	...	60.5	64.6	1.00	...	50.7	48.8	1.00	...	48.8	52.2	1.00	...
Medicare	16.7	22.9	0.73	0.48-1.11	23.4	20.8	1.47	0.63-3.39	15.3	12.1	1.35	0.85-2.14	41.9	40.1	1.01	0.69-1.47	46.8	36.5	1.37	0.81-2.32
Medicaid	9.5	10.2	0.93	0.50-1.73	7.9	9.2	1.13	0.52-2.48	17.9	21.3	0.90	0.48-1.68	3.8	7.7	0.48	0.20-1.16	4.3	8.3	0.55	0.18-1.62
Worker's Compensation	8.4	2.3	3.63	1.01-13.07	13.7	4.6	3.87	0.92-16.35	0.0	0.0	...	...	0.0	0.0	...	...	0.0	0.0	...	...
Self-pay	6.1	5.2	1.18	0.56-2.45	8.5	4.6	2.43	0.81-7.32	6.3	2.0	3.38	1.46-7.83	3.6	3.5	1.00	0.47-2.14	0.1	3.0	0.04	0.01-0.30

^a Reported percentages are based on the number of patient visits and patient visit weights for osteopathic physicians (DOs) and allopathic physicians (MDs), as summarized in Figure 1. The ORs are for DO visits relative to MD visits.

^b Includes poisoning or adverse effect of medical care.

Table 3.
Number of Medications Ordered During Patient Visits for Primary Care^a

Type of Patient Visits	DO Visits		MD Visits		P Value
	Mean No.	95% CI	Mean No.	95% CI	
All Primary Care Visits	2.3	2.2-2.5	2.2	2.1-2.3	.10
Symptom- or Disease-Specific Visits					
Low back pain	2.1	1.7-2.5	2.7	2.5-2.9	.02
Neck pain	2.0	1.4-2.6	2.0	1.6-2.3	.94
Upper respiratory infection	2.8	2.5-3.1	2.1	2.0-2.3	<.001
Hypertension	3.1	2.7-3.5	3.1	2.8-3.3	.84
Diabetes mellitus	3.6	3.1-4.1	3.3	3.0-3.7	.36

^a Reported means and 95% CIs were computed using patient visit weights.

Abbreviations: DO, osteopathic physician; MD, allopathic physician.

Osteopathic patient visits for neck pain more likely involved an injury as the cause of the problem (OR, 2.79; 95% CI, 1.53-5.07), although such visits less likely involved acute problems (OR, 0.45; 95% CI, 0.21-0.98). There were several statistically significant differences between osteopathic and allopathic patient visits for upper respiratory infection; however, these generally did not represent differences indicative of clinical relevance. There were no clinically important differences between osteopathic and allopathic patient visits for hypertension and diabetes mellitus.

Number of Medications Ordered

A comparable number of medications were ordered during osteopathic and allopathic patient visits for primary care (Table 3). However, osteopathic physicians ordered fewer medications than allopathic physicians during visits for low back pain (mean, 2.1; 95% CI, 1.7-2.5 vs mean, 2.7; 95% CI, 2.5-2.9; $P=.02$) and more medications for upper respiratory infection (mean, 2.8; 95% CI, 2.5-3.1 vs mean, 2.1; 95% CI, 2.0-2.3; $P<.001$).

Time Spent With Physicians

Osteopathic physicians spent slightly less time with patients than did allopathic physicians during visits for

primary care (mean, 16.4 minutes; 95% CI, 15.7-17.2 minutes vs mean, 18.2 minutes; 95% CI, 17.2-19.3 minutes; $P=.006$) (Table 4). Nevertheless, there were no significant differences with respect to time spent with osteopathic vs allopathic physicians during patient visits for any of the 5 sentinel symptoms and medical diagnoses studied.

Multivariate and Sensitivity Analyses

The adjusted ORs and 95% CIs derived from multiple logistic regression analyses that controlled for potential confounders did not materially alter the observed results for overall primary care visits or for any of the 5 sentinel symptoms and medical diagnoses. Several multivariate models for the number of medications ordered and for time spent with the physician during patient visits yielded results that were virtually identical to the unadjusted results. Similarly, the results of sensitivity analyses that excluded patient visits with imputed times spent with the physician were comparable to the results based on the combined imputed and nonimputed measures. Consequently, based on the similarity of results in the primary analyses and those in the multivariate and sensitivity analyses, only the actual observed results are presented.

Table 4.
Time Spent With the Physician During Patient Visits for Primary Care^a

Type of Patient Visits	DO Visits		MD Visits		P Value
	Mean, min	95% CI	Mean, min	95% CI	
All Primary Care Visits	16.4	15.7-17.2	18.2	17.2-19.3	.006
Symptom- or Disease-Specific Visits					
Low back pain	17.9	15.1-20.8	17.9	17.1-18.6	.95
Neck pain	17.3	14.2-20.4	18.6	17.0-20.3	.43
Upper respiratory infection	14.7	13.5-16.0	14.9	14.3-15.6	.78
Hypertension	19.0	16.8-21.2	18.3	16.2-20.4	.64
Diabetes mellitus	18.2	17.0-19.4	18.9	17.9-19.8	.46

^a Reported means and 95% CIs were computed using patient visit weights.

Abbreviations: DO, osteopathic physician; MD, allopathic physician.

