

# Electronic Medical Records as a Strategic Response to Environmental Triggers in the Primary Care Private Practice: A Pilot Case Study

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## Citation

D Beazley, J Lemley. *Electronic Medical Records as a Strategic Response to Environmental Triggers in the Primary Care Private Practice: A Pilot Case Study*. The Internet Journal of Healthcare Administration. 2006 Volume 5 Number 1.

## Abstract

Modern medical private practice is facing unprecedented trials due to major macro-environmental challenges occurring during recent years. Survival and viability of these practices demands appropriately deployed strategic management and operational changes. Economic, political, and legal triggers influence corporate life cycle management forcing the medical private practice to seek entrepreneurially flexible yet stable corporate strategies. This paper discusses economic, political, and legal triggers in modern health care. Additionally, this paper provides a pilot survey of physicians and nurse practitioners, who are owners or employees, in a rural, medical practice. The survey explores their perceptions of the healthcare environment surrounding the private practice specifically, and discusses the possible deployment of electronic medical recordkeeping as a response to threats in the environment.

## INTRODUCTION

Today's modern medical practice is in a state of significant evolution transforming from a competitively oligopolic market to one of mature consolidation (Kottler & Keller, 2006). Exposure to legislative, economic, and technical forces has altered the strategic orientation of the rural, medical private practice (Tichy, 1983). Facing obsolescence in a maturing, volatile market, the rurally based private practice is threatened by diminishing revenues and technological hazards. Consumers have witnessed in the last 20 years, the consolidation of small privately held hospitals into vast health care systems and corporations (Longest, 2001). Not exempt from similar pressures, the medical private practice, likened to the small professional firm must calculate its response to these environmental variables in order to maintain health and viability (Masurel, E. & Montfort, K., 2006). The rural private medical practice's corporate survival depends not on sheer strength and size but the strategic use of anticipation, adaptability, and evolution (Thompson, Strickland, & Gamble, 2007). Central to the adaptability and resilience of the private practice is the leadership and elasticity of the core executive physicians and nurses in the practice (Chaharbaghi, K. & Adcroft, A. Willis, R., 2005). This paper examines the economic, political, and legal landscape of today's medical private practice through the personal experiences of seven medical doctors and six

nurse practitioners (Adizes, 1988; Flamholtz & Randle, 2000). Specific elements in the economic, political, and legal domain are identified along with the practice management strategies and infrastructure development of four, rural, medical private practices toward the use of electronic medical records (EMR) (See Table 1).

## Figure 1

Table 1: Convenience Sample Demographics

Practice	# Physicians	# Nurse Practitioners	Years in Operation		Patient Encounters Per Year	Status
			EMR / No EMR			
A	4	0	46	EMR	20,000	Private
B	1	1	23	EMR	7,500	Private
C	1	2	15	No EMR	25,000	Private
D	1	1	4	No EMR	7,500	Private

Note. The above table identifies the demographic characteristics of the convenience sample taken for the pilot study. Examined are four medical practices, the number of physicians and nurse practitioners queried, the number years operational, whether the practice owns an electronic medical record (EMR) system or not, numbers of billable patient encounters per year, and the legal status of the practice.

## LITERATURE REVIEW

Theorists (Thompson, Strickland, & Gamble, 2007) assert that environmental triggers act as a stimulant to influence strategic change in organizations. These changes are often

quantum rather than incremental, creating second-order changes that alter the core of the businesses (Senge, 1994). One significant precursor influencing barriers to entry and success is the state of the product market and market life cycle (Kotler & Keller, 2006). In this example, the healthcare market, and more specifically the medical private practice, has endemic to its nature a mature product life stage with movement toward cost-consciousness, quality, standardization, and consolidation (Adizes, 1988; Kotler & Keller, 2006). Triggers forcing this movement are found in the legal, technical, and economic landscape of the rural private practice.

