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More Than a Transcription Service: Revolutionizing the Practice of Medicine
And Meeting the Challenge of Managed Care
With Electronic Medical Records (EMR)
which Evolves into Electronic Patient Management
By
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When I was a child, medical records were kept on a 3x5-file card. The information essentially reflected the date and a one-word statement of what transpired in the visit to the doctor, often related merely to a shot or medicine, which was given. Patients paid a dollar for the visit, a dollar for the shot and a couple of dollars for the medication. Expectations were low and expenses were also. The physician kept most of the important patient information in his/her head. Therefore, when the physician wasn't available, data on the patient wasn't available.

This system was extremely personal and was often very satisfying for the patient and the physician. When I was born, Dr. Culpepper was my family doctor. In 1949, my family moved and did not use Dr. Culpepper as a physician again. In 1973, when I graduated from medical school, I called Dr. Culpepper and said, "Dr. Culpepper, I wanted to say hello and tell you I have graduated from medical school." Dr. Culpepper was in his early eighties and said spontaneously, "How are Bill and Irene," calling my parents by their first names, after not having seen them in 24 years. Dr. Culpepper had a wonderful mind, but it could only be in one place at a time.

The pharmaceutical era of healthcare was still young in 1949 and records didn't seem all that important. Things have changed. Both expectations and expense in healthcare have increased. Medical records have evolved from file cards, to handwritten notes, which were and are mostly illegible, to transcribed records and now to electronic medical records.

My own pilgrimage to electronic medical records started twenty-five years ago. When I started practice, I bought a Dictaphone, but couldn't figure out how to make it work, so I returned it. A few months later, my records on a patient were subpoenaed for a court case in which the patient was suing a fast-food chain. Not being terribly busy, I took my medical record and showed up in court. When I was sworn in, the judge asked if I had

my records. I passed them to him. Looking over his glasses the judge turned to me and asked, "Can you read this?" I looked and said, "No, sir." To which he responded, "Son, I recommend that you get a Dictaphone." I did; I repurchased the same instrument I had returned three months before.

Prior to Electronic Medical Records (EMR), the best one could hope for was an accurate and complete account of a visit to the doctor, but the information was:

- Static – there was no data in the record which could be correlated or analyzed;
- Geographic – the record stayed in one place;
- Non-integrated – the record couldn't interact with other systems in the medical office.

A number of incidences illustrate the nature of paper charts. Even when charts had problem lists, allergy tables and medication lists at the front and most probably did not the following limitations decreased the value and effectiveness of ordinary paper charts:

1. If a drug were recalled, there was no effective way of determining which patients were on the drug therefore being able to notify each one to stop it, and to call the office for a substitute.[1]
2. There was no systematic way of seeing how many patients with diabetes and hypertension were on an ace inhibitor, which is protective of renal disease.[2] The same applied to many other disease states.
3. There was no effective way of continually bringing the family, social and past medical history forward in the chart to make it an interactive part of every patient encounter.[3]
4. There was no way of determining how many patients had not had a pap smear, mammogram or occult blood screen, short of asking those questions when the patient came for a different illness.[4] Therefore, preventive healthcare was driven by acute healthcare, which essentially didn't work. And, even when the provider kept excellent records, there was no way to access that information short of picking up and examining each patient record.
5. If the healthcare provider were at a different location than where his/her charts were stored, the paper chart, no matter how extensive and well organized, was little improvement over the 3x5 card. The patient and provider were dependent upon the memory of the provider for continuity of care.[5]
6. Patient allergies, drug interactions and the use of drugs in certain disease states were dependent upon the physician's knowledge and/or memory, not on the interactivity of various capacities of the medical record.[6]
7. Everyone wanted quality in healthcare, but it was difficult to define and almost impossible to prove.[7]

[1] Recently, both Rezulin and Propulsid have provided our practice the opportunity to search our records and to notify each patient on these drugs as to how they should proceed.

[2] SETMA is now able to do this and has begun disease-state management strategies to improve the compliance and health of our patients.

[3] SETMA now requires that every provider review these at every visit and we audit charts to make sure that this is being done.

[4] SETMA has designed Access reports to examine each one of these issues and others, based on HEDIS and NCQA standards.

[5] All of SETMA's providers now have high-speed Internet access from their homes in order to respond to patient inquiries after hours and on the weekend. Also, SETMA is capturing in the EMR all patient telephone calls and the responses to those calls (over 800,000 incoming calls per year).

[6] With EMR, these functions are now automatic and do nor depend upon the memory of the provider. This gives the patient confidence that their medications are safe when they take them and when they are taken together.

[7] The ability to examine the preventive health initiatives of a practice and the ability to examine compliance with national standards of care, along with NCQA and HEDIS standards moves SETMA toward the day when it will be possible to "prove" that we are providing superior care. Additionally, the auditing and

EMR: Toy or Tool?

