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From Diagnosis to Payment: The Dynamics of Coding Systems for Hospital, Physician, and Other Health Services

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OVERVIEW — *This background paper reviews the two principal coding systems that are used to describe health services in the United States: ICD-9-CM and HCPCS, a combination of CPT-4 and national and local codes. It probes the relationships of these coding systems to payment policy, administrative simplification under HIPAA, and other concerns. The paper also addresses four coding issues: governance of CPT; adoption of ICD-10-CM; the appropriateness, accuracy, and responsiveness to change of the codes themselves; and the degree of documentation needed to monitor health services and determine payment.*

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From Diagnosis to Payment: The Dynamics of Coding Systems for Hospital, Physician, and Other Health Services

Health care coding systems direct billions of dollars each year from payers and patients to providers of covered services. Once ignored by policymakers, diagnostic and procedural coding systems are gradually gaining recognition as the gateways to payment and quality. Policymakers who once showed little interest in the governance, use, validation, and updating of coding systems are giving them greater scrutiny. This heightened interest derives from program managers' attempts to control growing health outlays by establishing payment schedules based on diagnostic rates and fee schedules and by setting up mechanisms to monitor and compare the performances of providers. Implementation of the administrative simplification provisions of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) is intensifying this scrutiny, as the federal government strives to achieve uniform electronic transmission of certain health information.

There are two principal coding systems in this country. One is the International Classification of Diseases (ICD), developed by the World Health Organization (WHO). The United States adopted its own ICD system for hospital services—ICD-9-Clinical Modification (CM)—which it currently uses, although WHO has developed a later system, ICD-10. ICD-9-CM is maintained and updated in the Department of Health and Human Services (DHHS) by the Centers for Medicare and Medicaid Services (CMS), formerly the Health Care Financing Administration (HCFA), and by the National Center for Health Statistics (NCHS) in the Centers for Disease Control and Prevention (CDC).

The other major system is the Healthcare Common Procedure Coding System (HCPCS). HCPCS is based upon the American Medical Association's (AMA's) *Physicians' Current Procedural Terminology, Fourth Edition* (CPT-4). HCPCS includes three levels of codes as well as modifiers. Level I contains the AMA's CPT-4 codes. Level I codes are numeric. Level II contains alphanumeric codes primarily for nonphysician services and for items not included in CPT-4, such as ambulance services, durable medical equipment, orthotics, and prosthetics. Level II codes are maintained jointly by CMS, the Blue Cross and Blue Shield Association, and the Health Insurance Association of America (HIAA). Level III contains local codes needed by contractors or state Medicaid agencies in order to process Medicare

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or Medicaid claims. Level III codes are for services not identified by a Level I or Level II code. Level III codes are alphanumeric and are restricted to a series consisting of W, X, Y, and Z. In addition, the American Dental Association has developed and maintains codes for dental services. The AMA Editorial Panel that operates CPT is in the process of implementing a revised CPT-5, which it calls an "improvement" rather than a new coding system.

Public payers, such as Medicare, Medicaid, the Department of Veterans Affairs, and the Civilian Health and Medical Program for the Uniformed Services, use the two coding systems for inpatient and outpatient services, as do most private payers. Under HIPAA's administrative and financial health care transaction standards, code sets—designated by the secretary of health and human services—are required for medical data involving diagnoses, procedures, and drugs. Some private payers rely on local codes of their own devising, codes that will not be acceptable when HIPAA's administrative simplification rules go into effect. The ban on local codes has drawn some objections from payers and providers.

As ICD-9-CM and CPT have evolved, in response to the Medicare diagnosis-related group (DRG) system, Medicare resource-based relative value scale (RBRVS), and other payment mechanisms that they serve, various issues have arisen. Because the systems rely on a mix of public and private governance, the question of who should administer them is key. The appropriateness and accuracy of the codes in reflecting services and the length of time it takes to get new codes are also constant concerns. At a time of rising provider unrest over both public and private administrative burdens, the amount of and justification for documentation give rise to complaints. Moreover, with HIPAA pushing providers, particularly those that are reluctant to embrace information technology, toward electronic medical records and transactions, technical and cost barriers loom. All the while, DHHS' Office of Inspector General (OIG) keeps various aspects of health coding on its review agenda, reminding providers of the need to code accurately and with proper documentation.

BACKGROUND

ICD-9-CM, Focusing on Hospital Inpatient Services

ICD-9-CM, the U.S. version of the WHO system, is designed both to classify morbidity and mortality data and to index hospital records by disease and operation. A WHO Collaborating Center for Classification of Diseases in North America, housed at NCHS, acts as a liaison between the international requirements for such information and the health data needs of this country. "The ICD-9-CM is recommended for use in all clinical settings but is required for reporting diagnoses and diseases to all U.S. Public Health Service (PHS)" and CMS programs. The federal government, advised by representatives of the coding system's major

