

PRENATAL CARE: A STRATEGIC FIRST STEP TOWARD EMR ACCEPTANCE

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ABSTRACT

Rather than turn a practice upside-down with a “big bang” implementation or replace old workflows with entirely new ones, executives must survey and understand those clinical areas where the needs are real and the value of an electronic medical record to clinicians is immediate and obvious. For these and other reasons, obstetrics may be the best place to test an electronic medical record.

KEYWORDS

*Electronic medical record (EMR)
Physician relations
Change management
Prenatal care record
Access to patient record
Consistency of care
Workflow improvement
Cost reduction*

Although the patient care and organizational benefits of electronic medical records (EMR) are well-known, it has been a challenge for many healthcare information executives to effectively nudge clinicians into adopting EMRs. Much of this resistance results from the clinicians' perception that EMRs lack immediate and obvious value to them personally and professionally. At the same time, clinicians often believe that implementation of almost any EMR would likely lead to a disruption of their workflow that only wastes more of their valuable time.

Until the “perfect” EMR is developed that convincingly addresses both of these clinician perceptions, it may be both practical and prudent if healthcare information executives adopt a strategic,

graduated approach to the introduction of information technology into any clinical practice environment.

Rather than turn a practice upside-down with a “big bang” implementation or replace old workflows with entirely new ones, executives must survey and understand those clinical areas where the needs are real and the value of an EMR to clinicians is immediate and obvious. If the needs of any clinical area relate to only one specific area of a practice, executives must be willing to quickly move ahead with an existing vertical product that will bring more smiles than tears, in spite of the fact there are inevitably other needs not addressed by a limited and focused implementation.

One strategy is to first introduce affordable technology that is not threatening or disruptive, and that does not cause too much pain. When a successful introduction of information technology is implemented, no matter how small in scope, happy users will make the next implementation easier, and administrators will encounter less resistance. For example, for practices currently devoid of even basics like browsing the Internet or e-mail, it would be unwise to jump to a completely computerized clinical solution when users are not yet even comfortable with these basics. Only when the staff have acclimated to the tools required for more sophisticated applications should the practice take the next step.

Obstetrics — A Practical First Step

One has to look no further than the practice of obstetrics to find an ideal clinical area in which to take a first practical step to improve care using information technology. First of all, obstetrics is an area where there is a great need to improve access to current clinical information. The flawed access that exists today is unacceptable. Second, the prenatal care environment is ripe for situations in which patients fall through the cracks, and action is urgently needed to prevent that outcome. Third, the logistics and workflow patterns of obstetric care lend themselves to a focused computerized solution that borrows the best from existing workflow patterns. And finally, it makes economic sense to invest in technology that cuts office expenses and that may help prevent or at least deter malpractice claims in one of the most litigious of clinical specialties.

Implementing a solution to address all of these concerns should not have to wait for years until the perfect universal healthcare application evolves that does everything, does everything well, and pleases all clinicians.

Besides these primary reasons for choosing obstetrics as a place to pilot test an EMR, there are two secondary reasons this specialty is practical. One, unlike other areas of outpatient medicine where billing at each visit can be complicated and burdensome, billing in obstetrics is relatively simple. Almost all of the care is billed as a one-time global fee at the end of pregnancy, no matter how many times the patient visits or whatever her level of care. Second, although prescribing medications safely is a major concern in many clinical areas, by the very nature of the patient's condition (i.e., young, healthy, and pregnant), prescriptions (except for vitamins) are the exception rather than the rule. As a result, there's little need for complicated and tedious prescribing functionality in a specialty where practitioners are particularly sensitive to the impact of any drugs on the mother and developing fetus.

Here is the rationale for reviewing

current care practices and implementing a technology solution in obstetrics now, as first step towards introducing more ambitious clinical care systems for an entire practice.

Access. There are almost no other clinical areas where a patient will interact with a health system so many times, where information sharing between providers occurs with such predictable regularity, and all within a finite period of time. A pregnant patient will visit her provider's office an average of 14 times and probably calls at least that many times during about eight months of care. Prenatal visits and evaluations typically occur at several different physical locations and

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sometimes involve each practitioner in a group. It is also inevitable that the patient will present randomly at any hour of the day to a labor and delivery unit or to an emergency department. It is a requirement of quality care that the prenatal record always be accessible and legible at all of these locations and times when the patient arrives.

