

Cover Page

In our small town in rural Iowa, the family doctor still makes house calls, and “Doc” exchanges greetings by name with his patients at the hardware store and the diner. This lifestyle may be not be appealing to a lot of folks, but starting a private medical practice here is a dream come true for us.

Our county has the highest unemployment rate in Iowa, the state ranked 43rd in Medicare reimbursement rates. So as former corporate business executives, we knew opening a solo practice would be a challenge in any location, even in Keokuk, Iowa. But particularly in Keokuk, Iowa, a successful medical practice would need a high level, integrated electronic medical management system. This application tells our story, and we are proud of our success.

Jim Holsinger was 44 years old when he was accepted into medical school in 1996. Jim had been Vice President of Sales and Marketing for a subsidiary of the H.J. Heinz Company. But following a corporate takeover, he decided to pursue his lifelong dream of becoming a doctor. Kathy Holsinger is a native of Keokuk. She had a remarkable career in business, rising from computer programmer to business unit Vice President in 26 years of service with the same firm. She quit her career to enter the business of medicine.

Our objective was simple. We wanted to create a profitable, state-of-the-art medical practice that delivered the highest level of quality in patient care. Our 10 year vision was to become a sustainable preventive care practice.

An Electronic Health Record system (EHR) was paramount to meeting the objectives and the vision of our business. We needed an EHR to be a low-cost operator. Reimbursement rates would not sustain the business if we used a traditional approach to a solo medical practice. State-of-the art required the use of the most currently available technology which, by definition, was an EHR solution. Delivering the highest level of quality in patient care could not be accomplished with a paper charting system. Our vision could not be achieved without an EHR as the foundation of our medical practice.

We started our practice with an EHR system so the initial system implementation is not the ‘wow’ factor of our story. What is outstanding is how far and how quickly our EHR system and our commitment to continuous improvement have taken us. Imagine a start-up business that is on the verge of achieving their vision in 7 years.

We became profitable in our first 20 months and have been able to pay down debt more quickly than planned every year. We are meeting or exceeding best-in-class benchmarks for a healthy medical practice. We have implemented and use in our day-to-day operation nearly every EHR function and interface available. We have successfully participated in Medicare’s PQRI and e-prescribing incentives. We have achieved the highest level of quality in all but one area in our largest commercial insurer’s pay-for-performance program. Further, we have exceeded state and national benchmarks for breast cancer and colon cancer screenings as well as influenza and pneumococcal vaccinations by a remarkable factor of 2 to 3 times. What about “Meaningful Use”? We registered on January 3rd at 7:00 AM and we passed attestation on April 24th.

We hope you enjoy our story. We thank the Davies Committee for considering our application for the 2011 Davies Ambulatory Award.

Application Process Essentials: Core Requirements

	Brief Supportive Metrics		Yes	No
1.	No exceptions	My practice has accomplished 100 percent usage of the EHR system by all clinical staff, including providers, since July 1 of the previous year.	Y	
2.	No exceptions	All clinical staff at my practice use the EHR at the point of care.	Y	
3.	% Compliance improvements: Influenza vaccine: from 32.7% to 95.3% Pneumonia vaccine: 41.1% to 95.6%	My practice has demonstrated improved outcomes in quality, safety, efficiency and/or reduced health disparities.	Y	
4.	Patient portal Clinical reminders	My practice's EHR is used to engage patients and families through the use of patient portals, text messaging, or other communication models or methods.	Y	
5.	Use > 80 clinical quality reminders Electronically track orders	My practice's implementation of the EHR has demonstrated care coordination for patients across the care team.	Y	
6.		My practice's implementation of the EHR ensures adequate privacy and security for protected health/personally identifiable health information.	Y	
7.	No exceptions	Where possible, my practice utilizes digital e-prescribing (not fax) and the EHR to generate all appropriate prescriptions.	Y	
8.	LabCorp Interface Insurance Eligibility/Formulary Interface	If available, my implementation of the EHR has functional interfaces that allow transmitting and/or receiving of results and orders.	Y	
9.	Complete server restore 4/21/2011	My practice has an EHR business continuity plan, and has tested it for back-up, recovery and disaster recovery	Y	
10.	Lab interface eliminating data entry Electronic document management drastically reduces paper upon entry into the clinic	My practice can demonstrate workflow transformation through the use of the EHR, which is integrated with other health IT.	Y	
11.	James F. Holsinger, M.D.	My practices EHR implementation and usage is a model for other practices, and we have a provider champion who is willing to share our experience with others	Y	