## MARKET LIFE CYCLE

Theorists assert that markets evolve through stages akin to growth, stability, and decline (Kotler & Keller, 2006). The staging of these cycles are identified in Figure 1. Pertinent to the healthcare market is the phase of maturity in relation to stability, which had endemic to its nature the continuum of characteristics of competitive oligopoly, market fragmentation, and ultimately consolidation into precise products and markets. The mature market places pressure on the industry toward price-consciousness, branding, and ultimately, cost-consciousness in production. These characteristics are mirrored in the medical industry in general in the differentiated specificity found in health care systems in regard to branding toward medical specialties, and is mirrored in the rural private practice as localized competitive oligopolies. The mature market forces the private practice especially in the rural market toward specific differentiation and strategic orientation to produce the least cost provision of medical care possible. Coupled with environmental triggers that compromise reimbursement of services, the rural private practice is forced toward new and unexplored markets and progressive technology to secure survival. This places a burden on the small, rural practice which must create efficiencies while expanding into innovative technologies and customer services that reflected a branded image of quality.

**Figure 2**

Figure 1: Private Practice Life Cycle

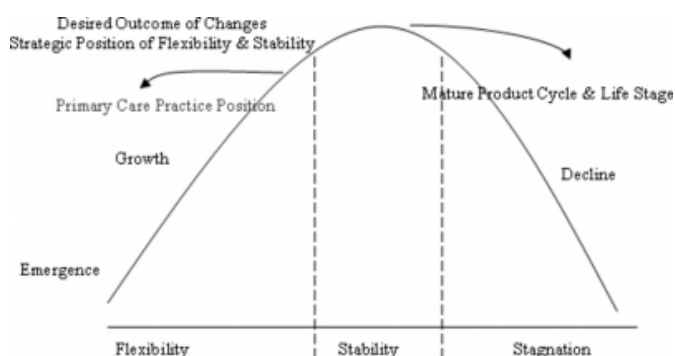


Figure 1: The above figure illustrates the life cycle bell-shaped model. In this example of the medical private practice, the product and market cycle and business life stage are shown in a mature position. Adapted from *Corporate Lifecycles* (1988) by I. Adizes, Paramus, New Jersey: Prentice Hall and *Marketing Management*, 12<sup>th</sup> (ed.), 2006, by P. Kotler and K. Keller, Saddle River, New Jersey: Prentice Hall.

Economic triggers. Markets that are mature are by nature influenced economically, politically, and legally (Tichy, 1983). Healthcare economics is triggered by an aging demographic (Kongstvedt, 2001), managed care paradigms (Jacobs & Rapoport, 2004), and rising costs of care and technology (Mfemfemf, 2006). Paradoxically, in contrast to the growth of health care expenditures, medical private practices are subject to increasing financial strain as government sponsored funding decreases, practice stability hinges on quantity and efficiency, and there is a measurable increase in administrative costs of providing business. Concomitant pressures include capital improvements for innovation and technology and changes in co-pays and deductibles forcing consumers to restrict healthcare purchasing decisions (personal interview Dr. James Lemley, November 30, 2006). Reports by the Massachusetts Medical Society (2006) demonstrate a consistent, steady decline and deterioration of the medical private practice as a viable business entity, citing factors such as deteriorating applications to medical school as an indicator of this bias. Also illuminating this trend is the decline of newly trained physicians toward private practice showing a favoring toward salaried jobs in health service organizations (Bureau of Labor Statistics, 2006-2007). From Table 1 and 2, the four rural practices surveyed for this pilot study identified macro-environmental triggers that are consistent with the national experience. Declining reimbursement specifically

for primary care services and increased requirements by third party payers were unfailingly reported as a primary threat to the operation of these practices.

**Figure 3**

Table 2: The Specific Challenges and Stressors Threatening the Private Practice

Practice	Challenges
A	Decreased reimbursement, liability, increasing requirements by third party payers, increasingly complicated patients with multiple medical problems on large numbers of maintenance medications.
B	Malpractice, falling reimbursement time, insurance and governmental regulations, and infringements on drug prescribing.
C	Hospital practice, having to increase the number of patients per day to equal last year's pay.
D	Lack of appropriate reimbursement for primary level of care, amount of paper work involved in care of patients, loss of autonomy as a family physician, insurances "see me" as a referral base and an outpatient medical provider only, punishment for providing expansive care for patients to provide quality.