Coding Abbreviations

- **CPT –** Current Procedural Terminology (followed by the edition, as in CPT-4, meaning Current Procedural Terminology-4th Edition)
- **E&M –** Evaluation and Management
- **HCPCS –** Healthcare Common Procedure Coding System (formerly HCPCS, HCFA Common Procedure Coding System)
- **ICD-9-CM –** International Classification of Diseases-9th Edition-Clinical Modification (also ICD-10-CM, for the 10th edition)
- **ICD-10-PCS –** International Classification of Diseases-10th Edition-Procedure Coding System
- **ICF –** International Classification of Functioning, Disability, and Health

users, has responsibility for maintaining ICD-9-CM, including any "extensions, interpretations, modifications, addenda, or errata."[1]

The ICD-9-CM Coordination and Maintenance Committee, co-chaired by representatives of CMS and NCHS, manages the day-to-day operation of the system. CMS addresses procedures and NCHS focuses on diagnoses. Persons and organizations from both the public and private sectors are welcome to submit proposals for new codes to the committee and to comment both at public committee meetings (held in April and December) and in writing. The administrator of CMS and the director of NCHS have final decision-making authority; their decisions, typically made by late January, are effective October 1 of that year, in line with the start of the federal fiscal year.[2]

In the Benefits Improvement and Protection Act of 2000 (BIPA), Congress addressed "requirements for incorporation of new medical services and technologies into the [Medicare] inpatient prospective payment system (PPS). Some of these requirements involve improving the ICD-9-CM coding process. Congress has expressed concern about the length of time it takes to get a new code, as well as the lack of detail and shortage of available codes in the current coding system."[3]

As a result of BIPA, the ICD-9-CM Coordination and Maintenance Committee has agreed that it will consider a few new technology procedures each year at its April meeting for possible implementation the following October. Because the notice of proposed rulemaking that includes new codes for public comment is issued prior to the April meeting, codes for such procedures will not be subject to the rulemaking process.

An ICD-9-CM Coding Clinic interprets the use of the coding system. The clinic is made up of representatives of the American Hospital Association (AHA), American Health Information Management Association, NCHS, and CMS, and of the AMA, American College of Surgeons, and American College of Physicians-American Society of Internal Medicine. The AHA publishes *Coding Clinic for ICD-9-CM*, which reviews coding policy and reports coding changes.

The United States has yet to accept a modified version of ICD-10, which NCHS contends would "improve the usefulness of mortality statistics by giving preference to certain categories, by consolidating conditions, and by systematically selecting a single cause of death from a reported sequence of conditions."[4] Internationally, ICD-10 is believed to provide a more comprehensive classification of diseases, to be more up to date relative to the practice of medicine, and to have a better handle on procedure designations in a coding system that is for the most part diagnostic.[5]

In addition, WHO has developed an International Classification of Functioning, Disability, and Health (ICF), which was approved in revised form by the World Health Assembly in 2001. ICF "complements WHO's ICD-10, which contains information on diagnosis and health condition,

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but not on functional status."[6] ICF seems to have strong support among segments of the disability community in this country.

The ICD-9-CM coding system is used with the DRG-based Medicare inpatient PPS. In fact, enactment of the inpatient PPS (as part of the Social Security Amendments of 1983) linked Medicare patients' medical records directly to payment for the first time. Previously, Medicare payment for inpatient services was based on hospital operating costs and was therefore facility-based. Under PPS, payment to hospitals became patient-based, dependent upon fixed payment rates for initially 470 and currently 506 DRGs developed to reflect the average amount of hospital resources, such as personnel, medication, and medical equipment, used to treat patients with particular diagnoses. Depending upon their complexity, DRGs have relative weights that govern payment.

Health information coders, using narrative information on diagnoses and procedures provided by physicians and other recognized practitioners assign codes to discharges, which are used to classify patients by DRGs. They translate diagnoses into codes that are assigned to DRGs, each of which has a payment rate. (Five to 6 percent of patients are classified as outliers and paid on a different basis.).

Coding data may include nine diagnosis codes (a principal diagnosis and up to eight additional diagnoses) and six procedure codes. The additional diagnoses determine if the patient has a comorbidity or a complication, which is important in assignment, partly because of the implications for increased length of stay. A comorbidity is a condition that was present (along with the principal diagnosis) at admission, while a complication is a condition that occurs during hospitalization.

The codes themselves may be subject to subsequent review, for both performance and payment reasons. For example, all Medicare PPS acute-care discharges—approximately 10 million per year—are available to be reviewed by peer review organizations (PROs). Under the current DHHS PRO contract, approximately 100,000 reviews are done annually. The majority of the reviews—approximately 60,000—are conducted under the "Payment Error Prevention Program Surveillance Sample," involving checking of coding validation.[7] Private insurers have their own review processes to assure the appropriateness and accuracy of the codes that have been assigned.

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HCPCS: RELYING ON CPT-4, ADDRESSING OUTPATIENT SERVICES

Whereas ICD-9-CM is a federally administered, modified version of an international coding system, HCPCS is largely a private system with a federal overlay. In the mid-1960s, when Medicare and Medicaid were established, respectively, as Titles 18 and 19 of the Social Security Act, the AMA issued its first edition of a procedural coding system it called

"CPT," in this case CPT-1. New editions quickly followed: CPT-2, published in 1970, converted the previous codes to five digits; CPT-3, in 1973, added two-digit modifier codes that offered greater precision and flexibility in reporting; CPT-4, first issued in 1977, recognized new technological developments.

