Corporate Background:

The Family Practice of Glendale is a medical group that has been in business for over 30 years. It is a dynamic and innovative practice that understands the need for change and adoption of new ideas and technology in the medical setting. The corporation is a medium size practice with 15 physicians, a Family Medicine Residency Program with 24 residents, a psychology internship program and also employs a host of other ancillary providers (Physician Assistants, Pharmacologist etc...). Every year the residency graduates 8 new physicians to the local community.

The Family Practice of Glendale has been at the forefront of Electronic Health Records (EHR) technology since 2004. There were many outside influences that drove the choice to be an early adopter of an EHR. As a residency program we knew that we were training future physicians and they would at some point want to have EHR technology in their office. We wanted to attract the best residents so we would need to show that we were leaders in technology adoption. In addition we realized that EHRs would enable our faculty to augment their teaching with computer based learning skills that residents could use as they see patients. We wanted all of our physicians, residents and staff to standardize their approach to documenting patient visits so that we could monitor results more successfully.

Challenges, Barriers, and Successes

Early challenges to the successful adoption of an EHR were the prohibitive cost of acquiring the software and hardware, the expense of training physicians and staff and the cost of lost business that occurs during implementation. The primary site for the Family Practice of Glendale and the Family Medicine Residency Program is comprised of payor group demographics that included a large percent of MediCal/Medicaid and self-pay patients where low reimbursement for patient care services could not offset the high costs of an EHR. Realizing this impediment to acquiring new technology, the Family Practice of Glendale along with the Family Medicine Residency Program's sponsoring hospital, Glendale Adventist Medical Center, worked with several other local provider groups to form a Consortium for Safety Net Providers (CSNP) and applied for a HRSA grant. The grant would provide support for the purchase of EHRs for the practices with the goal of improving care for the largely uninsured and/or underinsured patient populations. The CSNP was awarded a three year grant for this purpose.

The Family Practice of Glendale was the first group in the CSNP to adopt an EHR as they were the primary driver in working with HRSA. The choice of GE's software was

made after many months of working with the dominant EHR vendors. Due to constraints of the grant, the installation of the software, hardware and implementation required that the Family Practice of Glendale go live within a 10 month period. Beginning November 2003, the Family Practice of Glendale needed to have demonstrations from the leading vendors, decide which vendors best met the needs of the company, write a request for proposal, have the vendors return their proposals, negotiate with the final vendors, and then finalize the purchase. By the time the purchase agreement was signed there were only 3 months left to accomplish the implementation. This was done with excellent training and support by GE, a strong staff at Family Practice of Glendale and assistance from the sponsoring hospital. Since the implementation, the Family Practice of Glendale has added program modules that include more sophisticated interfaces for labs, document processing, and now ePrescribing. During December 2010 GE installed the newly certified Centricity Practice Solutions 9.5 as well as the new ePrescribe software. January 2011 the patient portal for secure email communications, lab results, scheduling requests and patient access to their records will go live.

As an early adopter of EHR technology, the Family Practice of Glendale has been eagerly awaiting the adoption of meaningful use. We have encountered the following during this process.

- The timing of the release of the standards by the ONC was slow which did not provide enough time for GE and other EHR vendors to complete testing and complete the certification process. This resulted in fully certified software releases in the 4th quarter of 2010 which created a backlog of installations for the vendors that had medical groups waiting for the new software.
- The process of upgrading any medical software is complicated, labor intensive, and costly. Some of the costs for the software upgrade included upgrading servers, pc's and laptop hardware to meet the newer software's greater RAM requirements, upgrading other software programs such as MS Sequel to the newest versions and per the EHR software needs, labor costs for IT staff, and training of the physicians, residents and other staff to use the new software. In addition there are costs for new maintenance agreements and ancillary software license agreements.
- Meaningful use guidelines were unclear at times so it was not easy to ascertain which criteria we needed to successfully accomplish.
- Organizational change needs to occur with the adoption of any new upgrade and software addition. As discussed above, there are training costs but there are changes to the processes and workflows that are used in patient visits. The addition of ePrescribing and patient portal communication requires the

providers and staff to adapt to the changes. In some cases this is a difficulty for those that cannot easily accept changes and are not as technologically savvy.
- The need to change the reporting system to document the meaningful use criteria determined to be the most important for our business meant re-writing current reports.

All of the above were issues and problems we encountered to be ready for meaningful use but the successes are just as important to note.
- Our EHR vendor, GE, ensured the early installation of their certified Centricity Practice Solutions software. We were one of the first groups to receive the software in general release. The install was successful but as an early adopter there are always issues that needed to be overcome throughout the process. It was a good learning experience for all involved and we have been using the new program daily.
- Two weeks after the new EHR software installation and adoption, we implemented the ePrescribing program and are now using this software for our prescription needs.
- Successful training of users of new ePrescribe software was relatively straightforward and moved along quickly.
- Our patients are happy with the ePrescribing! The prescriptions are easy to pick-up at the pharmacy, there are no errors or miscommunications with pharmacies, and the providers can use the software securely from any computer they need.