Davies Award of Excellence 2011 Ambulatory Care Application

for

**James F. Holsinger M.D. PC
Keokuk, Iowa**

Section A:

Submitter:

James F. Holsinger, MD, Owner
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Web-site:

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Specialty:

Family Medicine

Number of Providers:

1 Physician

Number of FTE's:

Clinical Staff:

2.0 Medical Assistants
1.0 Registered Nurse, Laboratory Manager
1.0 job sharing Registered Nurse

Administrative Staff:

1.0 Medical Assistant, Receptionist
1.0 Business Manager, billing
0.5 Document scanning, patient check-in and in-house IT support
Staff is shared with 2 full time providers and 4 part-time providers

Number of sites:

1

Vendor Association:

No commercial/employment relationship with any vendor of any EHR system.

Clinic Volume:

1,400 active patients with 4,110 annual patient encounters

EHR Implementation Team:

James F. Holsinger, M.D.
Kathy Holsinger, Business Manager

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I. The Organization

Upon completing medical residency, Jim Holsinger opened his solo family medicine practice in Keokuk, IA on July 16, 2003. In November 2002, we purchased a 4,000 square foot abandoned clinic adjacent to the local hospital. The facility, which was built in the early 1980's, required extensive renovation. Our facility investment encouraged us to have two distinct business objectives. First, to create a successful solo practice for Jim and secondly to create a separate business which offers a full range of management and business services to other healthcare providers. We believed this model would help bring quality healthcare to our small rural community, assist other providers in establishing their own practice without the burden of business management while offsetting our capital investment and overhead costs.

We started the practice with no patients and two part-time visiting specialists who rented clinic space from us. Eight years later, Dr. Holsinger has 1,400 active patients and our facility is fully utilized. We have served several full-time and part-time medical providers in such specialties as urology, cardiology, neurology, podiatry, audiology and family medicine. We also have a CLIA approved moderately complex laboratory.

Keokuk is located on the Mississippi River in southeast Iowa, bordering Illinois and Missouri. The practice serves a rural community of about 20,000 people. Approximately 70% of our patients are residents of Iowa and the other 30% are Illinois and Missouri residents. More than 60% of our active patients are over the age of 50 which is typical of Middle America family medicine practices that do not offer obstetric services. Primary insurance payers are: Wellmark Blue Cross Blue Shield, United Health Care, Principal, Humana, Medicare and Medicaid. Our clinic does a considerable amount of work for local industries and disability determinations for Social Security and the Veterans Administration. While not considered active patients, this work has significant impact on the payer mix for our patient volume which is comprised of; 56% who have commercial insurance, 23% from Medicare, 11% for Industrial/Disability, 6% for the private payers, uninsured or the indigent and 4% from Medicaid.

Dr. Holsinger served two terms as Chief of Staff of Keokuk Area Hospital, was a Director on the Keokuk Health System board, medical director of Lee County Juvenile Detention Center and is Medical Director for 3 of the 4 local nursing homes.



The practice premise: **“Be a doctor who can really listen”.**

II. Management

1. Clinical and Business Objectives

Jim has a Master of Business Administration degree from New York University and was previously a sales and marketing executive in the food ingredient industry. When it came time to create the clinic infrastructure we wanted to establish a state-of-the-art medical clinic. It had to be comfortable, attractive, compliant and uncluttered, so there was no question we would open the clinic with a fully integrated EHR system. Efficient businesses are computerized and a healthcare business is no exception. People are the biggest cost component in a medical practice so a computerized system, which never takes a vacation, would allow us to operate with significantly fewer people. In keeping with our facility strategy, it made no sense to utilize space for document storage when we could rent the space to other providers.

We felt strongly that an EHR system would assure a higher quality of patient care than a paper system. There would be no lost records, no missed documentation and we could program in quality measures such as drug interactions and preventive care reminders. If we chose the right system, we could achieve our long-term vision of preventive care versus reactive care.

We would be the first automated physician clinic in our area. We were hopeful that we could attract staffing applicants interested in the latest medical information technology. We anticipated that our renovated facility, our investment in technology and promoting “You need a doctor who can really listen” would be key factors in a successful practice for Dr. Holsinger.

