

Department of Health and Human Services

**OFFICE OF
INSPECTOR GENERAL**

**CHIROPRACTIC SERVICES IN THE
MEDICARE PROGRAM:
PAYMENT VULNERABILITY ANALYSIS**



Inspector General

June 2005
OEI-09-02-00530

Office of Inspector General

<http://oig.hhs.gov>

The mission of the Office of Inspector General (OIG), as mandated by Public Law 95-452, as amended, is to protect the integrity of the Department of Health and Human Services (HHS) programs, as well as the health and welfare of beneficiaries served by those programs. This statutory mission is carried out through a nationwide network of audits, investigations, and inspections conducted by the following operating components:

Office of Audit Services

The OIG's Office of Audit Services provides all auditing services for HHS, either by conducting audits with its own audit resources or by overseeing audit work done by others. Audits examine the performance of HHS programs and/or its grantees and contractors in carrying out their respective responsibilities and are intended to provide independent assessments of HHS programs and operations in order to reduce waste, abuse, and mismanagement and to promote economy and efficiency throughout the department.

Office of Evaluation and Inspections

The OIG's Office of Evaluation and Inspections (OEI) conducts management and program evaluations (called inspections) that focus on issues of concern to the department, the Congress, and the public. The findings and recommendations contained in the inspections reports generate rapid, accurate, and up-to-date information on the efficiency, vulnerability, and effectiveness of departmental programs. The OEI also oversees State Medicaid fraud control units, which investigate and prosecute fraud and patient abuse in the Medicaid program.

Office of Investigations

The OIG's Office of Investigations (OI) conducts criminal, civil, and administrative investigations of allegations of wrongdoing in HHS programs or to HHS beneficiaries and of unjust enrichment by providers. The investigative efforts of OI lead to criminal convictions, administrative sanctions, or civil monetary penalties.

Office of Counsel to the Inspector General

The Office of Counsel to the Inspector General (OCIG) provides general legal services to OIG, rendering advice and opinions on HHS programs and operations and providing all legal support in OIG's internal operations. The OCIG imposes program exclusions and civil monetary penalties on health care providers and litigates those actions within the department. The OCIG also represents OIG in the global settlement of cases arising under the Civil False Claims Act, develops and monitors corporate integrity agreements, develops compliance program guidances, renders advisory opinions on OIG sanctions to the health care community, and issues fraud alerts and other industry guidance.



E X E C U T I V E S U M M A R Y

OBJECTIVE

To determine the underlying causes of, and potential ways to reduce, vulnerabilities associated with Medicare payments for chiropractic services.

BACKGROUND

In 1972, Congress passed Public Law 92-603, which amended section 1861(r) of the Social Security Act (the Act) to define chiropractors as physicians who are eligible for Medicare reimbursement, but only for manual manipulation of the spine to correct a subluxation, or malfunction of the spine. Federal regulations (42 CFR § 410.21(b)) further limit Medicare payment to treatment of subluxations that result in a neuromusculoskeletal condition for which manual manipulation is appropriate treatment. In addition to these specific provisions, sections 1862(a)(1)(A) and 1833(e) of the Act require that all services billed to Medicare, including chiropractic manipulations, be medically necessary and supported by documentation.

The Medicare Carriers Manual (the Manual) outlines additional coverage criteria for chiropractic services billed to Medicare.¹ Pursuant to section 2251.2 of the Manual, the existence of a subluxation must be documented through an X-ray or physical examination and chiropractic services must be provided as part of a written plan of care that should include specific goals and measures to evaluate effectiveness. Section 2251.3 of the Manual states that chiropractic treatment “. . . must provide a reasonable expectation of recovery or improvement of function.” The same Manual section states that “. . . ongoing maintenance therapy is not considered to be medically necessary under the Medicare program,” and is therefore noncovered.

Chiropractic has experienced considerable growth in Medicare, from 11.2 million services and \$255 million allowed in 1994 to 21 million services and \$683 million allowed in 2004. In previous studies, published in 1986, 1998, and 1999, the Inspector General found that a

¹ At the time of our study, the references to the Medicare Carriers Manual were accurate. The Centers for Medicare & Medicaid Services has since moved to web-based manuals. The Carriers Manual sections cited in this report are now found in the Medicare Benefit Policy Manual, Pub. 100-2, Chapter 15, sections 30.5 and 240.

significant vulnerability existed in connection with chiropractic services, particularly concerning maintenance care.²

To gain a deeper understanding of the underlying causes of these vulnerabilities and ways to reduce them, we selected a simple random sample of 400 Medicare services (total allowed amount = \$12,638.38) submitted by chiropractors and allowed in 2001. We contracted with practicing chiropractors who reviewed each service according to a standard protocol, which was based on Medicare coverage guidelines and requirements. The review instrument solicited information about the beneficiary's chiropractic treatment as a whole and about the individual sampled service in particular. This enabled the reviewers to determine if the services billed to Medicare were covered, coded correctly, and properly documented. In particular, it enabled the reviewers to determine the extent to which payments were made for maintenance services, which are not covered under Medicare. Based on the results of this review, we also determined the likelihood of services being noncovered depending on the number of services billed per episode of care. Knowing this, Medicare carriers can make informed choices regarding the level of effort to expend in reviewing questionable billings based on billing patterns.

Because we only reviewed services provided by chiropractors in 2001, our sample results cannot be extrapolated to other periods. Accordingly, we make no inferences to chiropractic error rates in subsequent years.

FINDINGS

Maintenance services were the most common type of noncovered chiropractic services that Medicare paid for in 2001. Medicare carriers routinely deny all chiropractic claims that do not carry a code for spinal manipulation, which is, by law, the only treatment for which chiropractors may be reimbursed. Our medical reviewers found that although billed with an allowable code, 57 percent of these services did not meet Medicare coverage criteria (i.e., were noncovered). In addition, 16 percent were miscoded or billed at the wrong level of spinal manipulation, and 6 percent were undocumented. Twelve percent had

² *Utilization Parameters for Chiropractic Treatments* (OEI-04-97-00496), *Chiropractic Care: Controls Used by Medicare, Medicaid, and Other Payers* (OEI-04-97-00490), and *Inspection of Chiropractic Services under Medicare* (OAI-05-86-00002).

multiple errors, yielding an overall error rate of 67 percent, resulting in \$285 million in improper payments.

Medical reviewers determined that the majority of inappropriately paid services were maintenance treatments (\$186 million in allowed payments), which Medicare defines as medically unnecessary, and are therefore not covered. Another 14 percent (\$65 million) were found to be medically unnecessary for other reasons. Medicare also allowed \$24 million for services billed with a spinal manipulation code that were actually extraspinal manipulations or non-manipulative treatment, such as massage. Apart from coverage issues, upcoding was also a significant problem, resulting in a \$15 million overpayment.

Supporting documentation for chiropractic services rarely met all Medicare Carriers Manual requirements. The Manual requires that specific supporting documentation be present in the chiropractic record. Nearly 94 percent of chiropractic services, though, lacked at least one of the supporting documentation elements listed in section 2251.2 of the Manual (including those that were completely undocumented). The lack of one or more of these elements did not automatically lead us to conclude a service was noncovered, although these determinations were often related. For instance, 34 percent of chiropractic services were not supported by an evaluation that met the Manual's specific requirements for documenting a subluxation. Most, but not all, of these services were also determined to be noncovered.

Lack of medical necessity is directly related to service volume. As chiropractic care extends beyond 12 treatments in a year, it becomes increasingly likely that individual services are medically unnecessary. The likelihood of a service being medically unnecessary increases even more significantly after 24 treatments. Accordingly, identifying and carefully scrutinizing services beyond a certain frequency threshold could result in significant savings. Although frequency-based controls are common among carriers and in the private sector, the Centers for Medicare & Medicaid Services (CMS) does not have a national policy addressing their use.

Carrier controls to prevent overutilization are inconsistent. Although all carriers have some mechanisms to prevent and recoup improper payments for chiropractic services, a significant vulnerability surrounding this benefit persists.

RECOMMENDATIONS

Based on the volume of medically unnecessary, undocumented, and noncovered services allowed, chiropractic services represent a significant vulnerability for the Medicare program. Therefore, we recommend that CMS take the following actions:

Ensure that chiropractic services comply with Medicare coverage criteria. CMS should require that its carriers or Program Safeguard Contractors conduct service-specific reviews of chiropractic services to identify improper payments. CMS should also implement national frequency-based controls to target high-volume services for review, since our medical review identified a strong correlation between high service volume and lack of medical necessity. When conducting reviews of individual providers, it is imperative that reviewers collect the entire records associated with services selected as part of a service-specific review. Several records we reviewed would have appeared legitimate for any one particular day of service; however, that day's documentation was repeated verbatim for the entirety of the patient's treatment.