Note: The above list identifies those challenges and stressors that were expressed by the group of physicians and nurses in the convenience sample, working in small, rural Georgia practices. The responses were made to the question, "What are the three or four greatest challenges or stressors threatening your private practice?"

Legal triggers. Over the past three years significant discussion, analysis, and debate has occurred at the national level as uncontrolled and unregulated tort and liability issues have been recognized as having profound adverse effects on the health care delivery system (The Effects of Tort Reform, June 2004). One consequence is that unnecessary health care spending in the form of defensive medicine is not only a significant cost driver but also places patients at increased risk for complications from clinically redundant and excessive procedures (CMS, 2005). Additionally it was noted that rising malpractice premiums largely driven by increasing jury awards is severely limiting access to critical specialists as well as primary care in some areas of the country. Other indirect costs include physician's limiting the scope of their practices, and early retirement producing jeopardized, attenuated access to care for patients. Small medical practices are also facing financial pressures due to significant spikes in liability premium rates forcing absorption into larger practices or direct employment. In summary, rising malpractice premiums largely driven by increasing jury rewards are increasing the cost of health care and adversely influencing physician practice. In the small rural practice liability concerns are triggered by increasingly complicated, chronic medical conditions in a rapidly expanding baby-boomer population where practice survival is dependent on efficiently derived quantity. Physicians and nurse-practitioners in the pilot study sample indicated legal

issues, precisely those dealing with aging, chronically ill patients, heavily medicated with maintenance drugs, and complicate multi-diagnostic conditions increasing the need for effective and efficient quality processes and systems (See Table 2).

Political triggers. Since the 1970's, health care has been increasingly politicized (Starr, 1982). As government is a major buyer of health care services and with medical expenditure comprising a growing percentage of Gross Domestic Product, the health care industry is under increased scrutiny. With improved, expensive medical technologies available, expanding aging demographics, and liability issues synergizing with the burden of the uninsured and underinsured, a perfect storm of demand exceeding supply coupled with inability to pay has emerged (Citizens' Health, 2005). The universal health care debate contributes much fodder for deliberation and posturing; yet, truly is a multifaceted political quagmire with no easy solution. Political changes that have been combined with the managed care paradigm have altered power balances away from the physician toward the institution of medicine. For example, a major challenge expressed by the physicians in the survey of this paper was a prevailing sense of loss of autonomy of primary care physicians and a narrowed influence on the totality of patient care (See Table 2). In a position paper published in 2006, the ACP (Reform of the Dysfunctional Healthcare Payment and Delivery System, 2006) expresses concern for the impending collapse of the primary care system. The ACP has documented an alarming decline in the rate of physicians going into primary specialties in favor of more lucrative subspecialties. There is little doubt that system changes will continue to occur as the present system evolves. While advocates for major groups such as government, organized medicine, special interest group advocacy, the insurance industry, and big business will have loud and influential voices in the political decision-making process, it is hoped that ultimately prudent decisions will prevail. To exacerbate further primary care issues, Bush's 2008 budget reduces Medicare Spending by \$76 billion, cuts Medicaid by \$26 billion, and uses a formula for Medicare physician payment that translates into significant physician pay cuts in 2008 and beyond (AAAFP, 2007). Health care business, in particular, the rural primary care private practice is impacted due to these volatile changes in the political landscape. The private practice observing a strategic posture to the economic, political, and legal triggers in the macro-environment employs processes that includes evaluation and

change in sometimes dramatic ways.