However, this requirement for access is rarely met completely because most of the prenatal care delivered in the U.S. is based on paper prenatal records. Because outdated information at the hospital is better than none at all, it has become a customary practice to make copies of the prenatal record at various milestones during pregnancy and transport them somehow to the hospital. Many practices send a copy of the prenatal record to the

hospital only at 36 weeks gestation, while more meticulous practices send copies after the first prenatal visit, at 36 weeks, and weekly thereafter until the patient delivers. Besides being labor-intensive, this copying process deliberately introduces multiple “snapshots” of records circulating between the office, satellite offices, and maybe several different hospitals.

The misadventure of pregnant patients coming to a hospital before 36 weeks gestation, reporting premature labor or bleeding, and no one knows anything more about them than what the patient tells them, occurs on a daily basis across the U.S. It is quite easy to imagine other scenarios where a patient coming to a hospital might be treated inappropriately based on old information or with no information at all, even though the information is locked up miles or even minutes away. The current record system for prenatal care unfortunately locks away information precisely when it is needed most.

To solve these prenatal record access problems, the record should be immediately available, up-to-date, and legible whenever the patient comes to a hospital, birthing center or office, regardless of how far along she is in her pregnancy. In addition, it would be helpful if the patient's provider also would have access these records away from the delivering hospital or office, for example, at home or the “wrong” hospital while covering other patients. A secure information system that makes the current prenatal record available to authorized clinicians using any type of Internet connection would solve prenatal record access problems.

Consistent care. The environment in which prenatal care is often delivered is typified by largely routine, high-volume and brief encounters with relatively healthy patients. This care is sometimes provided by rotating “anonymous” providers who may see the patient once and then never again, or the care could be delivered by clinicians (e.g., obstetricians, family practitioners, midwives, nurse practitioners, residents, medical students) whose experience and

expertise may not match that of their proctor. With everything we know about human behavior, it is exactly this type of environment that can lead to errors, oversights, and patients who fall through the cracks. Without some system, either manual or automated, clinicians cannot reliably deliver the consistent care that they intend.

Consistently identifying patient problems and risk status is especially important in prenatal care for two reasons. First, as mentioned previously, prenatal care is frequently delivered by a diverse population of providers. There is a need to methodically identify and then stratify those patients in need of the next level of specialized care because not every provider can or should manage every complication of pregnancy. Second, many interventions for specific risks are completely dependent on timely identification and intervention. Because the opportunity for treatment, especially for the fetus, is finite, during a period of intense metabolic activity, any delay in risk identification and treatment can lead to lifelong consequences for both patients. Besides the human toll, there also may be severe economic consequences for errors and oversights. An unflinching risk identification process is crucial in providing consistent care to each and every patient.

After a risk or problem is identified, especially in the repetitive environment of prenatal care, there also must be a system to ensure that all care items, either routine or risk-based, are carried out to their conclusion. To deliver consistent care there must be a system that includes alerts and reminders to ensure that care is rendered independent of the expertise or focus of the provider at any one visit. Unfortunately, the care system used by many practitioners today is based on “sticky notes” placed in the paper chart that can easily be lost.

Workflow. The workflow for almost every prenatal visit in the country is amazingly uniform and has changed little in decades. At the center of this workflow is a paper prenatal record. This record, of which there are many varieties, is an information island that is

kept separate from the patient’s main chart so that it is immediately available during office hours for patient visits and phone calls (and, by the way, not available any other time). This prenatal record, which is usually three to five pages long, serves as a repository for all new and summarized information used in prenatal care. Just enough information is kept in this record to completely manage a patient’s pregnancy without any other supporting documents.