According to the AMA, by the late 1970s, "there were more than 250 different procedural coding systems in use in the United States." In 1981, the federal government, desiring to adopt a uniform system for Medicare so that it could collect data on services provided to patients and pave the way for a national payment system, studied the various options open to it. DHHS decided that CPT was the best available system and, in 1983, entered into an agreement with the AMA that CPT would be the mechanism for reporting of physician services under Medicare. Most other public payers followed Medicare's lead, and, by the late 1980s, CPT was "the single uniform coding system for reporting of physician services."[8]

Also in 1983, HCFA created the HCFA Common Procedure Coding System. (When DHHS renamed HCFA CMS in 2001, it changed the name to Healthcare Common Procedure Coding System, also HCPCS.) As already indicated, the agency adopted a tripartite coding structure that included CPT, national codes, and local codes. The AMA began publishing and selling CPT-4 books on an annual basis starting in 1984, differentiating them by year of publication. The AMA is now in the midst of a two-year transition to a new edition, CPT-5, which it refers to as "a project to develop improvements, not a new coding system." The association indicates that the advance is needed so that "CPT evolves with changes in health care delivery and services to accommodate the needs of all users." While the federal government has adopted CPT-4 for implementation of HIPAA's Title II (which covers electronic transactions), the AMA points out that "the elimination of local codes under HIPAA and the increased integration of CPT with clinical and administrative computer systems" will place "greater demands…on CPT beyond billing and administration."[9]

In 1992, CPT underwent a significant revision because of the addition of a new series of evaluation and management (E&M) service codes and descriptors. The revision was particularly important because the Medicare RBRVS physician payment system went into effect on January 1, 1992. The fee schedule that was adopted ranked physician services according to value (determined by a complicated formula). Each value was multiplied by a conversion factor to come up with a payment, with the rankings of values and payments comprising the schedule. Given the organization of CPT by specialty, the codes had to be revised to reflect the resources that went into the provision of services. The most difficult revision involved visits and consultations, and the panel created "new codes for office visits, hospital visits, and consultations." Among other actions, it replaced levels of service—brief, minimal, intermediate, and so on—"by a more precise method

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of assigning codes based primarily on the extent of history, examination, and on the complexity of medical decision-making."[10]

The AMA administers the coding system through the CPT Editorial Panel. The panel comprises physicians (including one non-M.D. provider) from various fields of medicine, with most nominated by the AMA and one each by the AHA, Blue Cross and Blue Shield Association, CMS, and HIAA. The panel meets quarterly to consider coding concerns. CPT Advisory Committees, made up of other health professionals as well as physicians, support the CPT Editorial Panel. The committees' nearly 100 members come from national medical specialty organizations and national organizations that represent chiropractic, nursing, occupational therapy, optometry, podiatry, physical therapy, physician assistants, psychology, social work, and speech pathology.

Coding for Other Than Hospital and Physician Health Services

Health areas that do not necessarily fit the classifications of hospital and physician services can be perplexing when it comes to coding and payment. As the Medicare program has developed payment systems for ambulatory surgical centers, clinical laboratories, home health services, inpatient rehabilitation facilities, transplant centers, and skilled-nursing facilities, CMS has faced various challenges to the use of ICD-9-CM and HCPCS. For example, CMS is finalizing a Medicare fee schedule for ambulance payments based on CPT, which is currently the documentation system for ambulance services. The American Ambulance Association is urging CMS to adopt instead what it calls "condition codes," codes that would describe patients' condition at the time of transport. The association believes that the physician-oriented CPT codes are unsuitable for ambulance personnel to use, particularly because many are volunteers.[11]

For another example, CMS has a fee schedule for outpatient clinical laboratory services (except for laboratory services that physicians perform, which are part of the physician fee schedule). Labs use HCPCS codes, both the AMA's CPT codes and the national and local codes developed by HCFA (CMS). However, "for communicating medical necessity to Medicare payers," according to the American Association of Clinical Chemistry, "labs use ICD-9-CM codes." That is because ICD-9-CM codes recognize and track health services by diagnosis; the Medicare title of the Social Security Act "only allows Medicare payment for service directly related to a beneficiary's illness or injury (or symptom or complaint)" and not for screening tests. "The ICD-9[-CM] coding system provides a mechanism for the laboratory to communicate the medical necessity of each test to Medicare." Clinical laboratories illustrate the importance of health care organizations' understanding multiple coding—CPT and HCPCS national and local codes as well as ICD-9-CM—and the correlation to Medicare law and regulation.[12]

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TABLE 1
Health Care Coding Systems in the United States
Adopted under the Health Insurance Portability and Accountability Act of 1996[1]