A toy is fun to work with or is used for play. A tool is a device, which enables you to do a necessary task more efficiently, less expensively or more excellently. If EMR is used simply to substitute for dictating medical records, it is more a toy than a tool. In fact, EMR is the only method of record keeping, which matches:

- The patient's expectation,
- With the provider's desire for excellence and
- With the payer's concern for the cost of care.

Patient's Expectation

Recently, the mother of a prominent citizen in our community became our patient. After completing an extensive history and physical utilizing the computerized patient record, I asked this lady, "Do you think I now know you well enough to make appropriate decisions about your healthcare?" She responded, "You know more about me than the doctor who has taken care of me for twenty years. He has never asked me all those questions." This testimonial can be repeated multiple times. EMR creates tremendous confidence in the patient that an accurate and complete database is available to the healthcare provider.

As an extensive database is created on each patient, the patient's confidence in the provider's decision making increases. As the computerized patient record is "sold" to the patient, the patient becomes the provider's greatest ally in producing an excellent record, which is complete and accurate. Also, when the encounter is completed and a copy of the record is given to the patient:

- The patient is able to review the record, further gaining confidence that "if my doctor knows all of this about me, he/she must be making the right decision."
- If any data is inaccurate or has become invalid, the patient can correct the record, becoming a partner with the provider in the process of producing a complete, accurate, valid and current medical record.

Recently, an elderly patient of mine came to the emergency room at 6:30 AM. I met her there as she walked in. When she sat down in the exam room, she pulled out of her purse a copy of her computerized patient record from her last visit to my office. It was complete and had all of her past history, allergies, medications, diagnoses and physical examination. I have known this patient for twenty-five years, but this record was more complete than my memory. I was able to quickly assess her condition and safely allow her to return home, after dictating an emergency room encounter, which would appear as if I had spent hours with the patient rather than a few minutes.

"grading" of each providers performance on the EMR is another quality measure, which insures that our patients are receiving quality healthcare.

Changing Healthcare Delivery

An integrated healthcare delivery system (IDS) produces collaboration between every person participating in the care of a patient and the sharing of information on that patient at every point of the patient's entry into the healthcare system. It means that the primary care physician and the specialist have common goals and incentives, and that they share the same information about the patient. It means that the home health agency, hospice, physical therapy, reference laboratory and long-term care facility have a common vision and a seamless interface when dealing with the patient.

The IDS model is realized when each member of the healthcare delivery team has access to the patient's record and when the patient's record is updated and available to other members of the team at and from every encounter with another IDS team member. Without this sharing of information, at best the patient's care will be segmented and inconsistent.

Peter Kongstvedt and David Plocher discuss models of healthcare delivery in the series, *The Managed Health Care Handbook Series* in a volume entitled, *Best Practices in Medical Management*. They identify five elements of "advanced care management" as:

- Case management
- Disease management
- Information technology and systems
- Network Management
- Integration model for the delivery system

Each of these elements of advanced-care management is dependent upon an excellent and extensive database, and the ability to share that database with everyone participating in the patient's care. Kongstvedt and Plocher also identify three models of care management:

- Insurance Model – which is driven by insurance benefit parameters and national practices.
- Care Delivery Model – which is driven by medical staff buy-in and system integration efforts (e.g. PHO).
- Continuum of Care Model – which is driven by promotion of wellness and community health status.

What truly differentiates the continuum of care model from the others is that care management drives patient care. And, care management is a database function. If the patient's record is available at every point of contact with the healthcare system, there will not be:

- Redundancy – repeating the same test or procedure simply because one healthcare provider does not know that another provider has the information.
- Inefficiency – collecting the same information about the patient — past medical history, family history, etc. — multiple times simply because there is no effective means for sharing that information from provider to provider.
- Excessive cost – A plan of care has always been a part of healthcare. Sometimes that plan of care will be treatment and instruction to return if the patient doesn't

improve; sometimes it will be referral to a specialist, and sometimes it will be observation and testing if the patient doesn't recover. Whatever the plan of care, it should be:

- o Documented – EMR allows this to be done every time.
- o Discussed with the patient – EMR allows for this to be documented every time.
- o Followed – EMR allows the provider to follow-up the patient, even if the patient doesn't keep his/her follow-up visit.

- Defensiveness – the best defense against an accusation of inadequate or substandard care is a complete history and physical and an agreement between the provider and the patient as to a plan of care. EMR allows the provider to document a plan of care with which the patient agrees. When that plan is based on sound medical judgment and an excellent record, the need for excessive and often expensive tests to prevent lawsuits will be eliminated.
- Lack of follow through – Patients often discontinue treatment and/or fail to seek follow-up when they begin to feel better. EMR allows the provider to track patient follow-up and to make certain the patient's treatment or evaluation is completed.[8]

The IDS will have elements of the insurance, care-delivery and continuum-of-care models, but preventive care, health promotion and community health will drive the care delivered by an IDS.