Require that its carriers educate chiropractors on Medicare Carriers Manual requirements for supporting documentation. Many chiropractors seem unaware of the specific documentation requirements outlined in the Manual. CMS should address this lack of knowledge by directing its carriers to issue provider bulletins reminding chiropractors of their responsibilities.

In addition to these recommendations, we have forwarded information on the noncovered, miscoded, and undocumented services identified in our sample to CMS for appropriate action.

AGENCY COMMENTS AND OIG RESPONSE

In its comments on our draft report, CMS agreed with our findings and recommendations. The agency has clarified its chiropractic coverage criteria and indicated that most carriers are taking steps to reduce chiropractic error rates, including targeted educational efforts and service-specific medical reviews. In addition, as of October 1, 2004, CMS has required that chiropractors use the –AT modifier to indicate that a service is not maintenance; only claims to which this modifier is attached are payable.

E X E C U T I V E S U M M A R Y

We appreciate CMS's response to our report, and support the steps the agency is currently undertaking to help prevent paying for noncovered, miscoded, and undocumented services.

CMS noted in its comments that while this Office of Inspector General (OIG) study projected that 67 percent of the chiropractic services allowed by Medicare did not meet program requirements, CMS's Comprehensive Error Rate Testing (CERT) program identified a claims paid error rate of approximately 16 percent for claims submitted by chiropractors in 2002. CMS further noted that differences in the methodological approaches accounted for the significantly different rates. CMS recognized that OIG's review of a beneficiary's entire course of treatment enabled us to determine that approximately 40 percent of all chiropractic services are attributable to maintenance care, and thus are not covered under Medicare. In contrast, the CERT paid claims error rate is based on a review of a single claim, which limits its ability to detect uncovered maintenance costs.

We agree with CMS and would like to emphasize that the purpose of this inspection was to determine the underlying causes of, and potential ways to reduce, vulnerabilities associated with payments for chiropractic services. It was not designed to reproduce, or to review, the CERT paid claims error rate. In addition to the different methodological approaches that are noted above, the CERT used 2002 data, whereas our data was drawn from 2001. Hence, our results cannot be compared directly to the CERT program results.

Furthermore, chiropractic payment errors, while a significant vulnerability, contribute only minimally to the overall CERT national paid claims error rate. Medicare allowed approximately \$191 billion for Medicare fee-for-service claims in 2001. Chiropractic services accounted for \$500 million, or 0.26 percent of this amount. Therefore, the chiropractic-specific error rate has minimal influence on the overall CERT error rate for fee-for-service claims.

Given that Medicare payments for chiropractic services have continued to increase since 2001, the need for a more effective way to eliminate inappropriate maintenance payments is crucial. We recognize that it may not be practical for the CERT program to expend its limited resources to collect the extensive documentation that we used in our review. Therefore, in the future, CMS may wish to conduct additional studies outside the scope of the CERT program to determine cost-efficient ways to address chiropractic payment errors.

► T A B L E O F C O N T E N T S

EXECUTIVE SUMMARY	i
INTRODUCTION	1
FINDINGS	8
Noncovered and miscoded services	8
Supporting documentation deficient	10
Medical necessity linked to frequency	11
Carrier controls inconsistent	15
RECOMMENDATIONS	16
AGENCY COMMENTS	19
APPENDIXES	21
A. Detailed Methodology	21
B. Further Discussion of the Effects of Removing the X-ray Requirement	24
C. Confidence Intervals for Selected Statistics	27
D. Significance Tests for Selected Comparisons	30
ACKNOWLEDGMENTS	31

OBJECTIVE

To determine the underlying causes of, and potential ways to reduce, vulnerabilities associated with Medicare payments for chiropractic services.

BACKGROUND

Chiropractic: History and Practice

According to the American Chiropractic Association, the profession's largest association, chiropractic is "a form of health care aimed primarily at enhancing a patient's overall health and well-being without the use of drugs or surgery."³ Central to chiropractic philosophy and practice is the use of manual manipulation to correct a subluxation of the spine. Etymologically, the term "subluxation" simply means a partial dislocation of a joint. Although a single standard definition of subluxation in the chiropractic context does not exist, the term is generally used by chiropractors to describe "a complex of functional and/or structural and/or pathological articular changes that compromise neural integrity and may influence organ system function and general health."⁴

Chiropractic has established itself and grown as a profession since it was founded in 1895. The practice is now licensed in all 50 States, and at least 16 accredited chiropractic colleges confer Doctor of Chiropractic degrees on their graduates. In 1970, there were approximately 13,000 licensed chiropractors in the United States. According to the Bureau of Labor Statistics, that number grew to 50,000 in 2000. Both the Bureau and the American Chiropractic Association predict that the number of chiropractors will continue to increase in the future.

Patients most often seek out chiropractors for treatment of back pain, especially low back pain. Low back pain is a pervasive American health

³ "Chiropractic: A Rapidly Growing Profession." *Consumers/Media*. American Chiropractic Association. Retrieved October 23, 2003, http://www.amerchiro.org/media/growing_profession.shtml.

⁴ "Chiropractic Paradigm." Association of Chiropractic Colleges. Retrieved October 24, 2003, <http://www.chirocolleges.org/missiont.html>.

problem, from which approximately 31 million citizens suffer at any given time.⁵

Medicare Coverage of and Requirements for Chiropractic Services

General provisions of the Social Security Act (the Act) govern Medicare reimbursement of all services, including chiropractic services. Section 1862(a)(1)(A) of the Act states that “. . . no payment may be made [under the Medicare title for services that] are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member.” Section 1833(e) requires that providers furnish “such information as may be necessary in order to determine the amounts due” in order to receive Medicare payment. Related regulations at 42 CFR § 411.15(k) and 42 CFR § 424.5(a)(6) implement these provisions of Federal law.

On October 30, 1972, Congress passed the Social Security Amendments of 1972, extending Medicare reimbursement to chiropractors, but only for manual manipulation of the spine to correct a subluxation demonstrated by an X-ray.^{6,7} Federal regulations (42 CFR § 410.21(b)) further limit Medicare chiropractic coverage to treatment of subluxations that result in a neuromusculoskeletal condition for which manual manipulation is appropriate treatment. Restricting reimbursement to spinal manipulation means Medicare may pay chiropractors for only three Current Procedural Terminology (CPT) codes: 98940 (*Chiropractic Manipulative Treatment; spinal, one to two regions*), 98941 (*three to four regions*), and 98942 (*five regions*). In 2001, CPT code 98942 accounted for fewer than 10 percent of the chiropractic services allowed by Medicare, with each of the lower-level CPT codes accounting for approximately 45 percent of the total.

The Balanced Budget Act of 1997 removed the X-ray requirement as of January 1, 2000, and instructed the Secretary of the Department of Health and Human Services to establish utilization guidelines for

⁵ Jensen, M., M. Brant-Zawadzki, N. Obuchowski, et al. “Magnetic Resonance Imaging of the Lumbar Spine in People Without Back Pain.” *New England Journal of Medicine* 1994; vol. 331: 69-116. Cited in: “Back Pain Statistics.” American Chiropractic Association. Retrieved October 24, 2003, <http://www.amerchiro.org/media/whatis/benefits.shtml>.

⁶ Note that no payment is provided to chiropractors for services other than manual manipulation of the spine; *i.e.*, X-rays and other diagnostic tests are not covered services when performed by chiropractors.

⁷ The chiropractic provisions (section 273) of the Social Security Amendments of 1972 modified section 1861(r)(5) of the Act.

subluxations not evidenced by an X-ray. Guidelines for demonstrating a subluxation are found in section 2251.2 of the Medicare Carriers Manual (the Manual).⁸ The Manual defines a subluxation as “a motion segment, in which alignment, movement integrity, and/or physical function of the spine are altered although contact between joint surfaces remains intact.” If used, an X-ray generally must be taken between 12 months before and 3 months after the start of treatment. A physical examination must identify at least two criteria for treatment, one of which must be asymmetry/misalignment or a range of motion abnormality. The other criterion can be pain/tenderness or changes in the associated soft tissue.

No matter how the presence of a subluxation is established, section 2251.3 of the Manual stipulates that beneficiaries also must present “a significant health problem in the form of a neuromusculoskeletal condition necessitating treatment, and the manipulative services rendered must have a direct therapeutic relationship to the patient’s condition and provide reasonable expectation of recovery or improvement of function.” Furthermore, section 2251.3 of the Manual states that “. . . [a] treatment plan that seeks to prevent disease, promote health and prolong and enhance the quality of life, or therapy that is performed to maintain or prevent deterioration of a chronic condition is not a Medicare benefit. Once the maximum therapeutic benefit has been achieved for a given condition, ongoing maintenance therapy is not considered to be medically necessary under the Medicare program.” In other words, Medicare covers only treatment of acute or chronic subluxations, not preventive or maintenance care.⁹ The Manual also lists eight absolute and five relative contraindications regarding manual manipulation of the spine, such as acute fractures of the spine or severe demineralization of the bones. Such conditions preclude the use of or impart significant risk to spinal manipulation.