Code Set	Health Services	Responsible Party
International Classification of Diseases-9th Edition-Clinical Modification [2]	Mainly hospital services	Centers for Medicare and Medicaid Services and National Center for Health Statistics in the Centers for Disease Control and Prevention
Volumes 1 & 2	Diseases Injuries Impairments Other health-related problems and their manifestations Causes of injury, disease, impairment, or other health-related problems	
Volume 3	For diseases, injuries, and impairments on hospital inpatients: Prevention Diagnosis Treatment Management	
National Drug Codes [3]	Drugs and biologics	Department of Health and Human Services, collaborating with drug manufacturers
Code on Dental Procedures and Nomenclature	Dental services	American Dental Association
Healthcare Common Procedure Coding System in combination with CPT-4 [4]	Physician services Physical and occupational services Radiological procedures Clinical laboratory tests Other medical diagnostic procedures Hearing and vision services Transportation services, including ambulance	HCPCS by Centers for Medicare and Medicaid Services and CPT by American Medical Association
Healthcare Common Procedure Coding System	Medical supplies Orthothotic and prosthetic devices Durable medical equipment	Centers for Medicare and Medicaid Services

[1] *HIPAA code set standards are effective October 16, 2003. This summary is adapted from "Frequently Asked Questions about Code Set Standards Adopted under HIPAA," found on the Web site of the Assistant Secretary for Planning and Evaluation, DHHS; accessed November 14, 2001, at http://aspe.hhs.gov/admnsimp/faqcode.htm.*

[2] *CMS and NCHS are working on modifications for a 10th edition.*

[3] *HHS Secretary Thompson has indicated DHHS plans to retract NDC for all transactions except those for retail pharmacies.*

[4] *The AMA has developed CPT-5, which it calls an "improvement" to CPT-4 rather than a replacement.*

A MIX OF PUBLIC AND PRIVATE ADMINISTRATION: A DISPUTE OVER GOVERNANCE

There is no doubt that the hodgepodge of coding and payment systems and the split between public and private administration—public for ICD-9-CM and private for CPT-4—confuses a topic that is in itself difficult for many policymakers to follow, let alone fathom. All along, however, the position of HCFA, and then CMS, has been that the AMA-developed CPT is the accepted system for outpatient—particularly physician—services, that it is the only viable option for common usage, and that therefore it has the government's backing.

Ever since HCFA and the AMA agreed in 1983 that the AMA would have the "sole responsibility and authority to revise, update, or modify CPT-4" and to "continue to print, publish, sell, and otherwise disseminate CPT-4,"[13] there have been charges that the federal government abrogated its responsibility by incorporating CPT into HCPCS and, by adopting the system, accepting its administration by a private organization. The Association of American Physicians and Surgeons, Inc., for instance, quoting language in the agreement that HCFA "publicly endorse the use of CPT-4 based HCPCS" and "require the use of CPT-4 based HCPCS" when that is within the agency's "statutory authority and budgetary constraints," charges: "There it is: the AMA imposes its onerous coding regulations on physicians in the name of HCFA."[14]

The AMA, on the other hand, contends that CPT has strong professional acceptance. It also maintains that its administration of the system is key to physician buy-in, which would not necessarily exist if the government had assumed ownership. In 1997, it reported that a survey conducted by Gordon Black, Inc., showed that 95 percent of physicians thought it very important or important that the codes they use be developed and maintained by the medical profession and only 22 percent thought the government should do it. The association asserts that "it is in the public interest for the [health and human services] Secretary to advocate 'the best coding systems to do the job' regardless of whether such systems are public-domain or not." The association also claims that "CPT is available at low cost through the AMA or through the AMA's licensing activities" and is being made available over the Internet.[15]

In the latest round, Sen. Trent Lott (R-Miss.) wrote HHS Secretary Tommy G. Thompson questioning the agreement:

> It is my understanding that HCFA in 1983 granted the AMA what has been characterized as a 'statutory monopoly' by agreeing to exclusively use and promote the AMA's copyrighted CPT code for the purposes of reimbursing Medicare and Medicaid bills from doctors for outpatient services. As a result of HCFA's and the federal government's endorsement of the AMA's copyrighted outpatient code—to the exclusion of all competitors—private insurance companies and others were also forced to adopt the CPT as their billing standard as well. The CPT

The AMA maintains that its administration of CPT is key to physician buy-in.

> code has thus become a fixture in doctor offices around the country. This predictably led to a financial windfall for the AMA in the form of CPT-related book sales and royalties approaching $71 million a year, according to a report by the *Wall Street Journal*.[16]

In this case, as in every other instance in which HCFA (CMS) has been challenged, the department has supported the agreement. For example, the administrative simplification provisions of HIPAA require national, uniform standards for electronic data transactions and establish national code sets for describing medical service claims. Currently, the implementation date is October 16, 2003, for most users, a deadline that was originally set a year earlier but was delayed by Congress late in 2001 to allow payers, providers (especially physicians), and suppliers to put systems into place. In regulating the administrative simplification requirements, CMS has adopted the following code sets: ICD-9-CM, National Drug Codes (NDC), the Code on Dental Procedures and Nomenclature (updated and distributed by the American Dental Association), the combination of HCPCS national codes and CPT-4, and HCPCS for all other items (for example, equipment and supplies). (See Table 1.)