Discussion

This study provides insight on more than 40 million patient visits annually provided by osteopathic physicians in primary care. Osteopathic physicians provide medical care for an older population than allopathic physicians. With respect to the natural history of disease,⁹ this finding suggests that osteopathic physicians more often provide medical care at or after the stage of clinical disease manifestation (*Table 5*). This phenomenon explains the greater likelihood of treating chronic injuries, ordering more medications, and receiving more payments through Worker's Compensation during primary care visits provided by osteopathic physicians. Such patient visits may afford osteopathic physicians fewer opportunities and less time for delivering preventive care. The large percentage of medical care provided by osteopathic physicians for the sentinel symptoms of neck pain and low back pain is also consistent with a skewed patient distribution across the disease stage spectrum.

There were no clinically important differences between osteopathic and allopathic physicians in their management of upper respiratory infection, hypertension, or diabetes mellitus. However, a distinct osteopathic approach to medical care was observed during patient visits for low back pain. Osteopathic physicians

provided greater continuity of care than allopathic physicians by more frequently treating established patients and less often referring them to other physicians. Osteopathic physicians also relied less on medication in the management of low back pain than allopathic physicians, despite caring for a patient mix that included greater percentages of patients in Worker's Compensation systems and with injuries. Despite the large percentage of patient visits provided by osteopathic physicians for neck pain, there was not a clearly distinctive pattern of medical care. Overall, these findings are consistent with those reported in the First Osteopathic Survey of Health Care in America.¹⁰ Therein, respondents perceived the medical care provided by osteopathic and allopathic physicians to be similar, although they believed that osteopathic manipulative treatment (OMT) was beneficial in treating musculoskeletal conditions and strongly favored its coverage by health insurance plans.¹⁰

The findings of greater continuity of care and less reliance on medications and physician referrals during patient visits for low back pain suggest that many osteopathic physicians were managing low back pain in concert with the clinical practice guideline that was subsequently published by the American Osteopathic Association.¹¹ The guideline includes an algorithm for decision making in

Table 5.
Stages of the Natural History of Disease^a

Disease Stage	Associated Factors		
	Tissue Change	Prevention Level	Interventions
Susceptibility	Prepathogenesis	Primary	Health promotion, specific protection
Presymptomatic	Pathogenesis	Secondary	Screening, early diagnosis, treatment
Clinical disease	Pathogenesis	Tertiary	Treatment, rehabilitation
Disability	Sequela	Tertiary	Treatment, rehabilitation, disability limitation

^a Adapted from Mausner and Kramer.⁹

patients with low back pain and recommends that OMT be used if somatic dysfunction is diagnosed as a cause of or contributing factor in low back pain. Subsequent studies have reinforced its validity.^{12,13} Interestingly, this is the only clinical practice guideline established by the American Osteopathic Association to date, and it corresponds to the only sentinel condition in this study for which a distinctive osteopathic approach to management was observed. Unfortunately, the NAMCS did not collect specific data on the use of OMT or on ordering interventions under the broader heading of spinal manipulative therapy, including those provided by chiropractors or physical therapists.

The transition to a single accreditation system for graduate medical education represents an opportunity for osteopathic physicians to demonstrate their distinctive approach to low back pain by educating allopathic physicians on the principles of somatic dysfunction and basic OMT techniques for treating it.¹⁴ Allopathic residents in family medicine have reported favorable attitudes toward the effectiveness of OMT in patients with musculoskeletal conditions.¹⁵ In addition, allopathic family medicine physicians and internists who learned basic OMT techniques during an 18-hour training course subsequently reported greater confidence and skills in managing low back pain.^{16,17}

The strengths of the present study include a nationally representative sample of patient visits and a high level of statistical power attributable to a large number of observations. There are, however, some potential limita-

tions that should be mentioned. First, the data were limited to those variables collected with the NAMCS patient record form from 2002 through 2006. These NAMCS data only measure selected characteristics of medical care in the ambulatory setting, not the outcomes of such care. Although additional NAMCS data have been released since these analyses, it is unlikely that clinical practice involving the 5 sentinel symptoms and medical diagnoses changed substantially over time to materially alter the reported findings. Second, about 16% of data on time spent with the physician were missing and imputed. Although the validity of these imputations cannot be verified, the sensitivity analyses with and without the imputed measures yielded virtually identical results. Moreover, greater time spent with patients may not necessarily reflect better quality of care. Less time spent with patients may even be considered reflective of more efficient medical care, assuming that outcomes are comparable. Finally, such other factors as patient satisfaction and cost-effectiveness of medical care could not be assessed with the NAMCS data and should be considered in future investigations.

There are potentially important implications of these findings as the osteopathic medical profession grows and evolves within the emerging health care landscape in the United States. Patients in the earlier stages of the disease spectrum, such as those who are susceptible or pre-symptomatic, should be targeted for medical care by osteopathic physicians to facilitate greater implementation of

primary and secondary preventive services (Table 5). An important strategy to achieve this objective is to more vigorously promote osteopathic medicine among younger and healthier persons who are less likely to be aware of osteopathic physicians or to use their services.^{18,19}

Conclusion

It is perhaps to be expected that the practice patterns of osteopathic physicians largely mirror those of allopathic physicians as we transition into a single accreditation system for graduate medical education. Nevertheless, new opportunities may emerge to spread uniquely osteopathic approaches to medical care in this environment. The management of low back pain is one area in which such efforts appear warranted.

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