Section 2251.2 of the Manual requires that chiropractors document an initial history of the patient’s complaint and establish a treatment plan.

⁸ At the time of our study, the references to the Medicare Carriers Manual were accurate. The Centers for Medicare & Medicaid Services has since moved to web-based manuals. The Carriers Manual sections cited in this report are now found in the Medicare Benefit Policy Manual, Pub. 100-2, Chapter 15, sections 30.5 and 240.

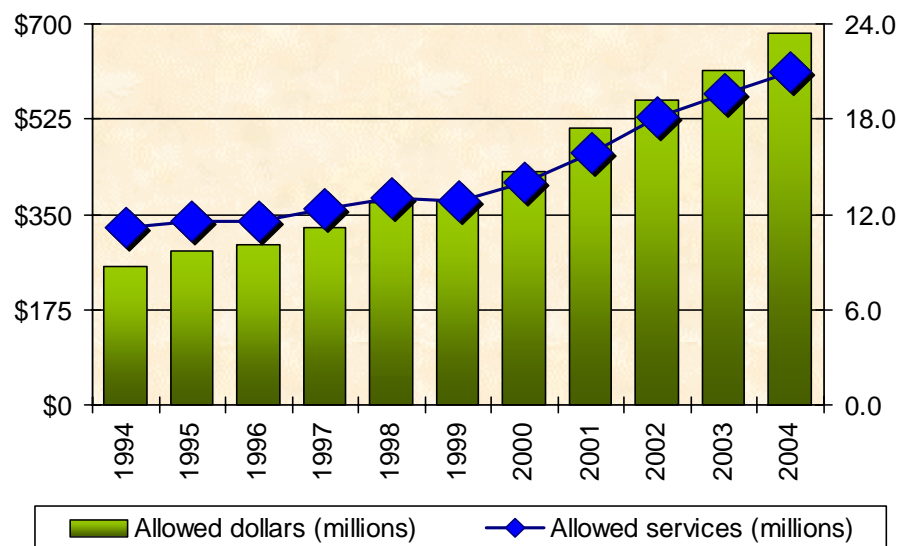
⁹ Revisions to the Medicare Carriers Manual issued on May 28, 2004, further clarify the definition of maintenance care. Since our inspection focused on services provided in 2001, we cite here the definition effective during that year.

The treatment plan should include the expected duration and frequency of the patient’s treatment, specific treatment goals, and objective measures against which to evaluate effectiveness. Though supporting documentation must be kept in the medical record, it need not normally be submitted to the carrier for a claim to be processed and paid.

Growth in Medicare Chiropractic Services

Medicare reimbursement of chiropractic services has increased dramatically in recent years. In 1994, the program allowed \$255 million for 11.2 million services for chiropractic manipulation. By 2004, those numbers had grown to \$683 million and 21 million services allowed. As shown in Figure 1, the rate of growth in annual services and dollars allowed has accelerated since the X-ray requirement was lifted in 2000. For a detailed analysis on the effect of removing the X-ray requirement, see Appendix B.

FIGURE 1
Medicare reimbursement for chiropractic has grown more rapidly since 2000.



Source: National Claims History Part B 1 Percent Files, 1994 – 2002 and Medicare Part B Extract and Summary System, 2003 - 2004

Prior Inspector General Work

In November 1999, the Office of Inspector General (OIG) responded to a request from the Centers for Medicare & Medicaid Services (CMS) to analyze the potential impact of establishing chiropractic utilization review thresholds at either 18 or 12 treatments per year. In *Utilization Parameters for Chiropractic Treatments* (OEI-04-97-00496), OIG concluded that the proposed thresholds would have saved Medicare \$19.4 million and \$30.2 million, respectively, in 2000, and that relatively few beneficiaries would be affected by either parameter.

Therefore, OIG recommended that CMS institute a national utilization review threshold of 12 services per year. CMS ultimately did not adopt a national frequency threshold and continues to leave the matter to individual carriers' discretion.

In September 1998, OIG released a report entitled *Chiropractic Care: Controls Used by Medicare, Medicaid, and Other Payers* (OEI-04-97-00490). Based on an analysis of the National Claims History Data File, the OIG estimated that \$68 million of the \$294 million Medicare spent on chiropractic treatments in 1996 was for chiropractic maintenance treatments.

In 1986, OIG released a report entitled *Inspection of Chiropractic Services under Medicare* (OAI-05-86-00002). OIG found that because of disagreement about the ability of an X-ray to reveal a subluxation, the existing X-ray requirement was not well enforced, might actually have been unenforceable, and was highly conducive to abuse. In addition, the report described a lack of standards within the chiropractic profession and a number of questionable practices. For these reasons, OIG concluded that chiropractic constituted a serious vulnerability to the Medicare program.

METHODOLOGY

We used multiple methodologies to accomplish our objectives. The primary method was medical review of chiropractic records. We also interviewed carriers, analyzed historical claims data, and accessed external Government data sources. Point estimates with confidence intervals for selected statistics and the results of statistical tests for selected comparisons from the findings are contained in Appendixes C and D, respectively.

Medical Review¹⁰

We defined our universe as 91 percent of services provided by chiropractors in 2001 and allowed by Medicare.¹¹ This universe

¹⁰ For a more detailed discussion of the medical review methodology, refer to Appendix A.

¹¹ A data processing error prevented us from using 100 percent of claims. The original data was contained in five compressed files. We decompressed these files and merged them into a single population data set. However, one of the smaller files failed to read into our population data set correctly, and therefore, contributed far fewer claims than expected to the population. Most of the omitted claims were for beneficiaries with Medicare numbers associated with the Railroad Retirement Board or the State of Massachusetts.

I N T R O D U C T I O N

contained 14,497,406 claims with a total allowed amount of \$457,444,574.32. To make statistically valid projections of the dollar value of all noncovered, miscoded, or undocumented chiropractic services allowed in 2001, we selected a simple random sample of 400 Medicare services from this universe. The total allowed amount in our sample was \$12,638.38. We then identified and contacted the chiropractor listed on each claim for service to request records for the beneficiary's entire course of treatment.¹²

We contracted with practicing chiropractors to review each service according to a standard protocol, which was based on Medicare coverage guidelines and requirements. The review instrument solicited information about the beneficiary's chiropractic treatment as a whole and about the individual sampled service in particular. This enabled the reviewers to determine if the services billed to Medicare were covered, coded correctly, and properly documented. In particular, it enabled the reviewers to determine the extent to which payments were made for maintenance services, which are not covered under Medicare.

The results of our review of the 400 sampled services were not shared with the Medicare carriers who paid the chiropractors for these services. Further, the level of information that we collected would not generally be available to those carriers unless they were to conduct a comprehensive medical review of a particular chiropractor or patient.

After completing their review, the contractors returned the completed instruments to us for data entry. We analyzed the medical reviews using the statistical software packages SAS and SUDAAN. For a more detailed discussion of this methodology, see Appendix A.

Based on the results of this review, we also determined the likelihood of services being uncovered depending on the number of services billed per episode of care. Knowing this, Medicare carriers can make informed choices regarding the level of effort to expend in reviewing questionable billings based on billing patterns.

¹² We were unable to contact two chiropractors and removed the two claims associated with these chiropractors from consideration. In addition, the chiropractors identified on four claims failed to respond to our repeated requests for records—these services were considered undocumented.

I N T R O D U C T I O N

Because we only reviewed services provided by chiropractors in 2001, our sample results cannot be extrapolated to other periods. Accordingly, we make no inferences to chiropractic error rates in subsequent years.

Additional Methods

We conducted telephone interviews with all Medicare carriers using a standardized interview guide. We also collected policy guidance that had been issued by each carrier to its provider community. We researched carriers' Local Medical Review Policies, as well as laws, regulations, and policy, concerning the chiropractic benefit.

We reviewed literature from chiropractic organizations and other sources to gather background on chiropractic and help refine our medical review instrument. Information from Government sources, such as the Agency for Healthcare Research and Quality and the Bureau of Labor Statistics, provided background and comparative trend data. Lastly, we collected and tabulated information gleaned from online brochures for Federal Employee Health Benefits Plans.

This inspection was conducted in accordance with the *Quality Standards for Inspections* issued by the President's Council on Integrity and Efficiency.

Maintenance services were the most common type of noncovered chiropractic services that Medicare paid for in 2001

In 2001, Medicare allowed approximately \$457 million for the 14.5 million chiropractic services in our universe. Based on our medical

review, although billed with allowable spinal manipulation codes, 57 percent of these services did not meet Medicare coverage criteria (i.e., were noncovered). An additional 16 percent were miscoded or billed at the wrong level of spinal manipulation, and 6 percent were undocumented. Twelve percent had multiple errors, yielding an overall error rate of 67 percent. Figure 2 groups the improperly paid services in our sample by the type of error and gives statistical projections of these errors to the population.