Our goal was to have a profitable clinic within two years. We secured loans from our local bank and the hospital helped underwrite our clinic start-up with a two year revenue guarantee. This gave us the funding necessary to purchase and renovate the clinic, invest in an EHR system and the ability to pay our bills.

2. Project Organization

a. Leadership/Governance

Since we were a start-up operation with no systems, we made the decision to install all currently available modules of the EHR system which included integrated patient demographics, scheduling, facility management (exam room status), charting, document management, billing, faxing, internal e-mail and task management, template management, and the basic table support systems.

We started with Dr. Holsinger and three employees, a Registered Nurse, a receptionist who also did the billing and a Licensed Practical Nurse in the laboratory. None of these people, including Dr. Holsinger, had any experience with an EHR system. We believe we were the first physician practice to implement a fully integrated EHR system within 100 miles. The staff roles and responsibilities were

fairly clear given the small staff size. Since we had only one person for each function we thought it would be easy to standardize our data elements and planned to use the system as recommended by our EHR vendor.

Our EHR vendor told us what computer hardware and software we would need and we contracted with them to provide on-site training. Local IT firms are very limited, but we found two certified system professionals to help us install the server, network, workstations and associated software. We also contracted with the local company to install our EHR software.

b. Implementation planning

Our implementation goal was to have all systems and people ready for the first day of patient encounters. On the business side, our implementation goals were to receive our first insurance payment within 45 days of claim submission and spend no more than \$50,000 for our initial EHR investment. In order to assure a smooth payment process, Dr. Holsinger started the insurance credentialing process in January 2003, six months before seeing his first patient.

Our building contractor was to finish construction by June 15th, with hardware and software for the EHR to be installed by June 30th. System training was to be completed on July 11th for a planned July 16th clinic opening. Organizational staffing was the most important issue for a successful implementation with a plan to have staff in place by July 1st. Since we were a start-up operation, we had some flexibility on our opening date. We expected to have very few patients during our first few weeks. This would afford us the opportunity to take some quality time with our patients and become more comfortable with the system.

3. Training

We planned two separate on-site training sessions. The first session covered the basics of the patient database management, scheduling, facility management, document management, and a high-level overview of charting and billing. We allowed three days of employee practice then began a second session covering charting, templates and billing. We began the second session with a review to assure ourselves that the staff had embraced the requirements of the EHR. We then focused the nurses and Jim on charting and templates and focused the receptionist and Kathy on administrative functions.

We had no particular champion of our EHR system until Kathy joined the business in late 2006 as Business Manager. Kathy was also a business executive and began her career with 10 years experience in information technology, application development, and business process re-engineering. In our clinic, Kathy assumes the lead role as the champion of our EHR system. She supports and trains new and existing staff on the software features and leads new business and information technology initiatives.

Our EHR vendor has an annual users' conference. We find this provides valuable insight into the features available in our system. The event provides software education sessions and opportunities to learn from other users. The vendor supplies user manuals which are well written and there is good online help. Video training is available on the online support center which is helpful for training new staff.

Our staff and Dr. Holsinger quickly embraced the basic functions of the system. From the first day of operation they used only the system to document patient encounters and process insurance claims. Maybe we were a little overwhelmed with the number of system features such as the templates, order tracking, flowcharts and rule manager. We initially used only the features we were shown during training, so we missed some opportunities for improved patient care, workflow efficiencies and data management that we now find very valuable and fundamental in our day-to-day operation. We believe we would have been farther along in our process today had we conducted another training session after 6 to 12 months of practice.

4. Implementation

We believe we were very successful with our hiring plan. We had many more applicants than we anticipated, calming our nervousness about finding the right people. Our first employee, Michelle, an LPN when she was hired, now an RN, is still managing our laboratory. Our original nurse, who stayed with our organization over 4 ½ years, took advantage of an offer to manage a substantially larger clinic in another town that was implementing an EHR. Our receptionist was a certified coder and did an amazing job with the initial payment cycle, but decided to be a stay-at-home mom, never returning from her maternity leave.

Although our building contractor was still on site past our June 15th target, we were able to complete the server installation and personal computer installations at all workstations and in every examination room as scheduled. Training started as planned, two weeks prior to opening the clinic. We saw 10 patients during our first week of operation. The initial low patient volume allowed us to continue practicing on the EHR with our longest standing patient, Mickey Mouse, a real character who has many complex illnesses. We conducted role playing with staff, friends and family and tweaked the workflow process. We believe we had a successful implementation process. We opened as planned. Employees were excited to learn new skill sets. We used only the EHR system for patient and clinic management. Patients were happy to find a doctor who would really listen, and we received our first insurance payment 34 days after start-up.

