MANAGED CARE: ELECTRONIC DATA INTERCHANGE

Barbara Coulter Edwards

Introduction

Electronic data interchange (EDI) is fueling a revolution in the health care industry. The potential for significant reductions in the administrative costs of paying medical claims has everyone from the Health Insurance Association of America, both Democratic and Republican members of Congress, the Secretary of the U.S. Department of Health and Human Services (HHS) and even the President of the United States calling for the rapid development of a "paperless" claims processing system in health care.

The implications of EDI for the health care system go far beyond paperless claims processing, however. EDI and the range of new information technology available for use today holds out the promise that the problem of rising health care costs may become truly controllable. Creative use of EDI within a managed care approach to health care delivery and financing can enhance managed care efforts while reducing routine administrative costs and providing potential for a reduction of the "hassles" which can be associated with managed care today.

What is EDI?

While relatively new in its application to the health care field, the electronic exchange of information is not a new technology in the business world. In fact, its use is a decade old. Every day, millions of Americans use this technology at bank automatic teller machines; retail merchants use EDI to verify and process credit card transactions at time of purchase; and the airline industry uses EDI to provide an on-line reservation system.

Increasingly, businesses of all types are discovering that information technology, including use of personal computer local area networks that can connect people throughout a building or around the world, can greatly increase efficiency and effectiveness of operations by reducing time and distance barriers to almost zero. EDI transactions are rapidly replacing paper systems in many purchasing and billing departments in the corporate world — including insurance companies. FAX machines and FAX technology have transformed communication in almost every business and perhaps soon even in many homes.

Nationwide Insurance Company, One Nationwide Plaza, Columbus, OH 43216.

In the health care field, many large volume providers and payers have in recent years used tape-to-tape transfer of claims information. More recently, application of EDI is seen for even small volume providers and payers. There is growing interest in the use of so-called "smart" cards and "swipe" cards by health care consumers to provide point-of-service verification of insurance coverage and immediate electronic submission of claims, perhaps allow immediate updating of electronic medical records and even provide for pre-approved credit arrangements for payment of deductibles and co-payments.

As envisioned for the health care system, an EDI network would allow providers and payers to exchange documents electronically in a common language. It would also allow claims payments and remittance information to be handled electronically. This can be done directly, but most plans assume that regional clearinghouses will be used to manage the process and direct the electronic traffic from and to a variety of providers, payers and financial institutions. Clearinghouses would perform editing, reformatting or translating among software systems as required, and route information. Providers would submit claims using a single electronic bill format, regardless of payer, and have those bills automatically switched through the clearinghouse to the appropriate payer.

Providers would access the system through use of the patient’s magnetic medical card, which would be encoded with patient identification information. After running the card through a magnetic reader (like those used by retailers for credit cards), the provider would be able to receive immediate authorization approval for many procedures and, by entering encounter data including diagnosis, procedure codes and fees, have the claim automatically processed. With the expected development of computerized medical records in a confidential format, "smart" cards could allow immediate updating and retention of medical records. (See Figure.)

Impetus for Change

Despite the success of EDI in other industries and the apparent applicability to health care claims, this potentially cost-saving information technology has not been universally adopted in the health care system. Barriers to the widespread use of EDI in claims transactions
include a large number of payers marketing a wide variety of benefit packages, an even larger number of providers, many of whom are without automated billing capability, the relative complexity of medical reimbursement transactions within this system of multiple payers and multiple benefit plans, and the lack of standards regarding transaction protocols and record formats.4

Yet the widespread concern over the continued rise in health care expenditures and the related problem of the uninsured has brought increased scrutiny of administrative costs in the health care system. The application of EDI to the health care delivery and financing system, through elimination of time-consuming and labor-intensive paper claims processing, offers an opportunity to realize significant reduction of health care administrative costs. It offers the added benefits of improved service to providers and consumers through more timely processing of claims. The adoption of EDI in the health care system has, therefore, become a high priority among those who seek to address the fundamental problem of cost control while preserving a competitive private sector role in health care financing.

This interest has resulted in activities at the national level which begin to overcome the barriers to widespread use of EDI in the health care system. In November 1991, Health and Human Services Secretary Louis Sullivan challenged the private health care industry to reduce its administrative costs. The industry responded to that challenge by creating a national industry work group to address electronic claims and standardized billing for the health care system. The Workgroup for Electronic Data Interchange (WEDI) is co-chaired by Joseph Brophy, President of The Travelers Managed Care Operations and Bernard Tresnowski, President of the Blue Cross and Blue Shield Association. WEDI is an interdisciplinary group created to promote the routine use of electronic data interchange among payers, hospitals, physicians and other health care providers. WEDI's goal is to promote full implementation of EDI within five years to reduce administrative costs in the health care system.5

The WEDI effort is working in cooperation with the on-going effort of the American National Standards Institute (ANSI) to develop national, industry-wide standards for electronic claims processing. The new electronic claims format will encompass virtually all types of health care claims, from hospitals to dentists to pharmacies, and is being designed in consideration of all types of health care coverage types, including workers compensation, auto, HMOs, and traditional indemnity plans. The ANSI effort is involving input from public and private payers, providers, and technical experts.