Figure 2: Noncovered and Miscoded Chiropractic Services

Type of error	Sample (400 Total Services)		Projected	
	Services	Allowed Amount	Services (Proportion)	Allowed Amount (Millions)
Noncovered:				
- Not medically necessary: maintenance	161	\$5,144.85	0.40	\$186
- Not medically necessary: other	57	\$1,790.59	0.14	\$65
- Not manual manipulation of the spine	21	\$668.89	0.05	\$24
- (Both medically unnecessary and not manipulation of the spine)	(13)	(\$396.95)	(0.03)	(\$14)
Total noncovered	226	\$7,207.38	0.57	\$261
Total coded at wrong level (net)	64	\$410.31	0.16	\$15
Undocumented:				
- Non-response	3	\$89.63	*	*
- Missing documentation	21	\$661.78	0.05	\$24
Total undocumented	24	\$751.41	0.06	\$27
(Overlapping errors)	(49)	(\$504.17)	(0.12)	(\$18)
Total	265	\$7,864.93	0.67	\$285

Source: Medical Review of Year 2001 Services by Practicing Chiropractors. The * indicates the *n* for that cell is too small to reliably project. Totals may not be equal to the sum of individual rows due to rounding.

Noncovered: Not medically necessary. Section 1862(a)(1)(A) of the Act excludes services that are not reasonable and necessary from Medicare coverage. However, 55 percent of the chiropractic services allowed in 2001, totaling \$251 million, did not meet Medicare criteria for medical

F I N D I N G S

necessity. Most of these services (74 percent of medically unnecessary services—40 percent overall) were correctly billed as spinal manipulations but met Medicare’s definition of maintenance care—which section 2251.3 of the Manual defines as not medically necessary, and is therefore not covered. In general, the remainder were not medically necessary because they did not bear a therapeutic relationship to the patient’s condition, did not provide a reasonable expectation of recovery or functional improvement, or were provided with excessive frequency or duration.

Noncovered: Not manual manipulation of the spine. Section 1861(r)(5) of the Act clearly states that Medicare may reimburse chiropractors only for manual manipulation of the spine. Chiropractors, though, received approximately \$24 million from the Medicare program and its beneficiaries in 2001 for services other than manual manipulation of the spine. These chiropractors bypassed Medicare’s coverage limitations by submitting claims with a manipulation code that was allowable but did not match the service actually provided. Documentation for several services showed that the chiropractor actually performed an extraspinal adjustment (e.g., shoulder or knee adjustment) rather than spinal work. Other chiropractors billed non-manipulative treatment, such as muscle work or network spinal analysis, as spinal manipulation. Our medical reviewers, who are practicing chiropractors, noted that some of this treatment was acceptable from a chiropractic standpoint, and may have been beneficial to the patient.

Coded at wrong level. Medicare allowed \$85 million for spinal manipulations billed for the incorrect number of regions according to the documentation. The net cost to the program, i.e., the amount actually allowed for these services less the amount that would have been allowed if the services had been billed correctly, was \$15 million. Coding errors generally involved upcoding, which is billing a more complex and higher-paying service than the one documented in the medical record. Approximately 69 percent of services billed for spinal manipulation on five regions (CPT code 98942) were upcoded, compared to 21 percent of services billed for manipulation on three to four regions (CPT code 98941).

Undocumented. Chiropractors did not provide substantiating documentation for approximately 6 percent of the services billed to Medicare. Despite repeated requests, we did not receive the medical records related to three of the chiropractic services in our sample. The

F I N D I N G S

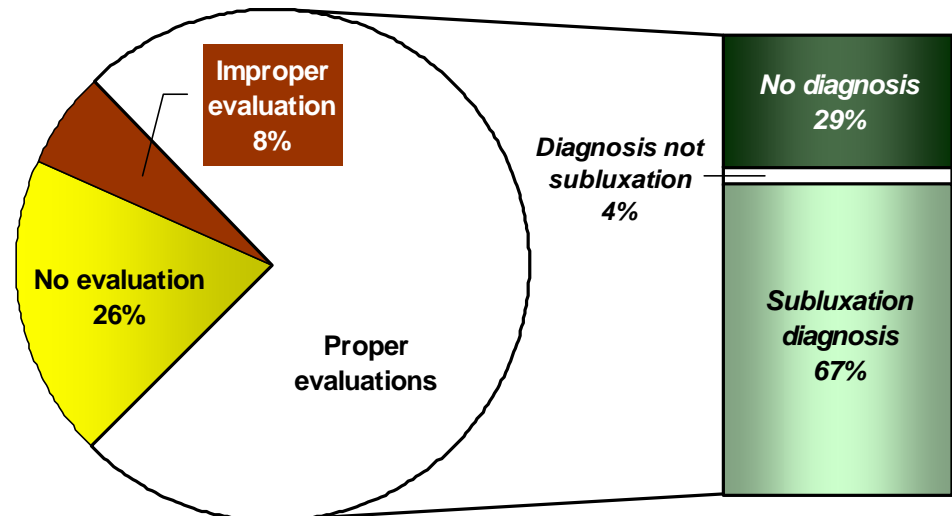
chiropractors who rendered an additional 21 of the services provided us with records that did not substantiate that any service was rendered on the date claimed. Based on these findings, we estimate that Medicare may have allowed approximately \$27 million in 2001 for undocumented chiropractic services. Although some cases of missing documentation may be attributable to billing errors (e.g., putting the wrong date on the claim form), others may represent services not rendered. In any case, claims for services that lack sufficient documentation to show that care was provided do not meet the requirements of section 1833(e) of the Act.

Supporting documentation for chiropractic services rarely met all Medicare Carriers Manual requirements

Separate from the completely undocumented services previously discussed, nearly 94 percent of chiropractic services lacked some or all of the

supporting documentation that section 2251.2 of the Manual requires. The lack of one or more of these elements did not automatically lead us to conclude that a service was noncovered, although these determinations were often related. For example, even if each visit did not include a history and physical, which is required by section 2251.2 of the Manual, the service rendered on that day was not automatically deemed to be medically unnecessary by the chiropractic reviewers. Therefore, we did not include lack of supporting documentation as a subcategory of “noncovered” in the first finding, and we do not project an improperly allowed amount merely related to deficiencies in supporting documentation.

FIGURE 3
Many services do not meet Medicare requirements for documenting a subluxation.



Source: Medical Review of Year 2001 Claims by Practicing Chiropractors

F I N D I N G S

Approximately 34 percent of services were not supported by an evaluation of the patient that met the Manual’s requirements for documenting a subluxation. In fact, there was no evaluation at all in the medical record for 26 percent of services; the remaining 8 percent were supported by tests that did not meet the requirements established in the Manual. Furthermore, more than one-third of “proper” evaluations—those meeting Medicare rules for demonstrating the presence of a subluxation—resulted in no diagnosis (29 percent) or a diagnosis other than subluxation of the spine (4 percent).

Though a documentation requirement, chiropractors infrequently developed treatment plans for their Medicare patients. Just 28 percent of chiropractic services were provided as part of a written plan of care, and only 23 percent of those plans included specific treatment goals and objective measures to evaluate progress towards those goals. The absence of specific goals was a strong indicator of unnecessary care; only 14 percent of services associated with specific, written goals were medically unnecessary compared to 61 percent of those without written goals.

Though infrequently evaluated for them, Medicare beneficiaries rarely present contraindications to chiropractic treatment.

Chiropractors do not routinely evaluate patients for conditions mentioned in the Manual, such as severe demineralization of the bones or spinal malignancies, which could contraindicate spinal manipulation. We found that 66 percent of all chiropractic services were not preceded by an evaluation sufficient to detect such contraindications. Although potentially compromising quality of care, we found no cases where this omission led to complications, and only 21 percent of the evaluations that were conducted revealed the presence of even a relative contraindication. In 18 percent of these cases (1 percent overall), our reviewers believed that the dangers presented by the beneficiary’s condition outweighed the potential benefits of chiropractic treatment.

Lack of medical necessity is directly related to service volume

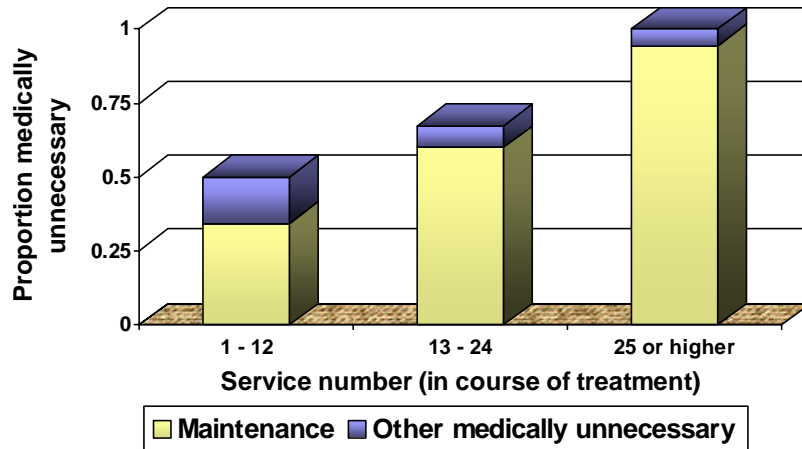
When chiropractic care extends beyond 12 treatments in a year, it becomes increasingly likely that individual

services are medically unnecessary. As shown in Figure 4 (next page), services provided among the first 12 in a course of treatment to a particular beneficiary by the same chiropractor were approximately 50 percent likely to be medically unnecessary. That likelihood increased

FINDINGS

to approximately 67 percent for services between the 13th and 24th and to 100 percent for services beyond the 24th. In addition, these medically unnecessary services are more likely to be maintenance in nature at higher service volumes.