5. Technology Support

Our original technology implementation was completed without issues and within original budget. The EHR hardware and software requirements were clearly defined by our EHR vendor. The facility requirements were straightforward and relatively easy to accomplish due to our complete clinic renovation.

Since our original implementation, we have used three separate local IT consulting firms to support our computer system. We use another IT firm in Texas to assure our router and VPN are secure. We learned a painful and expensive lesson regarding IT support. The local IT firms are generalists and, while they understand our network needs and disaster management, they have no understanding of the medical software and the various capabilities and systems requirements to assure a reliable EHR operation. We have invested heavily in IT resources and believe we currently have good approach to IT. We have selected a long-standing local IT firm to provide us with reliable hardware and system software support. We continue to utilize the firm in Texas for router and VPN support as recommended by our EHR vendor.

We also have in-house resources now. The part-time employee who performs our document scanning and patient check-in was previously an IT manager of a large local industry. He has a background as a systems programmer. Merle supports our operation on a day-to-day basis, reducing the cost of local IT support and minimizing any unplanned downtime.

Kathy and Merle perform minor EHR system updates. But now we contract with our EHR vendor to install all major upgrades. We were experiencing almost 100% failure when using our local IT resources to install major EHR software upgrades. Without fail, there would be some critical key function that would not operate post upgrade and we ended up having to engage our EHR vendor to resolve the problem. While the hourly rate for our EHR vendor is much higher than our local IT firm, our actual technology support costs are down 67% because we get the job done 'right first time'.

6. Disaster Recovery

Per our policy, we test our contingency plan annually. We performed a complete server restore on April 21, 2011.

We have a typical data backup plan within our clinic. We backup our EHR data on a separate disk file for quick recovery in addition to a daily backup to an external drive which is stored in a remote location. Additionally, we have a separate server which can be used for most of our EHR functions in case of the failure of our primary server. Our backup software has a feature which allows for a quick restore to a personal computer. This will allow us to continue operations in the remote case that both of our servers fail. We have added one more additional layer of security by downloading each patient visit to a separate personal computer which can be used for short term power outages that would not require any restoration of data and would allow us to almost instantly manage patient care if we did not have access to our primary database.

7. Management – Excellence

We successfully created a clinic environment that is state-of-the-art, comfortable, attractive, compliant and uncluttered. We (employees and owners) are both students and teachers since we have no previous EHR experience. This inexperience has helped create a more relaxed work atmosphere, an environment where we help each other learn new system features. Every employee who has worked at our clinic has said they never want to go back to “paper system”, a true measure of a successful EHR implementation.

The organization is frequently pushed to do more with less. When the workload is imbalanced we proactively evaluate ways to eliminate or automate work in order to create a more balanced workload. We have also implemented a bonus system for employees based on individual performance and financial and quality improvement performance of the clinic.

We work with the local community college and regularly host interns in our clinic. The internship program helps provide hands-on EHR experience to the student. Since we were one of the first EHR installations in the area, we have been hosting the program’s best students and have used this channel for hiring needs in our clinic.

III. Technology

1. Purchase Selection

Jim attended the American Academy of Family Physicians Annual Scientific Assembly in San Diego, CA where he searched the vendor exhibits for the right practice software. Our ranked selection criteria were straightforward.

1. The vendor must be a market leader.
2. The product must have a component for the quality of patient care.
3. The product must integrate all functions of the organization.
4. The product must be competitively priced.

Because the EHR software market was new with many start-up vendors, market leadership was the key criteria for us. We believed a market leader would be financially successful, survive and would continue to reinvest in their product. We wanted a product that would help guide us in patient care and have such features as a reminder system for needed tests, drug interactions, alerts for out-of-range results and patient education. The selected product needed to be integrated to support our small staff. It had to be easy to use and not require additional manpower. And, of course, we wanted a bargain.

Our sales and marketing backgrounds drive us to be quick decision makers. Jim returned from San Diego with only one vendor of choice; e-MDs of Austin, TX. We researched the vendor’s background and financial stability. We contacted other users for their feedback. The greatest impact on our decision was the fact that e-MDs was founded by a physician and the system was used in his own clinic. A closer look

convinced us that e-MDs would maintain their market leadership and would continue to invest in their business and that of their customers.