Over the past six years we have learned many ways to ensure success during the implementation of software upgrades and additional modules.
- Training and later assigning "Superusers" to work with physicians and other staff. We found that during early implementation of the EHR and later changes to the system that "Superusers" were able to provide hands-on assistance which enabled quicker adoption.
- Continual training via noon conferences, bi-monthly resident and faculty meetings and monthly development meetings where changes, short-cuts and updates can be disseminated.
- Setting up a Physician EHR committee that would take the feedback from all users of the program and determine needed changes and workflows.
- New software adopters need to preload as much information on patients as possible. We only had time to preload medications, problems and allergies due to the shortened implementation period. Interfaces for labs should be developed as soon as possible and historical lab data should be imported.

- The decision to increase our training and support for our go-live of the software so that we would have better outcomes and adoption. It was well worth the expense to have experts on-hand as needed.
- Staff was added during our training and implementation so that we would not have patient complaints regarding slow service.
- Reduced patient visits for the first two weeks to allow physicians time to adapt to the new software.
- Customization of workflows and later patient encounter templates allowed each office to adapt to the changed environment.
- A key to successful adoption of an EHR is to find ways to have physicians communicate to patients during an office visit as if the computer was not there. Many physicians were so busy trying to use the computer that the patient was left out of the visit process. We had the physicians show the patients what they were doing on the laptops which enabled the patients to feel more involved in their visit and the technology.

Our outcomes/results were as follows:

- EHRs will never save a physician group money! They are expensive and need specialized staff to maintain. With the cost reduction for medical records staff, the storage of medical records, as well as the cost of paper charts, the offsetting increase in other costs are much greater than the cost savings.
- Continual investment in upgrades of servers, pc's and laptops are expensive and will continue to create financial hardship on small and medium sized groups.
- Improved revenue stream can occur if the incentives from Independent Physician Associations (IPA's) and insurance plans are well negotiated. This is due to better patient care data that can be used to negotiate rate.
- Patients liked the experience once the physicians were skilled with the software. They felt that their treatment was enhanced by the technology.

Experience with the CMS and ONC websites with regard to communications on meaningful use criteria, standards specifications and measurement has been limited due to the strong level of communication from our EHR vendor, GE, and trade publications.

- The CMS website has provided succinct information and now takes little time to navigate.
- ONC website is fine and gives good information especially for those physicians that are new to EHR's.
- REC's are not important for early EHR adopters like the Family Practice of Glendale since we were further along in the process. We did not need help with acquiring information on EHR vendors or add-on products. Most providers with

the beginnings of a system are more vendor driven on choices so RECs are not important.

Other issues to ponder:

- Interoperability of systems is poor at this time and interface driven between EHRs and labs. There are limited open repositories of information especially in California where immunizations provide the exception to this issue. The largest repository of immunizations is driven by the insurance industry not the government. It is unclear as to how improved interoperability will occur for stage 2 especially since the standards are not final and vendors need to develop software, beta test and be certified. For example, when HIPAA was first introduced it required one common billing code set for all insurances including the federal and state governments. Even after all of this time we still see that CMS uses some unique codes. Medicare uses "G" codes and the California MediCal (Medicaid) uses "Z" and "X" codes.
- Concerns over the vendors trying to meet stage 3 on interoperability plans if a standard language is a requirement. This will be a time consuming process for the vendors but impact will be on providers as well. Language changes require major database conversions where many errors can occur so both providers and vendors need time to review and beta test.
- The meaningful use incentives are only important to physicians that have a large part of their business driven by Medicaid and Medicare. This creates a problem for groups that have a mix of physicians with different patient insurance types. The group will need to purchase the EHR for all of the group's physicians but only some of the physicians will have enough eligible charges to pay for the expense. The long-term impact on the group is that they need to purchase the EHR and maintain the system but the cost is only absorbed by the federal incentive while the insurance companies benefit without providing any support.
- Meaningful use is a great short-term concept but long-term what is expected? We need to be developing better incentives for ideas like patient centered medical home, ACOs etc….
- The big barrier for adoption is the long-term expense for EHR's. We have been using an EHR for over 6 years and spent over 1.5 million dollars and we struggle at times. How are new adopters expected to successfully move into meaningful use even with the early adopter's years of "testing the water" and providing early answers?
- How do we make patients compliant so that meaningful use criteria can be met? This is a big issue for groups that do a larger Medicaid business where the population is transient and/or does not have money to pay for services, tests and medications.

- As we move to stage 2, the requirements appear to require that we meet the criteria for 365 days a year not just the 90 days as in stage 1. We need the criteria to be available as soon as possible for stage 2 since any patient care guidelines/criteria will most likely require changes to workflows and systems.