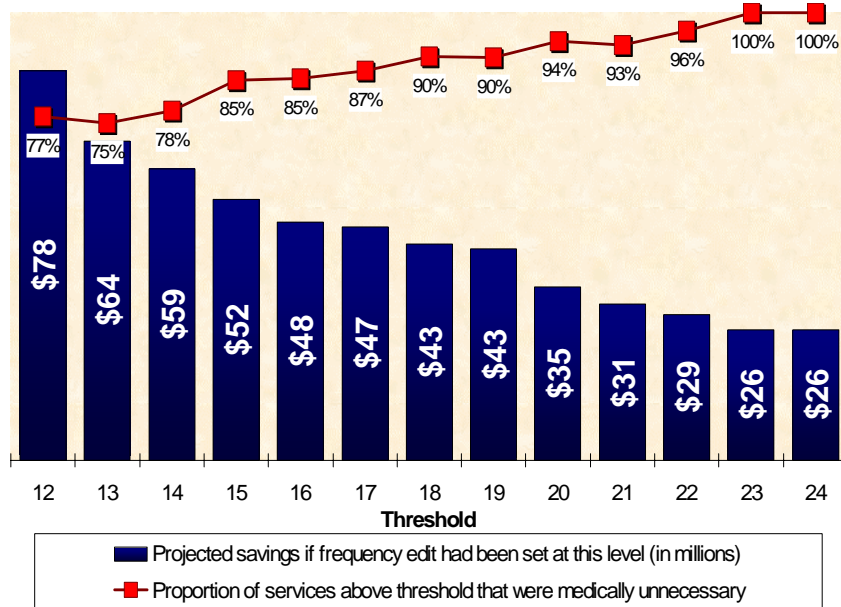
FIGURE 4
Higher-volume services are more likely to be medically unnecessary, particularly maintenance.



Source: Medical Review of Year 2001 Claims by Practicing Chiropractors

Given the link between medical necessity and service volume, reviewing services that exceed a certain volume threshold could result in significant savings. Figure 5 shows the proportion of all services beyond specific thresholds that were medically unnecessary and the projected savings if carriers had identified and disallowed these services. See Appendix A for further explanation of Figures 4 and 5.

FIGURE 5
Lower frequency thresholds would have resulted in greater savings, but captured more covered care.



Source: Medical Review of Year 2001 Claims by Practicing Chiropractors

Carriers and private plans commonly use frequency edits to limit utilization and limit improper payments.

Medicare carriers and private Federal Employee Health Benefits (FEHB) plans often manage chiropractic utilization through frequency controls, which are based on the number of adjustments provided. These frequency-based controls generally fall into one of two categories: soft caps (also called frequency edits) and hard caps. With either type of cap, the payer determines the number of services it will routinely allow during a specified time period, usually 1 year. The payer tracks the number of services each patient receives and generally pays all claims up to this frequency threshold without question. Payers that use soft caps suspend payment for any services that are billed beyond the threshold and request additional documentation from the chiropractor. If the documentation demonstrates that continued treatment is medically necessary, the claims are paid. Payers that use hard caps do not pay for services beyond the established frequency threshold, even if they are medically necessary.

Fourteen of nineteen carriers (74 percent) currently use soft caps as their primary means of limiting inappropriate payments, and none use hard caps. Individual carriers decide if they want to use the caps and also establish their own frequency thresholds. Historically, most carriers imposed a frequency threshold of 12 visits on chiropractic services. Due, at least in part, to complaints from chiropractors who believed the 12-visit limit had become a *de facto* hard cap, many carriers have raised their thresholds or eliminated them altogether. Figure 6 shows the frequency thresholds currently employed by carriers and the distribution of these controls among the States.¹³

Figure 6: Frequency Edits Used by Medicare Carriers				
Frequency threshold	12 or fewer services	13 to 24 services	More than 24 services	No frequency edit
Number of carriers using threshold	3	8	6	6
Number of States with threshold	4	18	12	22

Source: Carrier Interviews Conducted by Office of Evaluation and Inspections Analysts in 2003

¹³ Some carriers serve more than one State and use different thresholds in each. Similarly, some States are served by multiple carriers, each with its own limit. In such instances, the carrier or State is counted once in each category into which one of its edits falls. “States” include the District of Columbia, Puerto Rico, and the U.S. Virgin Islands.

F I N D I N G S

In contrast to Medicare carriers, all but one of the FEHB plans that use frequency-based controls to limit chiropractic utilization impose hard caps. Instead of capping the number of services, some FEHB plans limit the total dollar amount they will pay for chiropractic services or the duration of care. In addition, many FEHB plans do not offer any chiropractic coverage, and others require prior authorization or a referral from a medical physician before they will pay for care. Others have no controls other than a member co-payment. Figure 7 shows the controls used by the 132 FEHB plans listed on the Office of Personnel Management’s Web site.

Figure 7: Controls on Chiropractic Services Used by FEHB Plans

Type of control	No coverage	Co-pay only	Prior auth. or referral	Freq. cap	Financial cap	Duration cap
Number of plans	20	36	26	36	8	6

Source: Year 2003 FEHB Brochures Accessed through <http://www.opm.gov/insure/03/html/blinks.asp>

Carriers support a national policy on frequency limits.

At least six carriers would like CMS to develop and enforce a national frequency edit or a hard cap on chiropractic services.¹⁴ One carrier noted that when the 12-visit thresholds were nearly ubiquitous, chiropractors generally accepted them; however, when some carriers changed or eliminated their thresholds, other carriers were pressured by chiropractors in their jurisdictions to follow suit.

Although generally opposed to frequency-based controls, the provider community has previously accepted the idea of a national frequency cap. The American Chiropractic Association expressed support for a national cap in an October 21, 1999, letter to the Director of the Office of Clinical Standards and Quality at the Health Care Financing Administration (currently CMS). Based on the recommendations of a representative panel of chiropractors, the letter states that “[a threshold of 18 services] reflects the consensus of the chiropractic profession” and is clinically relevant.¹⁵

¹⁴ We did not ask carrier staff their opinions on a national frequency edit; these six volunteered this opinion when asked for their general comments about the Medicare chiropractic benefit.

¹⁵ Specifically, the panel supported an “18 + 6” utilization review parameter where a threshold of 18 services would be used as a soft cap and 24 as a hard cap.

Carrier controls to prevent overutilization are inconsistent

All 19 carriers have mechanisms in place to prevent and recoup improper chiropractic payments. Controls may

include pre-payment edits that suspend or deny claims based on information from the submission, as well as pre- or post-payment medical review. Every carrier denies claims from chiropractors for noncovered CPT codes and claims for chiropractic CPT codes from non-chiropractors. In addition, every carrier except one uses computer edits that suspend or deny claims with improper diagnosis codes. As previously discussed, 15 carriers use frequency edits to control utilization. Some carriers use chiropractors, medical physicians, or, more commonly, nurses to conduct medical review before they pay claims that have been flagged through frequency edits. Other carriers conduct a non-medical claims audit of flagged claims. A number of carriers indicated they automatically deny claims that exceed their frequency threshold unless the claim meets certain criteria, such as having a particular diagnosis code.

Carriers vary widely in the resources they devote to monitoring chiropractic utilization. For example, the number of pre-payment claims reviews conducted by carriers averaged from zero at some carriers to approximately 85,000 per year at one large carrier. Some of the less active carriers depend entirely on diagnosis-based edits to identify improper claims, meaning that as long as a claim is submitted with a covered diagnosis code, it will be paid. The use of post-payment reviews is equally inconsistent. Although most carriers indicated they might conduct post-payment reviews of chiropractic services, only three provided evidence that any were conducted recently, and one of those had done only two. One large carrier noted that post-payment reviews are now the province of the Program Safeguard Contractors. The variation observed among the carriers may be due, in part, to different philosophies regarding controlling chiropractic claims. For example, some carriers believe that oversight of chiropractic services is not a priority for CMS, given limited budgets and the relatively small amount of money associated with chiropractic services.