SETMA Moves Toward an IDS

Southeast Texas Medical Associates' (SETMA) integrated delivery system is based on information systems with templates designed for:

- Primary Care
- Hospice
- Home Health
- Nursing Home
- Physical Therapy
- Specialty Consultation
- Emergency Care
- Special Care Settings such as Diabetes Clinic, Congestive Heart Failure Clinic, Coumadin Clinic, Metabolism Clinic, Weight Management, Kidney Disease, Cholesterol Clinic, Hypertension, Headaches, Acute

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[8]With EMR, SETMA has designed an electronic tickler system, which allows consistent follow-up on patients who require further, essential testing or repeat testing. For instance, if a person needs a follow-up chest x-ray in six months, SETMA has an electronic solution for reminding the patient and the provider to make sure the test is done.

Coronary Syndrome, Chronic Stable Angina, Metabolic Syndrome and others.

- Special Evaluation Tools such as Hydration Assessment, Nutrition Assessment, Depression Assessment, Cardiovascular Risk Assessment with the Framingham Risk Score and others.
- Special Initiatives such as **LESS Initiative** (Loss Weight, Exercise, Stop Smoking), Diabetes Screening and Prevention, Pre-Hypertension and Hypertension Prevention and Insulin Resistance Screening.

The sharing of a common database and the ability to make updates of that database instantly available to every other member of the healthcare team is the backbone of SETMA's IDS. The reality is that whether a family physician, a cardiologist, or an endocrinologist, the initial information needed on a patient is the same: chief complaint, history of present illness, review of systems, allergies, past medical history, family history, social history, and habits. If this information can be shared, it will make the IDS more efficient and more effective, and that will increase the excellence of the care.

Information systems also enable the healthcare provider to drive the delivery process because of the data, which is available. Traditionally, healthcare providers only responded to the care request of their patients. Now, providers can structure and deliver preventive care and routine care, which is more cost sensitive and higher quality.

Healthcare driven by the provider is: higher quality, more cost-effective, preventive and more effective. The only way the healthcare provider can drive health care is with records, which give him/her the capacity:

- To measure outcomes,
- To monitor preventive care and
- To share information with other healthcare partners.

Healthcare driven by the patient is: typically more expensive, poorly managed and thereby less effective. Also, healthcare driven by the patient is typically based on static medical records, which are driven by acute medicine, rather than health maintenance and preventive care issues.

Learning

What most physicians need in order to prepare for the new millennium is, "a change of mind." In *The Fifth Discipline*, Peter Senge discussed what he calls a learning organization and he identified what he believes is the most important word in a learning organization. He said:

"The most accurate word in Western culture to describe what happens in a learning organization is '*metanoia*' and it means a shift of mind...'

"To grasp the meaning of '*metanoia*' is to grasp the deeper meaning of 'learning,' for learning also involves a fundamental shift or movement of mind…Learning has come to be synonymous with 'taking in information.'…Yet, taking in information is only distantly related to real learning.

"This then is the basic meaning of a learning organization…continually expanding its capacity to create its future. For such an organization, it is not

enough merely to survive. 'Survival learning' or what is more often termed 'adaptive learning' is important — indeed it is necessary. But for a learning organization, 'adaptive learning' must be joined by 'generative learning,' learning that enhances our capacity to create."[9]

Senge then addresses what I think is the key issue for healthcare providers who wish to use 21st Century technology to practice medicine; he said:

"The ability to learn faster than your competitors may be the only sustainable competitive advantage."[10]

As technological leaders in healthcare delivery and management, we need a

- "Change of mind" and we need to
- "Learn faster than our competitors."

Doctors need to learn new technological ways of organizing and conducting the business of medicine. They need to allow the power of information systems to change the way they approach healthcare. They need to maintain personal contact; patients are people first and last, but doctors need to see EMR as a powerful tool and not simply as a new and expensive toy. If they do, they will begin the 21st Century with an ability to impact the delivery of healthcare in America.

Healthcare providers must never lose sight of the fact that they are providing care for people, who are unique individuals. These individuals deserve our respect and our best. **Healthcare providers must also know that the model of healthcare delivery, where the provider was the *constable* attempting to impose health upon an unwilling subject, has changed. Healthcare providers progressively are becoming *counselors* to their patients, empowering the patient to achieve the health the patient has determined to have.**   This is the healthcare model for the 21st Century and the computerized patient record is the tool, which makes that model possible.

Managed Care and the Computerized Patient Record

Managed Care is the free-market's response to the realities of the healthcare industry. The first reality is that there is no possibility of healthcare financing and management ever returning to the *laizze faire* style practiced up until twenty years ago. *Someone is going to control and manage healthcare. The only real question is, "Who?"* The financing of healthcare will never return to a system where the medical decision making

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[9]*The Fifth Discipline: The Art & Practice of The Learning Organization*, Peter M. Senge, Currency Doubleday, 1990, New York, pp. 13-14.
[10]IBID, p. 4.

process takes place in isolation and independent from the question of "Who is going to pay for the services?"