2. Interfaces

When we opened the clinic we immediately implemented an interface for insurance claims processing. Three and one half years after our initial implementation, we installed a laboratory interface in the first quarter of 2007. This enabled patient test results to be automatically updated in the patient chart in a structured format within 24 hours for routine tests. At the time we added this interface we needed to free up nursing time as we were supporting 3 full-time physicians utilizing our EHR and 3 part-time physicians with 5.5 employees.

We believe we were slightly behind the curve with our laboratory interface implementation. The existing support staff was trained in medicine, not business management or information technology and our strategy to maintain a low head-count did not afford much opportunity for new projects. With an EHR champion, we were able to implement the e-MDs - LabCorp interface in early 2007.

Our next investment was an e-MDs interface with Surescripts for e-prescribing. We installed this early enough in the 4th quarter of 2008 that we were well positioned to take advantage of the first year of the e-prescribing incentive program for Medicare.

In the first quarter of 2010, we installed an insurance eligibility interface along with a drug formulary benefit interface. The insurance eligibility interface saves us a lot of time and allows us to arrange any needed patient payment agreement prior to treatment.

The drug formulary benefit interface greatly improves the safety and quality of patient care. There is a full range of allergy-to-drug and drug-to-drug interactions specific to each patient. Dr. Holsinger is the evangelist of generic prescribing. We never take sample medicine, so the formulary interface has significantly increased patient and staff satisfaction. Many patients are unclear regarding their pharmacy benefits and are happy that we can provide them with the most cost-effective option and our staff doesn't miss the pharmacies calling for substitutions.

Our most recent interface installation was the patient portal in the 4th quarter of 2010. For our clinic, the patient portal interface seems expensive considering our current patient mix. Many of our current patients are outside the age range of a typical Internet user. We made the decision to go forward with the patient portal as our goal is to become a "Meaningful User" not only for the core measurements but for all 10 menu set criteria as established by the American Recovery and Reinvestment Act of 2009. The portal has been well received by our computer savvy patients.

We have an electronic database for EKG and spirometry and have electronic access to

digital radiology performed at our local hospital. At this time, we transfer the output into the patient's chart but do not have an automated interface for in-house devices or radiology services.

3. Excellence

We are not sure what the model of excellence is for an EHR implementation. Use of an EHR is simply the way of life at our clinic and has been from the beginning. From the time we opened in 2003 through 2006 we would rank our performance in the middle of in the EHR arena. We were fully automated but still not practicing the preventive care we envisioned. We did what most physicians do on paper; we just did it on the computer.

We began to transition the organization in late 2006, first with internal work process changes, small changes that would make employees' jobs easier. We began to use the flowsheet function which required less data entry and allowed us to see patients' laboratory results over time in a structured format. We believe this greatly improved the quality of patient care.

We transformed the document scanning process. Previously, all the documents coming into our office from outside would be given to Dr. Holsinger for review. He would sign off on the document and we would use the document scanning process merely as a file cabinet. Today, all documents are scanned upon entry into the organization and forwarded electronically to Dr. Holsinger. He reviews them electronically, signs off and electronically forwards them either to the nurse for further action or directly to external facilities as needed. We have virtually eliminated Dr. Holsinger's paper faxes and patient correspondence from mail and have directed these to our internal fax to eliminate as much paper in the clinic as possible. The next paper process elimination was to install signature pads for common forms such as consent to treat and the privacy policy.

In December 2006, we had to unexpectedly terminate the employment of our billing clerk. Our business would have faced financial crisis without our integrated EHR. Kathy, with no medical background, assumed the role of the billing clerk and, although she did not know a CPT from an ICD, she was able to enlist the support of e-MDs support center, read every page of the user manual and follow the data flow in order to maintain continuity. With the intimate view of the billing software functions, we were also able to begin establishing benchmarks and goals for the future.

We continued our efforts with reengineering our work processes as we learned new features of our EHR system. After attending the EHR vendor's users' conference, we implemented the order tracking system software module. This allows us to track the status of every order for every patient and really helps us keep up-to-date on our communications. We can easily see an order that is not complete and needs follow-up.

Incremental change was fairly easy for the staff to embrace as this generally offered improved quality of life for the staff as well as patients and we could see bottom-line improvement in our business.