ICD-10: LENGTHY CONSIDERATION OF ITS ADOPTION

A seemingly quieter debate has centered on whether and how quickly this country should move from ICD-9-CM to ICD-10, specifically a version of ICD-10 incorporating the "Procedure Coding System for ICD-10 (ICD-10-PCS)." Although ICD-10 was first used internationally in 1994 for the coding of national mortality data,[17] the United States has not yet completed modifications so that it can adopt its own version for patient classification purposes. This country moved to an updated 10th edition for mortality data in 1999; NCHS has been working on a clinical modification of ICD-10 (ICD-10-CM) to replace ICD-9-CM for reporting of diagnoses but has not yet released the codes. While CMS has projected October 2003 as a target date for ICD-10-PCS, providers in favor of the new system seem to prefer implementing the diagnosis codes at the same time as the procedure codes. In an editorial in the July 29, 1999 *New England Journal of Medicine*, Lisa I. Iezzoni, M.D., described ICD-10-CM and ICD-10-PCS as follows:

> Although ICD-9-CM uses three-to-five-digit numerical diagnosis codes, ICD-10-CM is alphanumerical, with six 'coding spaces' and thousands of improved codes. In addition, HCFA has funded the derivation of… ICD-10-PCS to replace the three-digit and four-digit procedure classifications of ICD-9-CM. The seven digits of the alphanumerical ICD-10-PCS codes represent body systems, operations, body parts, approaches, and devices. Needless to say, ICD-10-PCS bears little resemblance to the AMA's CPT, which HCFA now requires physicians to use in coding services. Implementing the reporting system based on ICD-10-CM and ICD-10-PCS will require extensive training of physicians and other providers, as well as substantial changes in information systems.[18]

Debate has centered on whether and how quickly this country should move from ICD-9-CM to a clinically modified version of ICD-10.

At the ICD-9-CM Coordination and Maintenance Committee meeting in May 2001, 10 of 11 health care organizations, including the AHA, Federation of American Health Systems, and American Speech-Language-Hearing Association, urged that the United States adopt ICD-10-PCS as a national standard. Some reasons include its (*a*) accommodation of new procedure codes, (*b*) ease of use and understanding, and (*c*) compatibility with HIPAA electronics standards provisions, as well as (*d*) the inadequacy of ICD-9-CM for long-term use in the future. The dissenting organization was the AMA, which stated:

> Based on AMA's support for the elimination of complex regulatory burdens mandated by the Medicare program, the AMA does not support the adoption of ICD-10-PCS. The AMA believes that the implementation of ICD-10-PCS will only add to the regulatory burden faced by physicians and other health care providers.…[I]t would require significant resources to implement and problems inherent in the system suggest that it may not be worth the cost.[19]

While the idea that ICD-10-PCS might compete with the AMA's CPT was unstated, it does raise a policy question. Since ICD-10-PCS will have the capacity to "accommodate" procedure codes, how will it compare with CPT-4 (or CPT-5)?

THE CODES THEMSELVES: QUESTIONS OF APPROPRIATENESS, ACCURACY, AND RESPONSIVENESS TO CHANGE

Because of the direct relationship between codes and payment, there is an ongoing tug-of-war over the suitability and correctness of the codes used to describe services and the speed with which they are updated to reflect changing clinical practice and introduction of new technology. During the second half of the 1980s, after the Medicare inpatient PPS was enacted, concerns about coding problems proliferated. "Despite its widespread acceptance as the standard diagnostic lexicon, the ICD-9-CM has been widely criticized," Iezzoni and five coauthors stated in a 1988 article in the *Annals of Internal Medicine*. Using the ICD-9-CM code for acute myocardial infarction as an example, they contended that "many patients assigned the…code either do not have or are not receiving treatment specifically for this condition." They traced the coding problem to two sources: "the often imprecise use of terminology by physicians and certain aspects of the ICD-9-CM nomenclature and coding rules."[20]

In another 1980s study, Bruce Steinwald and Laura A. Dummit addressed concerns in Congress and at HCFA about the potential of "DRG creep" to increase hospital payments. DRG creep is "a term used pejoratively to connote changes in hospital record-keeping practices to increase case mix and reimbursement," the coauthors indicated, saying they preferred to use the word "upcoding." Looking at hospital case-mix-index (CMI) data—the worth in cost of a facility's mix of patients relative to the mix

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in other hospitals—they found that the weight of the DRG of the average case had risen substantially over time, thus leading to significant payment increases. For example, the average case weight jumped from 1.13 in fiscal year (FY) 1984, the first year of PPS, to 1.24 in FY 1987. Because PPS payments are largely based on the weights assigned to the DRGs, CMI growth resulted in higher payments under the system. Steinwald and Dummit attributed the CMI growth to two factors: changes in admissions and treatments and improvements in record-keeping and coding. They underlined the need to distinguish "changes based on patient need from changes based on more sophisticated medical record documentation and coding."[21]