Second, because of the expense of technology and of increasing access to healthcare by a larger population, it is possible for healthcare alone to bankrupt the United States government. Unchecked, the cost of healthcare delivery can prevent the balancing of the Federal budget. The financing of healthcare will never return to a system where the medical decision making process takes place in isolation and independent from the questions of, "How much is a service worth and how much is society willing to pay for it?"

Third, this means there are limited resources to continue to provide the excellent healthcare, which the citizens of this country presently receive. Someone has to allocate those resources. Who? The financing of healthcare will never return to a system where the medical decision making process takes place in isolation and independent from the question of, "What is society's responsibility to its most vulnerable citizens as far as access to affordable healthcare is concerned?"

Fourth, the government has assumed, by law, the responsibility of providing healthcare to a certain segment of our population, and the government is not going to surrender that responsibility. The facts of this reality are explained by the AAPCC – the Actual Average Per Capita Cost. This is a calculated figure based on CMS (Centers for Medicare and Medicaid Services) payments for healthcare in the United States. It is calculated on a county-by-county basis for every county in America.

HCFA has benchmarked the cost of healthcare with the AAPCC. To control escalating healthcare cost and to insure quality of care to beneficiaries, CMS has determined to keep its responsibility for delivery of healthcare within the AAPCC. In fact, CMS has determined to realize an "upfront" savings by paying managed-care companies only 95% of the AAPCC, creating an immediate 5% savings in their healthcare cost, but also "locking in" their cost by transferring the risk to a managed-care entity. The Healthcare Trust Fund, which is administered by CMS, is approaching bankruptcy. However, if 50% of Medicare beneficiaries adopt a managed-care form of healthcare delivery, the Trust Fund will remain solvent for the next 100 years.

In the private sector, the principle is the same. While there is no Trust Fund, private companies have budgets and must meet them. Managed care allows industry to budget its healthcare costs by transferring the "risk" to another company. In order to remain competitive, private industry must control healthcare "risk."

The reality is also based on the concept of "risk."

The Health Maintenance Organization (HMO), or another form of managed care, allows the government or private industry to transfer the responsibility for paying for healthcare to the managed-care company. The government or industry can then know that the cost for the healthcare of that population will not cost any more than the AAPCC and/or the

contracted amount. The government and industry has therefore managed its risk by transferring that "risk" to a private corporation. Once a managed-care company contracts with CMS or industry, that managed-care company assumes the"risk for the healthcare of its membership for a year. If the healthcare costs more than the AAPCC, or the contracted amount, the managed-care company loses money; if the healthcare costs less than the AAPCC or the contracted amount, the managed-care company makes money. But, in no case will the government or industry provide more money for the contracted period. For budgeting and planning that is an asset to the government and industry.

In his book, *Against The Gods: The Remarkable Story of Risk*, Peter L. Bernstein chronicles man's experience with making current decisions on the basis of what may or may not happen in the future, the very basis of assuming risk for future healthcare. He states:

"The ability to define what may happen in the future and to choose among alternatives lies at the heart of contemporary societies. Risk management guides us over a vast range of decision-making, from allocating wealth to safeguarding public health, from waging war to planning a family, from paying insurance premiums to wearing a seat belt, from planting corn to marketing cornflakes."[11]

In healthcare risk management, the government and industry has turned over to private enterprise, a responsibility which the government has not been able to manage successfully, i.e., providing quality, cost-effective healthcare in an escalating cost environment. A private company accepts this risk with the idea if it can do a better job than the government. A private company believes it is possible to make a profit, while fulfilling the responsibilities the government assumed and transferred to the managed-care company by contract. This is the reality of current healthcare financing. Once assumed, the risk becomes that of the private company. The company cannot go back to the government for more money.

The second relevant issue is responsibility

Each player in healthcare delivery today is in an unspoken partnership, which has actual and implied responsibilities.

- Payers (managed-care companies),
- Providers (physicians and other deliverers of health services) and the
- Patients (insured).

Each "player" has its peculiar responsibilities. The payers, of course, have responsibility for operating within the "realities" of the AAPCC and/or contract, and for making sure that access to healthcare is maintained. Balancing these responsibilities is a function of the core values and integrity of the managed-care company and of CMS regulations. Providers are responsible for providing outstanding care. In managed care, healthcare is more directed toward preventative healthcare than to treating a problem, which has already developed. Physician must be aware of the differences in cost for care. The

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[11]*Against the Gods, The Remarkable Story of Risk*, Peter L. Bernstein, John Wiley & Sons, Inc., New York, 1996, p. 2.

reality is that care obtained at one place, which is equal to the quality of care obtained at another, can be three times as expensive. To conserve the healthcare resources for the benefit of everyone, the physician's responsibility is now, not only to assure quality, but cost-effectiveness as well.