► R E C O M M E N D A T I O N S

Based on the volume of noncovered, miscoded, and undocumented services that were paid, we conclude that chiropractic services represent a significant vulnerability for the Medicare program. As more beneficiaries avail themselves of chiropractic care, the amount of money lost to medically unnecessary, non-manipulation, and undocumented services is likely to increase unless appropriate controls are instituted.

Therefore, we recommend that CMS:

Ensure that chiropractic services comply with Medicare coverage criteria.

Given the strong correlation between the number of services a beneficiary receives and the likelihood a service is not medically necessary, CMS should implement a national frequency edit to target high-volume services—which are especially likely to be medically unnecessary—for medical review. Carriers or Program Safeguard Contractors should then obtain and review the records of beneficiaries targeted by the frequency edit in order to identify and collect overpayments.

Many services that would not exceed even a very low frequency threshold were medically unnecessary, undocumented, not spinal manipulation, or miscoded. Therefore, in addition to whatever frequency control is chosen, CMS should require that its carriers or Program Safeguard Contractors conduct routine service-specific reviews of chiropractic services. When conducting reviews of individual providers, it is imperative that reviewers collect the entire records associated with services selected as part of a service-specific review. Several records we reviewed would have appeared legitimate for any one particular day of service; however, that day's documentation was repeated verbatim for the entirety of the patient's treatment.

Require that carriers educate chiropractors on Medicare Carriers Manual requirements for supporting documentation.

Many chiropractors seem unaware of the specific documentation requirements outlined in section 2251.2 of the Manual. CMS should address this lack of knowledge by directing its carriers to issue provider bulletins reminding chiropractors of their responsibilities. Due to the relationship we found between the lack of treatment plans and medically unnecessary services, the bulletins should especially emphasize this requirement.

R E C O M M E N D A T I O N S

In addition to these recommendations, we have forwarded information on the noncovered, miscoded, and undocumented services identified in our sample to CMS for appropriate action. As mentioned in the methodology, the results of our review of the 400 sampled services were not shared with the Medicare carriers who paid the chiropractors for these services.

AGENCY COMMENTS

In its comments on our draft report, CMS agreed with our findings and recommendations. The agency has clarified its chiropractic coverage criteria and indicated that most carriers are taking steps to reduce chiropractic error rates, including targeted educational efforts and service-specific medical reviews. In addition, as of October 1, 2004, CMS has required that chiropractors use the –AT modifier to indicate that a service is not maintenance. Only claims to which this modifier is attached are payable. The full text of CMS’s comments begins on page 19.

OIG RESPONSE

We appreciate CMS’s response to our report, and support the steps the agency is currently undertaking to help prevent paying for noncovered, miscoded, and undocumented services.

CMS noted in its comments that while this OIG study projected that 67 percent of the chiropractic services allowed by Medicare did not meet program requirements, CMS’s Comprehensive Error Rate Testing (CERT) program identified a claims paid error rate of approximately 16 percent for claims submitted by chiropractors in 2002. CMS further noted that differences in the methodological approaches accounted for the significantly different rates. In particular, CMS recognized that OIG’s review of a beneficiary’s claims during their entire course of treatment enabled us to determine that approximately 40 percent of all chiropractic services are attributable to maintenance care, and thus are not covered under Medicare. In contrast, the CERT paid claims error rate is based on a review of a single claim, which limits its ability to detect uncovered maintenance costs.

We agree with CMS and would like to emphasize that the purpose of this inspection was to determine the underlying causes of, and potential ways to reduce, vulnerabilities associated with payments for chiropractic services. It was not designed to reproduce, or to review, the

R E C O M M E N D A T I O N S

CERT paid claims error rate. In addition to the different methodological approaches that are noted above, the CERT used 2002 data, whereas our data was drawn from 2001. Hence, our results cannot be compared directly to the CERT program results.

Furthermore, chiropractic payment errors, while a significant vulnerability, contribute only minimally to the overall CERT national paid claims error rate. Medicare allowed approximately \$191 billion for Medicare fee-for-service claims in 2001. Chiropractic services accounted for \$500 million, or 0.26 percent of this amount. Therefore, the chiropractic-specific error rate has little influence on the overall CERT error rate for fee-for-service claims.

Given that Medicare payments for chiropractic services have continued to increase since 2001, the need for a more effective way to eliminate inappropriate maintenance payments is crucial. However, we recognize that it may be impractical for the CERT program to expend its limited resources to collect the extent of documentation used in our review. Therefore, in the future, CMS may wish to conduct additional studies outside the scope of the CERT program to determine cost-efficient ways to address chiropractic payment errors.

▶ A G E N C Y C O M M E N T S



DEPARTMENT OF HEALTH & HUMAN SERVICES

Centers for Medicare & Medicaid Services

Administrator
Washington, DC 20203

RECEIVED
NOV 30 PM 3:27
OFFICE OF INSPECTOR
GENERAL

DATE: NOV 26 2004

TO: Daniel R. Levinson
Acting Inspector General
Office of Inspector General

FROM: Mark B. McClellan, M.D., Ph.D. *MM*
Administrator
Centers for Medicare & Medicaid Services

SUBJECT: Office of Inspector General (OIG) Draft Report: "Chiropractic Services in the Medicare Program: A Significant and Costly Vulnerability" (OEI-09-02-00530)

Thank you for the opportunity to review and comment on the above-referenced draft report. Chiropractic services have experienced considerable growth in Medicare, from 11.2 million services and \$255 million allowed in 1994 to 18.1 million services and \$560 million allowed in 2002. In previous studies, published in 1986, 1998, and 1999, the OIG found that a significant vulnerability existed in connection with chiropractic services, particularly concerning maintenance care. The Centers for Medicare & Medicaid Services (CMS) has been working to identify and ameliorate improper payments accordingly.

The CMS generally agrees with the recommendations in this report and with the OIG's assertion that many chiropractors submit erroneous claims to the Medicare program. While the OIG study projected that 67 percent of the chiropractic services allowed by Medicare did not meet program requirements, CMS' Comprehensive Error Rate Testing (CERT) program, identified a paid claims error rate of approximately 16 percent for claims submitted by chiropractors in 2002. The CMS and the OIG reviewed these two findings and concluded that differences in the methodological approaches for each project accounted for the significantly different rates. In particular, the OIG's review of a beneficiary's claims over time and the determination that a significant portion of the services met Medicare's definition of maintenance care, and, thus, are not covered under Medicare, accounted for over 40 percent of the projected error rate. The CERT paid claims error rate is based on a review of a beneficiary's claim at a single point in time and limits the finding of services meeting the definition of maintenance care.

The CMS appreciates the time and resources the OIG has invested to ensure that services billed to Medicare, including chiropractic manipulations, are medically necessary and supported by documentation. We share the OIG's concern with the identified improper payments and we are committed to reducing them. As a result, we have initiated a

Page 2- Daniel R. Levinson

number of steps, including enhanced provider education, to reduce improper payment for chiropractic services. Our detailed responses to the OIG's specific recommendations are outlined below.

OIG Recommendation

Ensure that chiropractic services comply with Medicare coverage criteria.

CMS Response

The CMS is taking steps to address this recommendation. In order to help chiropractors bill Medicare correctly, effective October 1, 2004, chiropractors must include the Acute Treatment (AT) modifier if active/corrective treatment is being performed, or no modifier if maintenance therapy is being performed. Medicare Carriers will deny chiropractic claims that do not contain the AT modifier. The CMS also recently issued a "Medlearn Matters" Web-based educational article to inform chiropractors, and their billing staff, on a nation-wide basis of chiropractic billing requirements.

Additionally, as referenced earlier, CMS' CERT program identified an approximately 16 percent paid claims error rate for claims submitted by chiropractors. Accordingly, most Medicare Carriers have included medical review of chiropractic services and local educational interventions in their Medical Review Strategy. Carriers will identify those chiropractic services/providers who present the greatest vulnerability, and will target their medical review work and resources appropriately. The CMS will monitor and track Carriers' efforts to reduce the paid claims error rate for chiropractic services.

OIG Recommendation

Require that carriers educate chiropractors on Medicare Carriers Manual requirements for supporting documentation.

CMS Response

The CMS recently revised its manuals (in Change Request (CR) 3449) to more clearly distinguish what chiropractic services are and are not payable. Pursuant to this CR, providers are being educated on how to appropriately bill for chiropractic services. In addition, contractors are always required to educate providers when they deny claims.

The CMS would like to thank the OIG for their effort in issuing this report. It contains valuable information about vulnerabilities and improper payments related to chiropractic services. The CMS looks forward to continuing to work collaboratively with the OIG to ensure the integrity of the Medicare Trust Fund.

Attachment

Detailed Methodology

We defined our universe for the review as allowed services provided in 2001 by chiropractors (specialty code 35). Due to an internal processing error that was only discovered during the analysis phase, our actual universe was limited to 91 percent of such services.¹⁶ From this universe of 14,497,406 services (with a total allowed amount of \$457,444,574.32), we selected a simple random sample of 400.