The Medicare inpatient PPS put a great deal of emphasis on thorough and correct documentation leading to selection of the right code, thereby putting pressure on physicians to provide precise narratives of diagnoses and procedures. It elevated the role of medical coding personnel who actually translated the narratives into codes and gave rise to a consulting and software industry focused on standardizing assignment of codes and determining the assignment of DRGs for patient services. Down the line, it heightened the significance of PRO hospital and fiscal intermediary reviews. Moreover, as in the case study described by Iezzoni and her colleagues in their November 1998 *Annals of Internal Medicine* article, it put a lot of responsibility on the ICD-9-CM Coordination and Maintenance Committee to make coding modifications and on HCFA to refine the DRGs. In retrospect, the period was an intensive learning period for payers, providers, and policymakers. While some viewed it as a time of learning to manipulate codes in order to increase payment (for instance, not coding a cochlear implant as a hearing aid because the latter is not covered under Medicare), others saw it as a time of "genuine improvement in data thoroughness and accuracy."[22]

In 1990, the DHHS OIG initiated "Operation Restore Trust," which started as a pilot project but gained impetus in 1996 with the enactment of HIPAA. The program—aimed at greater compliance—was designed to improve working relationships between federal and state agencies and between federal agencies (especially the OIG) and providers. One of the projects under Operation Restore Trust was to examine the accuracy of ICD-9-CM and CPT codes in describing the services for patients, especially in terms of the statutory requirement for medical necessity as it relates to the sufficiency of documentation.

Former Deputy Inspector General John E. Hartwig, now the director of healthcare investigative services for Deloitte & Touche, sums up the OIG coding efforts in this way:

> The OIG contends that the Medicare statute requires sufficient and justified documentation for claims to be paid. I think that much of the health care enforcement effort has been misunderstood by providers that think the government just wants more paperwork. It is really a quality-of-care issue. Documentation of services brings integrity to the

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> system and allows the system to make reimbursement decisions. If you look at the system, you can see why enforcement is being directed to appropriate coding. There have been many, many studies that have identified upcoding and other problems.[23]

In 1998, in part updating the Steinwald-Dummit research, Gregory Savord of HCFA's Office of the Actuary examined case-mix change between 1997 and 1998. Indicating that case mix had increased every year since the implementation of inpatient PPS (hospital cost reporting periods beginning in 1984), he noted that "1998 is the first year in which we have measured a *decrease* in case mix." He undertook a study of the reasons for the decrease and reported six findings centered on case-mix increases and decreases for specific DRGs. He concluded: "While assessing cause and effect is always difficult, I believe that some of the decrease in case mix is likely to be attributable to certain efforts to combat fraud and abuse." He cited Department of Justice investigations of pneumonia cases that "may have caused the significant shift of admissions from the more expensive respiratory infection DRGs to the simple pneumonia DRGs."[24]

A 2001 National Bureau of Economic Research study, "Are For-Profit Hospitals Really Different? Medicare Upcoding and Market Structure," looked at "the propensity of different hospitals to engage in upcoding," defined in the study as "shifting a patient's DRG to one that yields a greater reimbursement from the Medicare system." Considering the DRG coding for pneumonia and the closely related DRG coding for respiratory complications, the researchers found:

> Between 1989 and 1996, the percentage of relevant admissions that consisted of the most expensive respiratory DRG rose by 10 percentage points among stable not-for-profit hospitals, 23 percent among stable for-profit hospitals, and by 37 percentage points among hospitals that had converted from not-for-profit to for-profit between 1989-93. (Since 1996, the upcoding index has dropped significantly in response to adverse publicity and lawsuits.) Thus we find strong evidence that the organizational form of the hospital mattered with regard to upcoding behavior.[25]

There is no doubt that tension exists among CMS as a prudent buyer of services, providers as sellers desiring adequate compensation, and the OIG as an investigator of integrity in the transactions. This tension is apparent in the continuing debate over the codes that are used to determine payment. For example, there is an ongoing dispute over codes for medical equipment. The existing codes cover categories of equipment, rather than individual items, and have to be updated as new technology is developed. The limited number of codes and the time it takes to develop new ones are issues for equipment manufacturers, who want differentiated codes for specific equipment and a faster time to recognize new apparatus that comes on the market. In rebuttal, CMS emphasizes its fiscal accountability to the Hospital Insurance Trust Fund and to beneficiaries themselves, indicating that differentiation and rapid response time are generally aimed at increasing payment.

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Sometimes the tension leads to congressional action, as providers bypass the coding bodies to appeal directly to legislators. A good example, as already indicated, is Section 533 of BIPA, which directs the HHS secretary to "submit to Congress a report on methods of expeditiously incorporating new medical services and technologies into the clinical coding system used with respect to payment for inpatient hospital services" under the Medicare program. At the same time, Congress continues to back aggressive anti-fraud and -abuse activities by the OIG and Department of Justice. The OIG's work plan for 2002 "includes a review of the procedure codes billed by both a hospital and physician for the same outpatient service. OIG said a previous review identified a 23-percent inconsistency rate between hospital outpatient department coding and physician procedure coding."[26]

THE NEED FOR DOCUMENTATION: A BURDEN FOR PROVIDERS?