The patient has responsibilities in the managed-care system as well. In order to get the expanded benefits and cost decrease of managed-care, the patient is responsible for utilizing physicians who have contracted with the managed-care company and who are committed to complying with utilization management guidelines, pre-certification of procedures and review of care. The patient also has a responsibility to avoid habits, which cause increased health problems when and where possible, and to cooperate in obtaining preventive care, which can decrease the cost of maintaining health before serious and costly problems develop.

The Third Relevant Issue is Rights:

Within these "realities" and "responsibilities," what are the patients' and providers' rights? The patient has the "right" to excellent healthcare and to access to needed care. However, the rights of the patient must be balanced with the rights of the managed-care company and with the rights of the healthcare providers who provide care. Likewise, the rights of these latter two groups must be balanced against and with the rights of the patient. The patient has the "right" to choose any PCP (Primary Care Provider) who is in the contracted network of the managed-care company and/or for the IPA (Independent Physician Association). And, the patient has the right to go to any specialist who has agreed to cooperate with the managed-care company.

But, the patient's right to choose his physician cannot interfere with the right of the managed-care company to manage the "risk," which it has assumed. The patient has the right to request that their favorite physician contract with the managed-care company. But, the physician has the right to refuse. And, the managed-care company has the right to expect the patients and providers to comply with the utilization management guidelines and standards required to manage effectively the "risk" the company has assumed.

Providers have rights also. Most physicians have resorted to demanding their right to lead health care management. The new realities result in that demand being rejected. If providers wish to exert influence over the delivery of healthcare, they will have to accept their responsibilities and collaborate with payers and patients.

In the context of these realities and responsibilities, "Does the patient have the right to choose their physician?" "Yes!" Consistent with the patient's responsibilities and with the "realities" of "risk management," the patient should have the right to choose their physician. Should the patient be able to choose ANY physician? If that physician refuses to cooperate with the managed-care company to provide quality and cost-effective care, "NO!" This is not a contradiction of the "patient's bill of rights." It is a confirmation of the right of the patient to have a well-managed and successful healthcare financial system

Politicians must not emasculate managed-care with bills, which violate the principles of managed care. Politicians need to help the citizens of the United States know that we are

in a crisis. Not a crisis of quality healthcare; we have the finest in the world. We have a crisis of financing healthcare. Managed-care is the last stop before socialized medicine. If citizens' lobbies and if politicians don't like the limiting of patients to seeking care from contracted physicians, they will love socialized medicine. Eliminate the ability of managed-care companies to manage their risk effectively with misguide bills and rhetoric, and politicians are voting for socialized medicine.

Managed Care and the Computerized Patient Record

In the context of these realities, rights and responsibilities – and in the context of physicians and other healthcare providers have a "change of mind," how can EMR help us? The standards to which healthcare providers are going to be held in the future are much higher, more rigorous and more enforceable than ever before. For the previous generation of physicians, the question of a Medicare audit was "If"; for the next generation, the question is "When?"

HEDIS, The Health Plan Employer Data and Information Set, is the National Committee on Quality Assurance's standardized set of about sixty performance measures for managed care plans. It has become the industry standard and is at the core of most health plan report cards being developed all across the United States. It is the standard against which all healthcare providers are going to be judged.

The National Committee for Quality Assurance (NCQA) is an independent, not-for-profit organization dedicated to assessing and reporting on the quality of managed care plans, including health maintenance organizations (HMOs). It is governed by a Board of Directors that includes employers, consumer and labor representatives, health plans, quality experts, regulators, and representatives from organized medicine. The NCQA indicates that within two years, they are going to be offering NCQA certification to individual medical groups as well as to health plans. The time will come when NCQA certification will be a critical component for success in the emerging medical marketplace.

National Standards of Care are going to apply – not only in lawsuits, as they are now – but in provider evaluation and contracting decisions. More and more, in addition to board certification, clinic performance as measured by these standards is going to be the entrée to participating in heath plans, as well as board certification. Critical performance indicators, such as HEDIS, national standards of care and NCQA certification are going to be increasingly used as measures of clinical performance.[12]

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[12]The following is one of the standards, which NCQA has established in regard to the signing of medical records. It demonstrates how specific the standard is and how electronic medical records meet those standards. HEDIS states: "For medical record entries dated after July 1, 1999, NCQA will not accept stamped signatures as appropriate author identification. However, NCQA will continue to accept handwritten signatures, unique electronic identifiers, and initials." For more information on both HEDIS and NCQA see www.ncqa.org.

Computerized Patient Records can be utilized not only to meet these standards of care, but also to prove that they are being met. In the thirteen months that SETMA has been using EMR, we have had five HEDIS audits, all of which have resulted in a superior rating. We are gradually building national standards of care guidelines into the database of our EMR, NextGen. In all of these areas:

- NCQA Certification
- HEDIS audits and/or compliance
- Medicare audits and/or compliance
- National Standards of Care

EMR is the only record keeping and patient management tool, which can solve the complex problems facing healthcare providers in the 21st Century.