Next, we matched the Unique Physician Identification Number (UPIN) and carrier-assigned provider identification number of the chiropractor who submitted the claim to the national UPIN registry in order to obtain the chiropractor's name and mailing address. A significant number of claims failed this match. We first attempted a manual Internet search for these unmatched UPINs; if unsuccessful, we telephoned carrier staff in order to obtain a valid name and address.

After obtaining mailing addresses, we sent letters to each chiropractor, requesting medical and billing records for each beneficiary associated with that doctor. The letter requested that the chiropractor include all records for the beneficiary, not just those for services rendered in 2001. A significant number of these initial letters were returned as undeliverable. We used Internet searches or called carriers to obtain correct addresses. Ultimately, we were unable to contact two chiropractors, representing one sample service each; we removed these two from consideration.

If we did not receive a response within approximately 5 weeks, we sent a second letter to the initial address. The second mailing also revealed a significant number of incorrect addresses, which we resolved in the manner described above. If we received no response after the second mailing, we obtained phone and/or fax numbers from the Internet or the carriers and telephoned or faxed the nonrespondents. Although we managed to contact every chiropractor except the two mentioned above, three did not provide records, and one sent records after the study period had been closed for more than a month.

¹⁶ The original data was contained in five compressed files. We decompressed these files and merged them into a single population data set. However, one of the smaller files failed to read into our population data set correctly, and therefore, contributed far fewer claims than expected to the population. Most of the omitted claims were for beneficiaries with Medicare numbers associated with the Railroad Retirement Board or the State of Massachusetts.

We organized each record and placed it into a folder to which the beneficiary's 2001 claims history was appended. We sent these folders to our medical review contractor, who forwarded them to chiropractic consultants for review. Each consultant/reviewer is a currently practicing chiropractor with experience in reviewing Medicare claims. We had previously developed a review instrument based on Medicare coverage criteria with the assistance of the medical review contractor. Before beginning the review, we met with the chiropractors to finalize the review protocol and to orient the reviewers to its use. The review instrument solicited information about the beneficiary's chiropractic treatment as a whole and about the individual sampled service in particular; the majority of the findings are based on the individual service questions.

After reviewing the records, the chiropractors returned the completed instruments to the contractor for quality control, who then forwarded them to us for entry into a data set. All analysis of the medical reviews, which included merging our data with census and other outside sources of information, was conducted using the statistical software packages SAS and SUDAAN.

Note on factors associated with medical necessity. We tested medical necessity as the response variable in a logistic regression with the following factors: the number of previous services allowed for the chiropractor-beneficiary combination in 2001, the absence of a treatment plan with stated goals, the presence of CPT code 98941 on the claim, the service being in the first month of treatment, and the urban/rural characteristics of the county where the service was billed. The number of prior services, the presence of CPT code 98941, and being in the first month of treatment were significant at the 95 percent confidence level.

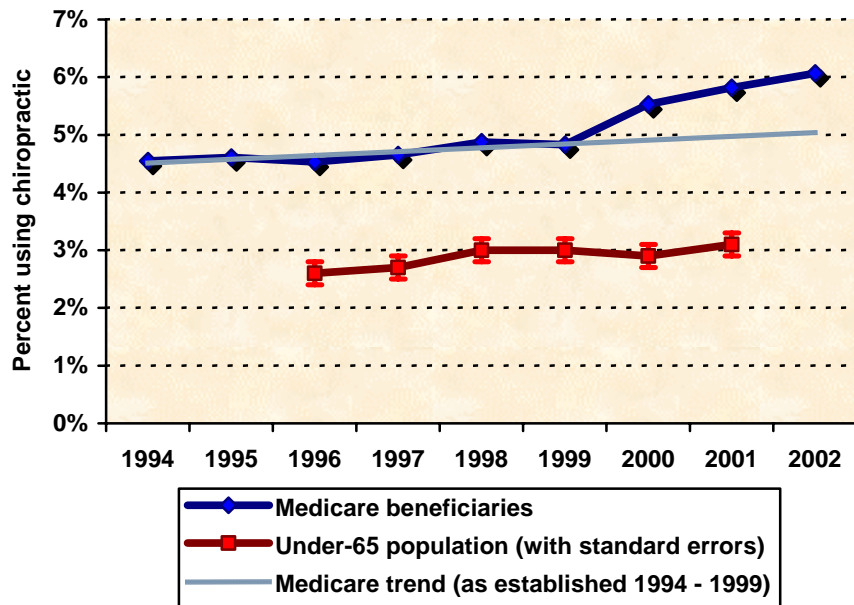
Note on Figures 4 and 5. To obtain the estimates for the proportions of chiropractic services that were not medically necessary for Figures 4 and 5, we first determined the position of the sample service in the beneficiary's series of treatments. That is, we determined, for each claim, the number of services that had been previously allowed for that chiropractor-beneficiary combination in 2001. For Figure 4, we then grouped the sample services into the categories shown in Figure 4 (1 to 12 services, 13 to 24 services, 25 or more services) depending on the number of prior services allowed and determined the proportion of services in each category that were medically unnecessary. For Figure

5, on the other hand, we determined the proportion of all services exceeding each threshold analyzed that were medically unnecessary. Hence, the numerator (medically unnecessary services) for each estimate in Figure 5 includes all services from the “25 or more” group from Figure 4, since the highest threshold analyzed was 24 services.

Further Discussion of the Effects of Removing the X-ray Requirement

National Claims History data strongly suggest that removing the X-ray requirement spurred an increase in the number of beneficiaries receiving chiropractic care. As shown in Figure A-1, the proportion of Medicare beneficiaries using chiropractic services grew fairly steadily from 4.6 percent in 1994 to 4.8 percent in 1999, at a rate that approximately mirrored that in Americans less than 65 years old.¹⁷ In 2000, the Medicare proportion jumped to 5.5 percent, roughly 2.5 times the combined increase from the previous 5 years, with no evidence that this change was reflected in the under-65 population. Medicare did not issue any policy changes other than removal of the X-ray requirement, or experience any shifts in its population (such as changes in the proportion of beneficiaries in rural areas) that would account for this increase.

FIGURE A-1
Medicare chiropractic utilization grew more rapidly after 1999 compared to the general population.

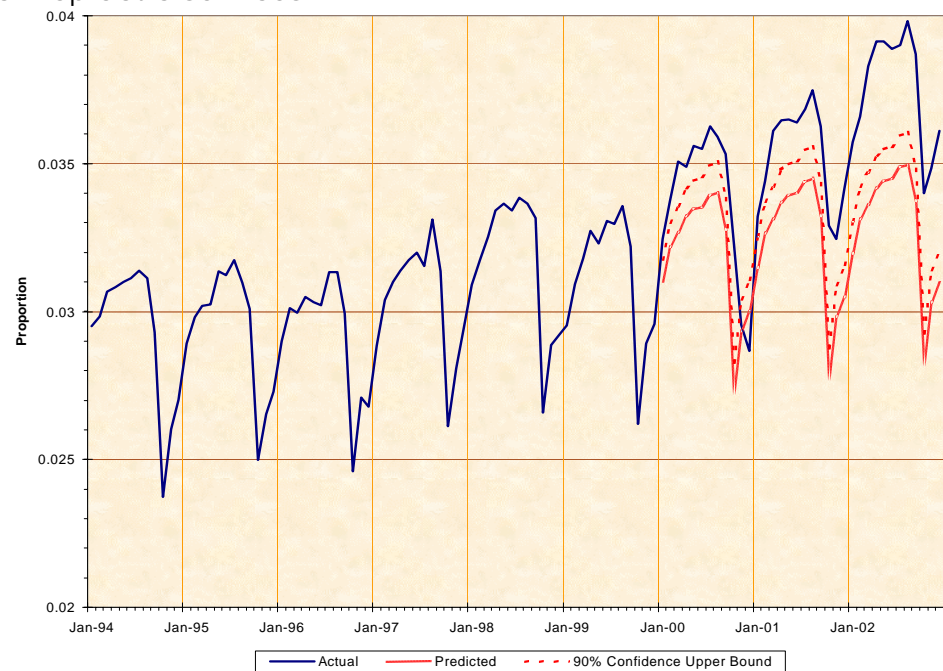


Source: National Claims History Part B 1 Percent Files, 1994 to 2002 and Agency for Healthcare Research and Quality Medical Expenditure Panel Survey, 1996 to 2001

¹⁷ The under-65 population data from the Medical Expenditure Panel Survey is only available for the years displayed.

We used a commercial time series program called ITSM 2000 to develop an auto-regressive moving average model of the proportion of beneficiaries who received chiropractic services in each month from January 1994 to December 1999. Using this model, we forecast this proportion and produced the upper bound of a 90 percent confidence interval for each month from January 2000 to December 2002. As shown in Figure A-2, the actual proportion of beneficiaries who received chiropractic services surpasses the 90 percent confidence upper bound of our projection in nearly every month since the removal of the X-ray requirement.