The degree of documentation needed for the monitoring of health services to patients and the determination of payment for them also are tension-producing, as illustrated by what Lisa Iezzoni calls "a pitched battle"—deteriorating into "high melodrama"—over codes for physician evaluation and management services.[27] E&M codes, which cover physician office and hospital visits, were fairly simple before the relative-value system was instituted for physician payment in 1992. "Levels of clinical service were labeled along a spectrum of increasing intensity (brief, limited, intermediate, comprehensive)," according to Allan S. Brett, M.D., in a *New England Journal of Medicine* article. In 1992, however, HCFA introduced a new set of guidelines, with "requirements for coding each level of service…now specified in much greater detail, taking up 44 pages of CPT." In 1995, additional revisions were introduced. The importance of E&M codes is reflected in their value to physicians and the Medicare program: "in 1996, Medicare payments for E&M services totaled about $16 billion, or 40 percent of payments to physicians under the program."[28]

In 1998, HCFA planned to implement a revised set of guidelines for physicians on the coding of E&M services under the Medicare program. The proposed method consisted of counting various items, such as elements of a medical history, body systems, organ systems or body areas, and physical-examination maneuvers, and then consulting "a table that matches a billing code to the type of history, type of physical examination, and complexity of decision making, as derived from the previous steps." Physicians and medical organizations strongly opposed the guidelines, citing numerous problems, "including government intrusion into medical decision making, excessive and time-consuming paperwork, and fear of stiff penalties as a result of unintentional errors in coding clinical encounters."[29] HCFA backed off and the situation still is unresolved.

"In 1996, Medicare payments for E&M services totaled about $16 billion, or 40 percent of payments to physicians under the program."

According to Donald Young, M.D., president of the HIAA, "All the payer wants and needs is documentation that adequately describes the service that is rendered." For both private and public payers, he considers the descriptors used to define both routine and complex office visits in CPT as deficient and views this deficiency as a technical problem. He also sees the modifiers that are used in the descriptors as a technical difficulty to be overcome.[30] Addressing the technical side of E&M descriptions, Roz D. Lasker, M.D., and M. Susan Marquis, Ph.D., conducted a study on "the amount of physicians' work, the time spent in encounters with patients, and characteristics of patients and visits for 19,143 physician-patient visits in the practices of 339 urologists, rheumatologists, and general internists." They concluded that adequate documentation could be obtained, as follows:

> The total amount of work involved in providing E&M services in practice could be accurately reflected by a coding scheme based on blocks of encounter time and a limited set of types of visit. Such a scheme would have separate categories of E&M codes for different types of visit (e.g., initial visit, consultation, visit with an established patient for a new problem, and follow-up visit for an existing problem).…Although the coding scheme would be based on the type of visit and blocks of encounter time, the reimbursement would be calculated to reflect the total work (i.e., work performed before, during, and after the face-to-face encounter with the patient) associated with the average encounter time for the block. Technical services and procedures provided during the visit would continue to be reimbursed separately.[31]

However the E&M controversy is eventually settled, it seems clear that, as administrators of both private and public health programs put greater and greater emphasis on quality monitoring and performance, documentation likely will be become more stringent, rather than less. Indeed, the AMA CPT Editorial Panel itself has recognized the importance of "evidence-based measurements with established ties to health outcomes; measurements that address clinical conditions of high prevalence, high risk or high cost; and well-established measurements that are currently being used by large segments of the health care industry across the country."[32]

Under HIPAA, documentation will also become more standardized. When HIPAA's electronics standards provisions go into effect in October 2003, they will apply to eight different types of administrative and financial health care transactions, the first being "health claims or equivalent encounter information." Using the code sets adopted by CMS, providers and others subject to the law will have to follow standard coding guidelines. Because HIPAA also imposes privacy restrictions (effective in April 2003) and security rules (expected to be issued in Spring 2002), providers will have to meet additional standards as well, subject to civil and criminal penalties for noncompliance.

While the issues of documentation for coding, along with the debates about codes' appropriateness, accuracy, and responsiveness to change;

Under HIPAA, documentation will also become more standardized.

movement from the ICD-9-CM to a modified version of the ICD-10 coding system for inpatient services; and CPT governance process, may seem arcane, they take up a considerable amount of time and energy in both the public and private sectors. Although payers, whether they be Medicare or Medicaid on the public side or private insurers, set payment policies, they are dependent upon coding systems to describe the services that absorb their dollars. Understanding those systems—how they can be effectively used as well as misused—is crucial to following the dollar flows within the health care industry, dollar flows which amounted to $224 billion for Medicare alone in 2000.

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ENDNOTES

1. National Center for Health Statistics, *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM),* 6th ed. (2001 update), (on CD-ROM), Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, Washington, D.C., 2001; available from National Technical Information Service, U.S. Department of Commerce, Springfield, Va.

2. National Center for Health Statistics, "Classifications of Diseases and Functioning and Disability—ICD-9-CM Coordination and Maintenance Committee," Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, Washington, D.C.; accessed October 18, 2001, at http://www.cdc.gov/nchs/about/otheract/icd9/maint/maint.htm.

3. ICD-9-CM Coordination and Maintenance Committee, "Summary Report of May 17-18, 2001 Meeting," Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services, Washington, D.C., 1.

4. National Center for Health Statistics, "Mortality Data from the National Vital Statistics System—International Classification of Diseases, Tenth Revision (ICD-10)," Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, Washington, D.C.; accessed October 18, 2001, at http://www.cdc.gov/nchs/about/major/dvs/icd10des.htm.