It is during the initial prenatal visit that the prenatal record is used the most to record a complete, specialty-specific history and physical. Throughout the pregnancy, when new information is obtained or when patient events (e.g., phone calls, hospital admissions, test results and others) occur, they are additionally documented in the prenatal



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record. Even if the practice or organization might have detailed laboratory reports, ultrasound studies, or registration information available online, these results and events are all dutifully summarized and copied from computer screen to paper. During each subsequent prenatal visit, the separate prenatal record is brought into the exam room and is used by both staff and the provider in a carefully scripted dance that involves a relatively standard obstetric flowsheet.

An ideal way to leverage the existing workflow with little disruption is to simply replace the paper record with an easy-to-use electronic version. An electronic version that has an organization similar to that of the paper record and requires little if any training can ease the transition to digital care. The workflow stays exactly the same,

and now the record can be made widely available and the discrete data captured digitally can be used to trigger clinical decision-support activities, such as risk identification, reminders, alerts and other care aids.

The concept of parsing out change incrementally will reduce stress levels of staff because they will see this as something they can probably handle as opposed to making wholesale changes all at once, which they believe they cannot. After all, prenatal care visits are only a small part of the day for family practices, and a larger, but not dominant, part of the day for physicians in obstetric-gynecology practices. This means each day always will involve a mix of both the familiar and unfamiliar, thereby minimizing staff stress.

Further, in spite of the inevitable awkward transition period with anything new, prenatal care naturally lends itself to a graduated approach in introducing something new. Rather than immediately converting all paper prenatal records to an electronic form, it is probably wiser to only enter newly pregnant patients as they receive care. Using this approach, it is certain that the transition period will be limited to a finite period of only eight months, and, from that time on, the full benefits of electronic records are realized.

Economics. From an economic perspective, because of the information need for the record at the hospital as well as office, maintaining paper prenatal records is expensive. The initial purchase of paper prenatal records, creating a second chart, the repeated copying and faxing of multi-page documents to hospitals and satellite offices, the frequent pulling and re-filing of the record for patient visits and phone calls, the repeated calls from hospitals when patients present and the record is not available or outdated, all add up to significant expense. It is estimated that the true cost of a paper prenatal record is \$25 to \$35 per obstetric patient. Even more disturbing is that this expense is for a fundamentally flawed system that fails to deliver when it comes time to access information and aiding provide consistent care.

Information systems that cost less than \$25 to \$35 per patient chart can save a practice money, either by reducing staff, or freeing up staff to spend more time in patient-pleasing or revenue-generating activities. A relatively recent alternative to the old way to obtain technical services is the Application Service Provider (ASP) model. Using this ASP model, almost all of the technical hardware and software maintenance is shifted to the vendor, and the actual service is provided to the customer on a subscription basis, often without any large upfront expenses. Using the services of an ASP vendor is one way to effectively take small steps in introducing technology into a practice without committing to lengthy license agreements, large capital purchases (such as in-office servers), and waiting years for a return on the investment.

Besides the real concrete expense of paper prenatal records, there is the potentially ruinous cost of continuing to use paper prenatal records. In an environment where oversights may have lifelong consequences and where professional liability premiums are skyrocketing, it may be prudent for each practice to reassess weaknesses in their current systems to prevent or deter medical malpractice claims. Although

malpractice awards or settlements are paid by liability insurers (in the best-case scenario), the repercussions from actual or even perceived preventable bad outcomes include higher premiums or surcharges, the inability to even purchase

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coverage, time lost from revenue-generating clinical activities, and even loss of the practice's patient base as a result of bad publicity.

From the standpoint of liability prevention and claim defensibility, it is imperative that practices implement policies and practices that address the obvious failings of their current prenatal care systems. These practices should

address the lack of timely access to paper records, the completeness and legibility of existing paper records, and consider reworking imperfect processes so that no patients fall through the cracks. An electronic prenatal care system can accomplish these tasks in one fell swoop.

Summary

For many reasons, including clinical, financial, and risk reduction, the delivery of prenatal care merits review and revision by both clinicians and healthcare information executives. Because of its unique information access needs, workflow, liability exposure, and requirements for consistency, prenatal care is the perfect environment to implement information technology solutions. These implementations should not have to wait until generic EMRs satisfy these same needs, and the electronic prenatal record can become a cornerstone to a strategic graduated approach to introducing technology and change into clinical practice.

About the Author

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