Quality in Healthcare Delivery

EMRcan help physicians begin to objectively address the issue of quality in healthcare delivery. Quality – everyone wants it, but no one knows exactly what it is. At least one thing that quality is is preventive care. Southeast Texas Medical Associates has 26,000 patients who look to us for primary healthcare. With paper records, if we wanted to check for currency of immunizations, it would take a year. But with CPR, we can do it in minutes, if not seconds.

Computerized Medical Records increase patient satisfaction, which is one of the principle measures of quality by: Making it possible to give the patient a copy of their medical record at the time of its creation. This enables the patient:

- To see how thorough we are.
- To take a copy immediately to a consultant.
- To correct any errors in the database.

Showing the patient how we review their past medical history, social history, habits and family history every time they come into the office gives the patient confidence that all available information is being utilized in their care. This review ability also upgrades the provider Evaluation and Management coding level, not only maintaining HCFA compliance, but also maximizing appropriate reimbursement. Another measure of quality is the maintenance of a continuum of care in which the patient's records are available at every point of care. This is important to patients and payers alike because it reduces redundancy of services and inappropriate testing.

What You Measure, You Value

SETMA used to measure and report daily:

- Productivity,
- Tests ordered,
- X-rays ordered, etc.

Quickly, we recognized that as dysfunctional. In a reimbursement environment, which focused on results rather than tests and procedures, we were promoting failure. In the managed care environment, more attention needs to be placed on:

- Outcome – how rapidly a person recovers from an acute illness and how effectively we managed chronic illness.
- Cost – total cost – including testing, repeat visits, prescribing habits, etc – is a critical factor in how successfully we will make the "turn" which we face. Remember: A curve is not the end of the road unless you fail to make the turn.
- Volume – the above two issues address the quality-of-care-side of the healthcare equation under managed care. As more and more patients have access to care through managed care, success on the business side of medicine will result from our capacity to have excellent outcomes, in a cost-effective way, while taking care of a larger number of patients.

We believe that our previous reports, which focused on total production and collections, could tend to distort these realities. Therefore, we changed that reporting to begin addressing:

- Number of patients seen – this will in no way be an attempt to encourage someone to see more patients in a day than they are capable of seeing. There is no one factor in the equation of quality healthcare and good business practices which can be examined without balancing it with several other factors. Our intent will be to look at the total picture.
- Total charges per patient – We will no longer report total production as a cumulative figure, but will indirectly look at total production as a function of charges/patient.
- Eventually, we will report cost/patient for each disease state, which we treat. At present, we are probably not capable of doing that very effectively.

- Every healthcare provider will need to consider the following with every patient he or she sees:

- Can I treat this patient without expensive testing? This required a detailed and documented "plan of care" which was difficult to achieve with a paper chart created either by handwriting and/or by transcription.
- Can I select a less expensive medication?
- Will I be paid for this test? Because of the schizophrenia of healthcare reimbursement today, many companies do not pay for test, which they demand
- that healthcare providers perform. The ultimate standard of whether we perform a test is whether or not it is good for our patients, but the reality is that if we are never paid for a test or if we are seldom paid for a test, eventually, we will have to cease doing that test.
- Can I follow-up this patient will a telephone call rather than a repeat visit? If the answer is "yes," make certain that that call is made or responded to in a timely fashion.

Each of these needs required a new form of record keeping. Each of them demanded a "real time" generation of a thorough and complete chart, which:

1. Was completed before the patient left the office.
2. Was available for follow-up from the office, the hospital or the provider's home.
3. Captured a new "data set" than had previously been the focus of the patient visit.
4. Could be reviewed by the patient to insure accuracy and thoroughness.

Only EMR achieves all of these goals and more.

The Joys and Thrills of a Medicare Audit

The only efficient way of monitoring compliance with HCFA requirements on Evaluation and Management coding is with computerized patient records. While the issues associated with E&M coding are relatively straight forward, the fact that every patient encounter involves E&M coding makes it critical that the provider be accurate and consistent in this process.

There are only about two hundred pieces of information, which a provider must know in order to do correct E&M coding. EMR provides the best solution to this task. HCFA abandoned SOAP notes because it is difficult to evaluate the medical decision-making process from a SOAP note. HCFA's new requirements for E&M coding evaluation logically follow a patient encounter and allow both the auditor and the provider to analyze a patient's problems systematically.

EMR template design answers the need for records based on:

- Chief Complaint
- History of Present Illness
- Past Medical History
- Social History
- Family History
- Review of Systems
- Physical Examination
- Assessment
- Plan
- Does it meet the "standards of care?"

When fully implemented, EMR makes a Medicare audit a bore.

Review of Southeast Texas Medical Associates' Use of CPR

SETMA's implementation strategy was based on a resolute determination to make the system work and to get all of the benefit from the system, which is available. Currently, SETMA's EMR implementation provides the documentation of:

1. Over 50,000 patient encounters per year.
2. Over 190,000 incoming telephone calls per year
3. The responses to those telephone calls.
4. All x-rays and EKGs – over 5,000 of each per year.