We moved on to step growth and, as expected, we hit a slight road block. We began to ask the staff to use the quality module of the EHR system, known internally as the rule manager. We had been lacking discipline to consistently ask patients about preventive health issues such as vaccination compliance, cancer screenings, smoking cessation counseling, etc. Medicare's PQRI incentive program provided us with the tool to help our organization embrace step growth. We needed to take action to become a preventive practitioner instead of a reactive one.

In the Fall of 2008, we were contacted by IFMC of Des Moines, IA. IFMC is the Iowa quality improvement organization (QIO) which is under contract with Medicare and Medicaid. We were asked to participate in the Centers for Medicare and Medicaid Services (CMS) 9th Scope of Work Prevention Project. This quality benchmarking initiative measures patient compliance in the areas of influenza vaccinations, pneumococcal vaccination, breast cancer screening and colon cancer screening. As a participant in the program, IFMC provided us with consulting services keeping us up-to-date on key initiatives such as PQRI. We chose the diabetes suite as our reporting measure for CMS and were able to successfully submit data in time to participate in 6 months of the 2008 PQRI program. We were successful again in 2009 and anticipate on-going success. Section V below details our success in attaining high compliance rates for various clinical measures.

We initiated an employee bonus system as we moved forward with our quality initiatives. We recognized the efforts needed from a proactive organization are more demanding than a reactive one. We established key performance indicators based on the Physician Revenue Gold Standard survey jointly published in 2008 by LarsonAllen and Gateway EDI. The employee's bonus compensation is based several factors:

1. Personal performance.
2. Clinic performance as compared to our key performance indicators.
3. Successful Medicare PQRI quality reporting and e-prescribing incentive.
4. Success with other commercial insurance pay-for-performance programs.
5. Continuous improvement in our prevention project with IFMC.

In 2011, we have added "Meaningful Use" success to our variable compensation program.

The bonus system has helped the practice reach its quality goals. The bonus system is a tool we use to recognize and reward our staff for their efforts and results. It is also provides a foundation to raise the bar for the future. It ties individual efforts to the results of the entire organization and has created a great spirit of teamwork. The staff

regularly reviews our quality goal progress. During slow clinic days, the staff will initiate calls to our patients to remind them of overdue tasks such as cancer screenings, immunizations, lab tests, etc. The bonus system has undoubtedly helped the staff embrace that we are a goal oriented organization and we measure our results.

IV. Functionality

1. In Use

We currently utilize nearly all of the available components of our EHR system. As we have described in the technology section above, the fundamental purpose of every function we have put into practice throughout our EHR implementation was driven by improvement in the quality of patient care, improved patient or staff satisfaction or an improvement in the bottom line of the business.

We have taken our scheduling system a step beyond the obvious use. To assure patients do not get left behind, we check the previous day's schedule and make sure there is a future appointment and if one has not been scheduled, we update the patient chart for recall. The recall list is worked daily as part of the reception function. We also evaluate patient wait time on a routine basis in order to troubleshoot bottlenecks in clinic cycle time. The system scheduling features have enabled us to predict days and seasons that will have more acute care needs so we leave more openings in the schedule. These features have significantly increased patient satisfaction and also help us maximize revenue by maintaining a full schedule.

The charting functions which include the laboratory flow sheets, rule manager module, and order tracking, have helped establish our leadership in patient care quality. We will elaborate more on the details of this in the value section which follows. We are committed to a personalized and paperless process. We want to get belly-to-belly with our patients, so we do not use the fast form feature or paper patient history form features offered by the EHR vendor. We have customized our templates so the nursing staff is able to quickly and accurately capture the patient's history and chief complaint.

Our billing function needs are not as great as that of a larger clinic operation. The ease of the billing module facilitates improved cash flow. Within minutes we can see all of the claims or patient accounts that require follow-up. The document management function within the billing module really helps us quickly resolve patient or insurance issues. All insurance documents and payment information are linked to the claim and stored in the computer with instant retrieval.

As we reflect on our EHR and business journey, we believe we have taken a fairly methodical approach to achieve our long-term objectives. Perhaps we could have shortened the timetable of our incremental improvements had we originally anticipated the value of hiring a person with a background in business and work process improvement.

2. Not in Use

As small business owners we are driven to find new opportunities for improvement. We have positioned the organization to understand that continuous improvement is our pathway for a successful business. Interfaces for in-house devices are still on our list for consideration. Like most businesses, we prioritize our projects and continue to choose the projects with the highest return to the patient, organization and business first.