## **PRIVATE PRACTICE LIFE CYCLE**

In today's medical industry, traditional less-entrepreneurial businesses have endemic to their environment mature characteristics (Adize, 1988). The advantage to the medical private practice as a small service firm model is the ability to adapt and adjust to market forces (Masurel, E. & Montfort, K., 2006). The practices queried in the pilot sample have patient volumes of 7,500 to 25,000 per year creating gross revenues generally of less than .5 (M). This places the physician-owner in the position of entrepreneur. A kindred quality to the process of change is the awareness and willingness of leadership in the manner of physician professionals and practice managers to the demands of change (McAlearney, Fisher, Heiser, Robbins, & Keller, 2005). This willingness is especially difficult in mature less entrepreneurial practices when culture dictates status quo practices. In the small professional firm, the culture is one of continual growth with forms of change demanded that are second-order and quantum. Therefore, this group is confronted with a mature industry and product model but with practices that function at a level that may contextually resemble chaotic growth. Endemic to business in the growth stage is the lacking of specific infrastructure and systems that are commonly missing at this level. For example, complex systems such as information systems may be missing as less sophisticated pen-and-paper systems are more commonly found. Therefore, the movement to the position of "intentional flexibility and stability" requires medical and administrative innovation that obliges both the physician owners and practice managers to alter expectations, clinical behaviors, and administrative initiatives.

As noted in Figure 1, the life cycle of the business is illustrated to be in a state of flexibility during the stages of emergence and growth, in stability during maturity, and in stagnation during decline. Posturing organizational development toward a position of flexibility and stability is generally uncommon and must be strategically sought by the leadership of a business. A healthy business maintains a degree of flexibility and entrepreneurialism, in combination with stable characteristics that build stability and longevity. The rural private practices identified in this paper are in a medical product life cycle of maturity and are at risk for financial stagnation and business decline if not for the ardent strategic adjusts that are recommended. The opted strategic

culture is one that utilizes business components that affect stability and flexibility with the corporate goal having the core attributes of building greater efficiency, cost-consciousness, economic stability, and quality. Adjustments that have been proposed or developed by the sample of respondents in the pilot study include initiatives that mirror changes reflective of mature market and growth market strategies. Mature market strategies include: a.) limits on percentage of Medicare, Medicaid, and HMO patients to total patient mix, b.) increase in private pay and private industry payer mix to total patient mix, and c.) decentralization of practice authority, and growth stage strategies include: a.) implementation of electronic medical records, and b.) capital improvement in information system innovations (personal interview Dr. James Lemley, November 30, 2006). These adjustments show a general willingness for strategic change. Specifically the pilot study examines the influence of information system innovations as a facilitator of efficiency and change.

## **PILOT STUDY RESEARCH**

The impact of environmental triggers as a stimulus for innovative decision-making and strategic-decision making in the primary private practice was questioned. A scarcely researched subject, there is little research on the impact of environmental stressors as triggers toward more aggressive or innovative business interventions in the primary care private practice. Secondly, the impact of these triggers to drive physician decision making regarding electronic information systems is pondered. Specifically queried are the barriers and opportunities that are presented with the decision process and challenges with implementation of an innovative information system. In an effort to test this paper's questions and to delineate macro-environmental triggers for the private, rural practice, a pilot survey of active primary care practices was constructed. A pilot study is chosen due to its ability to test ideas and inductively develop theory regarding this subject matter (Maxwell, 2005). Conducted during January and February of 2007, the pilot study work is used for the development of themes, issues, and considerations in the perceptions of physicians and nurse practitioners in the management of their businesses.

Convenience sampling. For the purposes of this project, a survey was constructed to assess the perceptions of physicians and nurse practitioners in the primary care environment. A test group of (7) physicians and (4) nurse practitioners affiliated with a rural hospital in Georgia was

selected for this preliminary study. Based on convenience sampling (Maxwell, 2005) the group was “purposefully” (p. 88) selected due to the availability of the practices to the author and intuitively chosen as the groups share similar characteristics of ownership, size, and location. Initially a wider distribution of survey responses was desired; however, national organizations and other broader contacts were hesitant to participate in this preliminary study for a variety of reasons. For the purposes of a pilot survey, the project was continued as useful data could still be extracted and analyzed from the target group.

**Research propositions.** The following research propositions are offered for this study and offer insight into the informational goals of the study:

1. Private, primary care medical groups perceive themselves as being subject to the same macro environmental triggers noted to be a national concern, yet may perceive and articulate them differently.
2. Electronic medical records is perceived to be a viable strategic maneuver to address many of the environmental stressors but is perceived to have tangible barriers to implementation.