5. All Nursing Home patient visits including hydration assessments, fall assessments, skin assessment, etc.
6. All laboratory ordering and reporting for in-house reference laboratory. We continue to work on interfacing with reference laboratories outside of SETMA.
7. All home health visits in SETMA's home health agency.
8. All physical therapy visits in SETMA's physical therapy clinic.
9. All hospital admissions and discharges with diagnoses and medications, which represents over 22,000 daily hospital visits per year.
10. All medications used to treat a patient, including checking for drug/drug interactions and patient/drug allergies.
11. Return to work authorizations.
12. Waivers of payment for Medicare and Medicaid charges.
13. All referrals to specialists
14. Follow-up instructions for additional or future testing. SETMA has designed a unique electronic tickler file, which enables us to make sure patients who require follow-up testing get it.

SETMA's implementation also has resulted in SETMA's ability to:

1. FAX all prescriptions to pharmacy.
2. E-mail laboratory results to our patients.
3. Communicate with our patients via e-mail.
4. Receive request for appointments, referrals, billing information or laboratory data via SETMA's web site on the Internet.
5. Utilize an electronic super bill for association of ICD-9 codes and CPT codes.
6. Create a billing event automatically from the patient's examination room.
7. Providing patients with educational information automatically at the point of encounter, which is personalized, for each patient and for the practice.
8. Develop extensive Microsoft Access reports on:

   a. Immunizations
   b. Disease state management
   c. Preventive health issues, male and female
   d. Practice patterns
   e. Provider patterns
   f. Payer patterns

9. Compare provider performance as to quality of records and appropriateness of assessment.
10. Incorporate multiple health assessment/prevention questionnaires into the routine office visit.
11. Allow the provider to look at "information over time," following trends for vital signs, laboratory work and procedures.
12. TeleHealth, which allows SETMA to place an automated call to our patients with chronic disease to get interim follow-up from them and/or to make sure they are following our instructions for care.

One of the most interesting results of our implementation is the reviewing of telephone calls with a patient during their follow-up appointment. Patients are fascinated with the fact that we know when they called, why they called and what we told them to do. It gives them confidence that their access to care extends beyond the office visit and it gives them confidence that they have a relationship with a provider who cares. **It is a perfect illustration of how "high tech" can extend and expand the meaning of "high touch."**

Implementation Strategy

When SETMA implemented the CPR, we determined to do it a little differently than others. We knew that it was not possible to "be a little pregnant," so we abandoned the idea that we would start using the EMR with the last few patient of the day. We began with the first patient of the day on January 26, 1999 and, as a result, in four days, we were seeing all of our patients on the CPR. For the past fifteen months, every patient at SETMA has been seen on the CPR.

SETMA drove the process of implementation with the guiding principle that we refused to accept anything but complete and total implementation. We published a booklet entitled, *More Than A Transcription Service: Revolutionizing the Practice of Medicine with Computerized Patient Records*. We gave copies to our providers, our patients, and our payers, to anyone who would listen. We talked implementation; we dreamed implementation, and, we implemented. It was with "sheer dogged endurance" that we accomplished the task. It was hard and it cost a great deal of energy, money and effort, but now that it is done, we couldn't be more pleased. And, now, all of the things, which were so difficult, are easy; all of the things, which took a great deal of time, now almost seem to happen by themselves.

Pitfalls to avoid

If a practice is to be successful in implementing CPR, they will, for a brief time, give more attention to EMR than perhaps it seems they are giving to their patients. But, ultimately, the provider must not give more attention to the record than to the patient. We must never be in the position of saying, "We're sorry, madam, that your husband died, but here's a copy of his outstanding computerized patient record." "High tech" does not require the sacrifice of personal, human contact. In fact, after the implementation process, "high tech" will promote "high touch." But, in the short run, the commitment to EMR must be at the top of everyone's list.

On the other hand, the provider cannot give more attention to the patient than to the record. Healthcare providers never want to find themselves in the position of saying, "I know we did that examination, but I don't have any record of it." The balance between "high touch" and "high tech" is important, but in the long run the two are complementary not conflicting.

Another pitfall to avoid is failing to utilize the strengths and capacities of the CPR. If the EMR is only a gloried transcription machine, it isn't worth it. In *The Fifth Discipline*, Peter Senge also declares, "The more complex a problem, the more system the solution must be." The practice of medicine and healthcare delivery are so complicated today they

require systems solutions.

- Without the ability to track HEDIS data, it will be impossible to "prove"that you are doing quality work.
- Without the ability to examine patterns of behavior among the providers in your group, it will be impossible to improve the quality of care.
- Without being able to monitor the behavior of your patients, it will be impossible to affect the health of a population of people.

Without systems, none of these things can be done effectively. In the future, primary care doctors are going to be a cross between clinician, counselor, epidemiologist, and business man/woman. To integrate each of these functions, without neglecting the attention, which the individual patient deserves, systems are going to have to care the burden of the capturing, documenting and the analyzing of the data necessary to accomplish each of these functions.