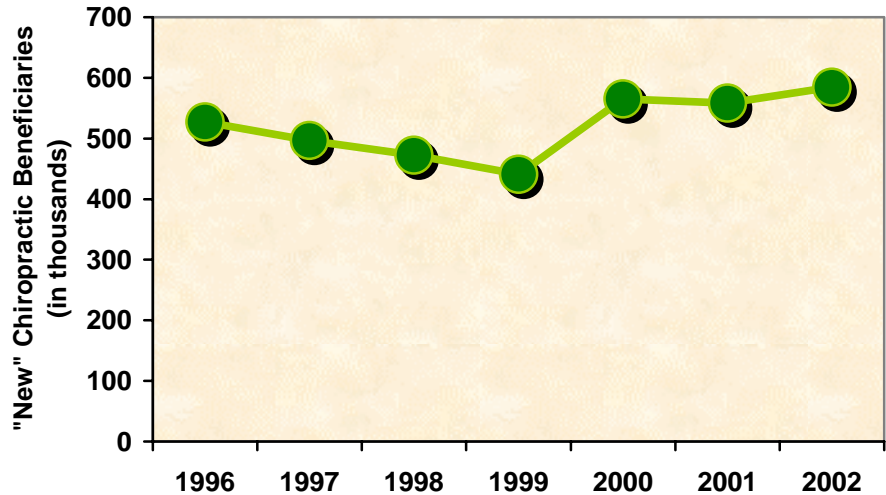
FIGURE A-2
Elimination of the X-ray requirement coincides with greater-than-expected growth in the proportion of beneficiaries who receive chiropractic services.



Source: National Claims History Part B 1 Percent Files, 1994 to 2002

As shown in Figure A-3, the number of “new” chiropractic beneficiaries (those who had never previously received a chiropractic service in Medicare), increased dramatically after the removal of the X-ray requirement, from approximately 441,000 beneficiaries in 1999 to 565,000 beneficiaries in 2000.¹⁸ One possible explanation stems from Medicare’s inability to pay for diagnostic tests ordered or performed by a chiropractor. Although a radiologist or medical physician may order and be reimbursed for tests on a patient referred by a chiropractor, the cost for X-rays may be assumed by the chiropractor or passed on to the beneficiary in many cases. Prior to January 2000, many chiropractors and beneficiaries may have been unwilling to shoulder the cost for X-rays, and hence the requirement may have served as a cost barrier to covered chiropractic care.

FIGURE A-3
The number of “new” chiropractic beneficiaries increased dramatically after removal of the X-ray requirement.



Source: National Claims History Part B 1 Percent Files, 1994 to 2002

¹⁸ We used the 1 percent National Claims History files from 1994 to 2002 to formulate the numbers of “new” beneficiaries. Therefore, it is possible that some of the “new” chiropractic beneficiaries in each year shown had actually received chiropractic services sometime prior to 1994.

➤ **A P P E N D I X ~ C**

Confidence Intervals for Selected Statistics

Statistic	N	Point Estimate	95% Confidence Interval
Total amount improperly allowed for chiropractic services	400	\$285 million	\$263 million to \$306 million
Proportion of chiropractic services that were noncovered, miscoded, and/or undocumented	397	0.67	0.62 to 0.71
Proportion of chiropractic services that were noncovered	397	0.57	0.52 to 0.62
Proportion of chiropractic services that were miscoded	397	0.16	0.12 to 0.20
Proportion of chiropractic services that were undocumented	397	0.06	0.04 to 0.08
Proportion of chiropractic services that had at least two errors	397	0.12	0.09 to 0.16
Amount allowed for medically unnecessary services	400	\$251 million	\$228 million to \$274 million
Proportion of services that were medically unnecessary	397	0.55	0.50 to 0.60
Amount allowed for maintenance services	400	\$186 million	\$164 million to \$209 million
Proportion of services that were maintenance	397	0.40	0.36 to 0.45
Amount allowed for other medically unnecessary services	400	\$65 million	\$49 million to \$81 million
Proportion of services that were medically unnecessary for other reasons	397	0.14	0.11 to 0.18
Amount allowed for services other than manual manipulation of the spine	400	\$24 million	\$14 million to \$35 million
Proportion of services that were other than manual manipulation of the spine	397	0.05	0.03 to 0.08
Total amount allowed for noncovered services	400	\$261 million	\$238 million to \$283 million
Net excess amount allowed for miscoded services	400	\$15 million	\$9 million to \$20 million

Confidence Intervals for Selected Statistics, cont.

Statistic	N	Point Estimate	95% Confidence Interval
Amount allowed for undocumented services	400	\$27 million	\$16 million to \$38 million
Allowed amount counted multiple times for services with multiple errors	400	\$18 million	\$11 million to \$25 million
Ratio of maintenance services to medically unnecessary services	218	0.74	0.68 to 0.80
Proportion of other medically unnecessary services that were not therapeutic or did not provide a reasonable expectation of recovery	57	0.61	0.49 to 0.74
Total amount allowed for documented spinal manipulations billed with an incorrect code	400	\$85 million	\$66 million to \$104 million
Proportion of services billed with CPT code 98942 that were upcoded	26	0.69	0.51 to 0.87
Proportion of services billed with CPT code 98941 that were upcoded	143	0.21	0.14 to 0.27
Proportion of services that were undocumented	397	0.06	0.04 to 0.09
Proportion of services that failed to meet at least one supporting documentation requirement	373	0.94	0.91 to 0.96
Proportion of documented services not supported by an evaluation that met Medicare guidelines	373	0.34	0.29 to 0.39
Proportion of documented services not supported by any evaluation	373	0.26	0.21 to 0.30
Proportion of documented services associated with an evaluation that fails requirements	373	0.08	0.05 to 0.11
Proportion of services with a proper evaluation that do not have a diagnosis meeting guidelines	250	0.33	0.27 to 0.39

Confidence Intervals for Selected Statistics, cont.

Statistic	N	Point Estimate	95% Confidence Interval
Proportion of services with a proper evaluation that have no diagnosis in record	250	0.29	0.23 to 0.34
Proportion of services with a proper evaluation that have a non-subluxation diagnosis in record	250	0.04	0.02 to 0.07
Proportion of services with a proper evaluation that have a subluxation diagnosis in record	250	0.67	0.61 to 0.73
Proportion of services provided as part of a written plan of care	373	0.28	0.23 to 0.32
Proportion of plans with goals and measures	103	0.23	0.15 to 0.31
Proportion of plans with goals that are medically unnecessary	35	0.14	0.03 to 0.26
Proportion of plans without goals that are medically unnecessary	338	0.61	0.56 to 0.66
Proportion of services where no evaluation for contraindications has occurred	397	0.66	0.61 to 0.71
Proportion of services with evaluations which revealed contraindications	135	0.21	0.14 to 0.28
Proportion of services with contraindications where risks outweighed benefits	28	0.18	0.04 to 0.32
Proportion of all services where risks from contraindications outweighed benefits	397	0.01	0.00 to 0.03
Proportion of services where 12 or fewer prior services allowed that are medically unnecessary	324	0.50	0.45 to 0.56
Proportion of services where 13 to 24 prior services allowed that are medically unnecessary	55	0.67	0.55 to 0.80
Proportion of services where more than 24 prior services allowed that are medically unnecessary	18	1.00	0.81 to 1.00

▶ A P P E N D I X ~ D

Significance Tests for Selected Comparisons

Comparison		Test Result	P-value
Medically unnecessary services by number of services, <i>pairwise t-tests</i> (Bonferroni threshold = 0.016667)	12 or fewer services versus 13 to 24 services	-2.45	0.0146
	12 or fewer services versus more than 24 services	-17.87	0.0000
	13 to 24 services versus more than 24 services	-5.17	0.0000
Medically unnecessary services by presence of a treatment plan with specific goals, <i>chi-square test</i>		24.91	0.0000



A C K N O W L E D G M E N T S

This report was prepared under the direction of Paul Gottlober, Regional Inspector General for Evaluation and Inspections in the San Francisco regional office, and Deborah Harvey, Assistant Regional Inspector General. Other principal Office of Evaluation and Inspections staff that contributed include:

Scott Hutchison, *Team Leader*

Michael Henry, *Program Analyst*

Cindy Lemesh, *Program Analyst*

Cheryl Dotts, *Program Assistant*

Stephanie London, *Program Specialist*

Tricia Davis, *Director, Medicare and Medicaid Branch*

Technical Assistance

Rob Gibbons, *Program Analyst*

Scott Horning, *Program Analyst*

Linda Moscoe, *Program Analyst*

Barbara Tedesco, *Mathematical Statistician*

We would like to thank our medical review contractor and the individual chiropractors who performed the review, as well as the carrier staff who participated in our interviews and assisted us in obtaining contact information for the chiropractors whose services were selected for review.