**Geographical description.** The practices queried are located in a small, rural community situated on the periphery of the rapidly expanding second largest metropolitan area in Georgia. The medical community services a diverse population as it is positioned on the threshold of a large rural area with few medical resources and the community transitions to an urban environment with three major tertiary care centers. The groups are primarily associated with a 40-bed, aging Hill-Burton hospital with limited resources and capabilities that competes with the three large tertiary care facilities. The composition of the population served is comprised of these groups: (60%) Medicare and Medicaid, (10%) state health benefit, and (30%) insurance and self-pay. There is little capitated managed care penetration in this market.

**Sampling demographics.** Demographic questions for this survey are used to assess aspects such as the age of the practice and number of providers. The questions include a.) number of physicians and nurse practitioners b.) years of practice existence, c.) approximate number of patient encounters per year, and d.) privately-owned, hospital-

owned, or publicly-owned. The results are noted in Table 1.

**Survey questions.** The sample of physicians and nurse practitioners were queried the following questions in an informal interview format. The questions were divided as yes or no decision-tree based on whether the practice used an electronic medical record system.

For those respondents answering yes to the following question, “Do you currently own an EHR?” the respondents were asked the following six questions.

1. How long have you had the present system?
2. What needs or threats motivated you to implement the system?
3. Has EHR positively addressed your issues?
4. What have been the biggest barriers to implementation?
5. What have been the most positive aspects of implementation?
6. What have been the biggest negatives?

For those respondents answering no to the same question, the following two questions were asked.

1. Are you considering EHR purchase and implementation? What is motivating your decision?
2. What are your barriers?

The last (2) questions queried for perceived practice macro-environmental triggers and openness to further participation.

1. What are the three or four greatest challenges or stressors threatening your private practice?
2. Would you be willing to answer additional questions if needed for the report?

## **LIMITATIONS OF STUDY**

Limitations of the study include those forces which contributed to a small sample. The primary barrier was the hectic work schedules of physicians and nurse practitioners in primary care. The complete list includes resistance to email survey work, lack of support for larger samples, and

cost of face-to-face interviews. The following list describes the barriers in detail:

Catching busy physicians to query. By nature, actively practicing, primary care physicians have many demands on their time and attention. Even though the physicians queried were members of a relatively small medical group who expressed interest in participating in the project when contacted directly, getting responses in a timely manner was difficult. In fact, three to four weeks were required to obtain the data for this study which also required multiple reminders, repeat e-mails, and personal phone calls

Survey performed via direct e-mail questioning. The e-mail format enabled ease of dispersion of the survey as well as was convenient for the respondents. Unfortunately, e-mails may also be overlooked, lost in a crowd of spam, or simply avoided. Replying to an e-mail survey also required a level of technological expertise to complete which surprisingly was a challenge to one of the physicians.

Attempts to expand to broader groups. During the planning phase of this survey, the author felt that access to other practicing primary care physicians would be relatively easy given high profile national and state professional organizations as well as other study groups. Upon attempts at implementation, barriers were quickly encountered, as national and state contacts were hesitant to avail their contact lists. With completion of a pilot survey these contacts will be more amenable to assist in the future.

Mail, face to face, cost. During all phases of this study, a particular resistance to mail surveys was perceived. Busy physicians are inundated with mail and paper work. A simple questionnaire would be expensive to print and mail for a relatively low yield. Face-to-face interviews were also not performed due to the time factor and because of presumed interviewer bias.

## **PILOT STUDY FINDINGS**

Groups with EMR. Of the survey group, only two practices had implemented electronic medical records, one for nine months, and the other for only two months. The groups that took the leap of faith to implement the EMR reported being motivated by basically two factors, reimbursement and liability. One of the motivating forces for the implementation of EMR is the national trend by insurance companies and Medicare to have different reimbursement rates based on quality outcomes and pay for performance

(P4P). In the very near future outpatient, primary care will submit clinical data as well as activity and office charges to third-party payors. Physicians will then receive reimbursements or even bonuses theoretically commensurate with compliance to nationally recognized quality of care parameters. The only practical way to report the massive amounts of data dictated by third party payors is by implementing an electronic medical record with the capability to process the required information. Although the groups had only recently begun EMR, improved coding (which is tantamount to charges and reimbursement) was immediately noted after deployment.