Today, there are more than 400 proprietary electronic systems, each with different data elements and formats, in use in the health care system.6 If ANSI's efforts are successful, as they were in banking and for the airlines, all health care system players will adopt the same EDI standards. Hospitals and physicians will deal with a single set of electronic billing requirements, regardless of the number of actual payers. ANSI expects to release its standards later this year, with pilots planned to test the effectiveness of recommended standards.

The U.S. Health Care Financing Administration (HCFA) is encouraging this movement in two ways. It has agreed to require the use of ANSI developed standards for Medicare, the largest single payer source in the country. In addition, HCFA has committed to having all Medicare claims submitted electronically within the next few years. The Part B goal for 1992 is 55% electronic claims submission, with a goal of 90% by 1995. Medicare Part A claims are already over 80% electronically submitted, with the focus now on claims submissions by nursing facilities. Medicare's move means that most providers in the United States will be capable of electronic claims submission in some form within the next few years.

In a related but separate effort, a new Computer-Based Patient Record Institute (CPRI) has been established, based on a recommendation from the Institute of Medicine, to encourage the development of computerized patient records. Sponsors of this effort, which will provide funding for demonstration projects and related research, include the American Hospital Association, the American College of Physicians, the Mayo Clinic, the U.S. Chamber of Commerce, the American Nurses Association, the American Medical Association, Kaiser-Permanente, and Motorola.7

Even as these voluntary efforts are under way, proposals have surfaced in Washington, D.C. to mandate electronic claims processing throughout the health care system. Representative Pete Stark (D-Cal.) has introduced H.R. 4956, and Senator Christopher Bond (R-Mo.) has introduced S. 2878, the Bush Administration's proposal, to establish an electronic network for health care claims. H.R. 4956 would require that all U.S. residents be issued a magnetic health claims card and would establish regional clearinghouses to process claims. The Senate bill would give HHS authority to establish necessary electronic format standards by rule, to require uniform claims formats, to require all insur-
ers to transmit claims electronically, and to require all hospitals to computerize patient medical records.

HHS Secretary Sullivan predicts that the use of electronic claims processing would save at least $4 billion a year initially and up to $20 billion a year by the year 2000.8

EDI: Value-Added for Managed Care

As promising as the use of EDI is in the reduction of administrative costs and the improvement of efficiency and service in claims processing, the more significant value of EDI may flow from additional opportunities for cost control and value-added services made possible by this technology. The key to these opportunities is the rich data base that can result from the implementation of electronic claims processing.*

The information and communication capabilities created by the use of EDI can serve a health insurer in many ways. In addition to improved claims efficiency and customer service, EDI can be designed to provide underwriting and sales support, information for marketing and new product development, efficiencies in general business operations and improved internal and external communication.

Within a managed care environment, EDI provides the following value-added opportunities:

1. Provider services and education. On-line claims handling offers not only improved accuracy and timeliness but allows insurers to seek competitive advantages through provision of additional claims management, service utilization and claims status information. In the pharmaceutical industry, where a large percentage of providers is already involved in the electronic submission of claims, pharmacists enter data into an on-line system, creating at one time both clinical and claims records. The pharmacist receives on-line information on other drugs prescribed for the patient, possible drug reactions and interac-

tions, as well as verification of coverage and information on co-payment requirements. In addition, reduced administrative burden for providers translates into lower overhead and/or more staff time for patient care.

2. Electronic funds transfer (EFT). Already widely used in the banking industry, EFT can be coupled with electronic processing of claims to improve claims payment operations at less administrative cost. Funds can be electronically deposited into the provider's bank account and remittance advice information can be electronically communicated to the provider.

3. Improved clinical information. Through the use of imaging technology, smart cards, and computerized medical records, insurers and providers will have increasingly useful access to current medical information on policyholders. This can result in a reduction in duplication of medical tests, more accurate diagnosis and treatment, and improved continuity of care.

4. Data base applications. The biggest impact of EDI will be in the creation of a broad, detailed data base regarding medical utilization and outcomes. Access to this "collective intelligence"9 of the health system offers perhaps the best potential for effective management of medical care in a way that can have a significant, long-term impact on the cost of health care. Opportunities include:

a. Outcomes research.

b. Fraud identification and control.

c. Provider profiling.

d. Development and evaluation of practice parameters, including provider feedback and education.

e. Utilization management, including both UR and quality control.

The potential savings from improved management of care that can result from the clinical, utilization and quality information drawn from the data base created by EDI should do more than reduce the actual administrative costs of providers and payers in the health care system. It should give the system the ability to begin to affect the rate of growth of health care expenditures through more efficient utilization of health care services and identification of efficient providers and appropriate treatment.

* Morton describes three stages by which new information technology impacts an organization. Automation of business functions, the first stage, generates information as a by-product. In the second stage, new technical and analytical skills are developed to take advantage of the information, which in turn may open up new market opportunities. In the third stage, successful organizations will "transform" themselves, their organizational and management structures, to take advantage of the opportunities presented by the changing environment and made possible by information technology. Morton argues that competitive and technological forces will not permit an organization to sustain a competitive advantage merely through use of information technology for automation of business functions alone. (Morton, pp. 15-17).1
EDI is clearly more than just a new way to pay health care claims. It is a tool for improved managed care and therefore, of fundamental cost control in the system.

References