Selling the CPR

Once a healthcare provider has been "sold" a EMR system, the sells task has only begun. Any successful implementation of a EMR requires the "selling" of the idea to several different groups. SETMA has never stopped this selling process to

- Our providers,
- Our patients
- Our payers
- Our community.

SETMA's patients now expect to have a record, which is complete, accurate and accessible. Their expectations are such that quality care for them begins with the capturing of precise and accurate data about their healthcare events whether in the clinic, on the telephone or in the hospital. SETMA's healthcare providers now expect to challenge every patient with preventive healthcare issues many of which are irrelevant to the event which precipitated the current encounter, but each of which addresses long-term health needs of every patient. SETMA's customers, the payers, who pay our charges, are coming to expect the kind of documentation which gives them the ability to properly access the quality of care and appropriateness of care which their membership is receiving from SETMA providers.

The selling of the EMR not only encouraged each participant in the healthcare process to "buy in" to the concept, but it also put SETMA in the position of "having to" succeed. Once we announced that we were going to do CPR, and once we "bragged" on what it would accomplish for our practice and our patients, we had no choice but to succeed.

Selling the EMRis not unlike the Spanish Explorer, Hernan Cortez who arrived on the Yucatan peninsula in the year 1519. One historical account relates the events:

"The Spanish soldiers were divided between their desire for fame and wealth and their fear of defeat and death. 'We're only 500,' they told Cortez, and he answered, 'Then our hearts must be doubly courageous.' 'We are dying of fevers and Indian attacks,' otherscomplained. 'Then let us bury our dead at night so that our enemies will think that we are immortal.'

'Let us go back to Cuba, let us sail back,' others said in frank mutiny. 'But there are no ships,' Cortez answered, 'I have sunk the ships, right here. There is no way but up, there is no retreat. We must go forward to Mexico and see if this great Montezuma is as great as he proclaims himself to be.' So, the soldiers cheered and acclaimed Cortez as their leader, and all cried 'Forward, to Mexico, to Mexico!'"

Cortez insured the success of his mission by making it impossible for his troops to retreat. He burned the ships. In many ways, the "selling of the CPR" is like that. It makes going back impossible and makes going forward to success the only alternative.

The Information Systems Department

Whether the IS Department is one person who "knows more about computers than others," or is a fully equipped department with network and systems engineers, the issues are the same. The IS Department exists for the support of healthcare delivery. The goals and objectives of each IS Department must be spelled out, but some are generic:

1. To facilitate the effective and excellent treatment of all patients.
2. To securely store all patient records.
3. To make the patient records available at ALL times, with minimal, ifany, interruptions because of system complications.
4. To make all changes and/or upgrades to the system at times when thereis minimal need for the records, i.e., after-hours and/or weekends.
5. To have a "can do" mentality about solving new problems and/or providing new functionalities for the system.

The IS Department exists for the care of patients, not the care of patients to support an IS Department. While this distinction may seem trivial, it has tremendous practical implications.

Interim judgment of value of EMRand particularly Clinitec's NextGen

It is the future and the future is now. There is no way to do managed care effectively without EMR and there is no way to meet the documentation and preventive care demands of all health plans in the future without CPR. If healthcare is going to be driven by the provider, it is going to be so because of excellent records and particularly excellent Histories and Physicals. The only way both to integrate healthcare databases and to utilize that database at every patient encounter is with CPR.

Now that SETMA is virtually paperless, we find ourselves to be more efficient and more excellent in all areas of our practice. Without CPR, we could not be consistently performing at the level, which has become the acceptable standard in our practice.

EMR is not easy to implement, and it is not easy to modify an existing practice to comply with Managed Care principles, but the two complement each other and make it possible to be successful in the new healthcare environment.

In closing, let me share with you a quote from a young attorney with whom I shared the idea of "sinking your own ships," as a metaphor for implementing EMR at SETMA. Speaking of the Cortez story, he said:

"I have always loved that analogy. I was wondering if other doctors realize the implications of what SETMA has done. By showing that it is technologically attainable to have a paperless office, with electronic safeguards against giving contraindicated medicines and losing or misplacing files, you have in essence raised the standard. Doctors with paper files can no longer claim to be acting prudently, when information is missed due to legibility or misplacement of paperwork, since there is an available cost-effective alternative.

"As an example, plaintiff lawyers typically compare a company with an unsafe working condition to DuPont, which has some outstanding safety procedures and a good record, to the chagrin of other industry. SETMA may find itself being the 'DuPont' of med/mal cases in the future.

"You have burned your ship, but I wonder if your colleagues realize that their sails are on fire as well?"

This summarizes the subject as well as it can be from one standpoint. At least one standard of excellence for healthcare delivery in the 21st Century is going to be the quality of records, which a healthcare provider maintains. And, no other system of record keeping can compete with electronic medical records.

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