Liability issues also appeared to be strong motivators in this test group. Workflow issues such as telephone call management and improved, retrievable patient care documentation theoretically are enhanced by electronic medical records. The surveyed practices noted that documentation of the medical record was indeed improved. Through enhanced, accurate documentation, risk management issues common to medical practice are positively addressed.

Negative aspects of EMR implementation were also queried. Respondents related that the cost of EMR implementation was a major barrier. Implementation costs would have to include hardware, software, training, down time, contracts, consultants, and others could easily mount to in excess of \$40,000 per provider. For small practices without existing information technology departments and who lack in economies of scale these overhead start up costs are formidable.

Another negative identified was the learning curve of electronic record use. The use of electronic medical records in the exam room with every patient encounter both in the office or on the phone is a technologic leap for providers. Documentation of the encounter now requires interface and input into the electronic system. A steep slope of the learning curve indeed exists as providers engage this relatively new and evolving technology that not only affects their reimbursement and documents their quality of care but also is present in the exam room.

Groups Without EMR. Two of the groups surveyed did not have electronic medical records implemented at the time of the survey. Both groups indicated that electronic medical record implementation was an inevitability and indeed may be mandatory in the next few years. One group expressed the

opinion that not implementing electronic medical records means that they are falling behind.

Barriers to electronic medical record implementation were expressed as 'routine problems with implementation' meaning such problems as conversion, loading, and training. The perception of an intimidating learning curve adversely affecting productivity was also expressed. The overall cost of an electronic medical records system was a significant barrier as well as the fact that there is a relative lack of knowledge of electronic medical records. In fact, there is still a lack of standardization of electronic medical record systems, lending credence to one interviewee's response, 'It is not that I can't afford an EMR, I just can't afford to buy the wrong EMR.'

## **CONCLUSIONS FROM THE SURVEY**

Interviews of primary care medical providers during a pilot study demonstrated symmetry of rural providers with national concerns. As expected the primary care groups identified similar macro-environmental triggers, including declining reimbursement, increased accountability, lack of autonomy, and increased liability. Additionally the practices identified that increases of multi-complex patients required the practices to provide more care for declining reimbursement. These escalating demands have prompted either movement to electronic medical records systems or a concern that the lack of an EMR may be damaging to the practice well-being. Those practices abstaining from EMR indicated obstacles such as cost, knowledge, and a learning curve.

## **CONCLUSION**

While national surveys reveal medical care as an industry is lagging behind other service sector professions in the use of electronic and internet based processes, environmental triggers including patient preferences and satisfactions are pulling the medical profession toward this technology ("Few Patients", 2006). Strategic changes that alter the nature of a provider's craft are vital to maintain viability in the primary care industry. Second-order change in the way of changing how the business of medicine is conducted is necessary to meet the spiraling demands of the environment. The movement toward EMR systems and process presents as an option for improving quality and effectiveness. The EMR performance allows for improvement in key areas. The information technology investment serves the practice with benchmarking opportunities for chronic medical conditions

using national standards. The improved documentation and tracking that electronic medical records provides enhances patient care (Wachter, 2006) as well as improves reimbursement. When government pay for performance criteria is established, computerized medical records systems may present as a necessity for small practice viability. Digitizing the practice will also provide flexibilities for future practice growth and development. When the opportunity provided by EMI over shadows the obstacles experienced by primary care providers, a movement to this technology may be expected. In the interim, practitioners struggle with multiple political, economic, and technologic triggers that complicate healthcare delivery and viability.

## **FUTURE RESEARCH**

The authors of this paper intend to further the research described in this paper. There is reason to assume that surveys and interviews of multiple internal medicine practices in both rural and urban environments will provide evidence as to the strategic adjustments customary in today's medical practices. Additional experiential evidence with primary care practitioners may provide insight into the turning point catalyst for electronic medical record implementation.

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