5. Karen Peasley, "Benefits of ICD-10-AM," in *Essentials of ICD-10-AM: an Information Package for Clinicians and Users of Coded Data,* National Centre for Classification in Health, Faculty of Health Sciences, University of Sydney, Sydney, Australia; accessed October 18, 2001, at http://www.cchs.usyd.edu.au/ncch/clined/introd~1/.

6. National Center for Health Statistics, "Classifications of Diseases and Functioning and Disability—International Classification of Functioning, Disability, and Health (ICF)," Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, Washington, D.C.; accessed October 18, 2001, at http://www.cdc.gov/nchs/about/otheract/icd9/icfhome.htm.

7. William Mark Krushat, senior technical advisor, Office of Clinical Standards and Quality, Center for Medicare and Medicaid Services, U.S. Department of Health and Human Services, personal communication to the author, January 22, 2002.

8. T. Reginald Harris, "Physicians' Current Procedural Terminology (CPT)," statement of the American Medical Association to the Subcommittee on Health Data Needs, Standards and Security, National Committee on Vital and Health Statistics, U.S. Department of Health and Human Services, April 16, 1997, 2.

9. Michael Beebe, "Changes and Enhancements, CPT 2002," presentation to CPT 2002 Coding Symposium, American Medical Association, November 15-16, 2001.

10. Harris, "Physicians' CPT," 1-2, 4-5.

11. "Ambulance Services: New Rule Due But No Condition Codes," *Medicine and Health,* November 16, 2001.

12. Joan Logue, "AACC—Keeping Up with Medicare Reimbursement and CPT Coding Issues," AACC, Washington, D.C.; accessed October 17, 2001, at http://www.aacc.org/cln/features/97features/jul97featcpt.html.

13. "Agreement: The Department of Health and Human Services, Health Care Financing Administration, and American Medical Association, " 3-4.; accessed October 17, 2001, at http://www.aapsonline.org/aaps/medicare/hctaama.txt.

14. Andrew L. Schafly, "AMA's Secret Pact with HFCA," Association of American Physicians and Surgeons, Inc., Tucson, Arizona, 1; accessed October 17, 2001, at http://www.aapsonline.org/aaps.

15. Harris, "Physicians' CPT," 5-7.

16. Sen. Trent Lott (R-Miss.), letter to to Health and Human Services Secretary Tommy G. Thompson, July 27, 2001, 1.

17. "Implementation of ICD-10 by WHO Member States," WHO Statistical Information System, World Health Organization; accessed January 10, 2002, at http://www.who.int/whosis/icd10/implemen.htm.

18. Lisa I. Iezzoni, "Editorial: The Demand for Documentation for Medicare Payment," *New England Journal of Medicine,* 341, no. 5 (July 29, 1999): 365-367.

19. ICD-9-CM Committee, "Summary Report," 3-4.

20. Lisa I. Iezzoni, Susan Burnside, Laurie Sickles, Mark A. Moskowitz, Eric Sawitz, and Paul A. Levine, "Coding of Myocardial Infarction," *Annals of Internal Medicine,* 109 (November 1, 1988): 745-751.

21. Bruce Steinwald and Laura Dummit, "Hospital Case-Mix Change under Medicare: Sicker Patients or DRG Creep?" *Health Affairs,* Summer 1989, 35-47.

22. Steinwald and Dummit, "Hospital Case-Mix."

23. "Federal and State Medicare and Medicaid Compliance and Enforcement Efforts Expected to Continue Unabated Despite Government Focus on Anti-Terrorism Initiatives," *Health Care Review* (Deloitte & Touche), November 2001, 4.

24. Gregory Savord, "Subject: Analysis of PPS Hospital Case-Mix Change between 1997 and 1998," internal memorandum to Richard S. Foster, chief actuary of Health Care Financing Administration, U.S. Department of Health and Human Services, Washington, D.C., November 19, 1998, 1.

25. Elaine Silverman and Jonathan Skinner, "Are For-Profit Hospitals Really Different? Medicare Upcoding and Market Structure," Working Paper 8133, National Bureau of Economic Research, Washington, D.C., February 2001, 3-4.

26. "Markian Hawryluk, "Physician Issues on List for Inspector General's Review," *American Medical News*, October 22-29, 2001; accessed October 30, 2001, at http://www.ama-assn.org/sci-pubs/amnews/pick_01/gvsb1022.htm.

27. Iezzoni, "Editorial," 365.

28. Allan S. Brett, "New Guidelines for Coding Physicians' Services—A Step Backward," *New England Journal of Medicine*, 339, no. 23 (December 3, 1998): 1705-1708.

29. Brett, "New Guidelines," 1705.

30. Donald Young, personal communication to author, December 5, 2001.

31. Roz D. Lasker and M. Susan Marquis, "The Intensity of Physicians' Work in Patient Visits—Implications for the Coding of Patient Evaluation and Management Services," *New England Journal of Medicine*, 341, no. 5 (July 29, 1999): 337-341.

32. Beebe, "Changes."