There are two key features of the system we do not fully utilize. Insurance contract management and profitability analysis. We input insurance contracts into our system and the system has a nice feature that will alert us to variances. We experience very few variances and, due to resource constraints, we are not aggressively using this feature to recoup all variances identified.

The system will allow us to enter CPT costs and evaluate profitability. This is particularly useful for evaluating the profitability of laboratory tests. Our EHR does not currently have the capability to evaluate and recommend purchasing decisions by vendor. At this time, we have built an Excel spreadsheet which provides us with guidance on preferred vendor for each ordered test. This spreadsheet also guides the staff on whether they should run the laboratory test in our in-house laboratory or send out to an independent laboratory based on individual insurance reimbursement rates.

3. Excellence

We believe the excellence of our EHR functionality is that we understand there is never an end to the EHR implementation process. We actively seek out EHR solutions to help us address inefficient business processes in our organization. For example, we are constantly looking for ways to eliminate in-coming and out-going paper in the organization. We convert recurring inbound forms to electronic documents which can be processed more quickly after the initial request. For example, we converted forms for diabetic supplies, power wheel chairs, and orders for home health. We can now process these requests more quickly. We utilize the internal fax as much as possible, and locating the paper fax behind Kathy's workstation certainly helps encourage the staff to find electronic solutions. We think one measure of our success is the lack of paper filing in our office. There is one low 2-drawer file cabinet at four of the seven workstations, generally stocked more with purses and candy than paper.

V. Value

1. Success in Meeting Objectives

a. Clinical objectives

We are very proud of our success in meeting our clinical objectives. The quality initiative with IFMC measures patient vaccination and cancer screening compliance of over 2,000 physicians nationally. As you can see from the table below and the charts in Appendix A, we have by far exceeded state and national performance measures:

**CMS Prevention Program
% of Compliant Patients as of 11/30/2010**

	Holsinger	State	National
Breast Cancer Screening	91.4%	34.7%	41.7%
Colon Cancer Screening	81.8%	30.5%	33.2%
Influenza Vaccine	95.3%	41.6%	33.5%
Pneumococcal Vaccine	95.6%	45.7%	41.1%

We have experienced similar results with Wellmark® Blue Cross and Blue Shield’s Collaboration on Quality® program which has over 1,500 (50%+) Iowa and South Dakota physicians in their program:

**Wellmark® Blue Cross Blue Shield 2010 Collaboration on Quality®
% of Compliant Patients**

	Holsinger	Program Average
Breast Cancer Screening	71.15%	27.37%
Cervical Cancer Screening	64.47%	28.54%
Colon Cancer Screening	74.72%	23.14%

Wellmark’s program also includes process and outcome measures for asthma, diabetes, coronary artery disease, hypertension, child immunizations and generic prescribing. We have achieved the highest level (Level 3) for all sections with the exception of diabetes blood pressure, where we achieved a level 2 performance. We did not have enough participants for child immunizations in the 2010 program.

We attribute our success of our quality scores to our use of an integrated EHR system. Use of our EHR provides us quick access to our data and has allowed us to establish goals and readily measure our progress against our internal goals and external benchmarks. As mentioned above, our bonus system encourages our staff to use the data to follow-up on clinical improvement opportunities. Without our EMR we would simply not have the staff to achieve the same level of results.

In Appendix B, we have attached our “Meaningful Use” performance. We passed attestation on April 24th and are waiting for our incentive payment.

Since we were a start-up operation, we do not have any pre to post implementation comparison for patient cycle-time but we have attached a summary of cycle-time since start-up in Appendix C. Our patient contact time is probably higher than most clinics with our premise to be a ‘doctor who really listens’. We tend to address all of our patients problems during the encounter which results in a higher level visit as compared to the average distribution of Medicare’s Evaluation and Management visits. As outlined in Appendix D, this strategy has added approximately \$20,000 of added annual value as compared to the Medicare benchmark, using 2010 Medicare

reimbursement rates.

b. Business objectives

We are also pleased with the business objective performance. We exceeded our goal to be profitable within 24 months and consistently pay down debt faster than planned. We suspended the hospital revenue guarantee four months earlier than anticipated.

As shown in Appendix E, we have not obtained all of our financial and business objectives as outlined in key performance indicators we adapted from the Gateway EDI and LarsonAllen 2008 Gold Standard Performance Survey. These benchmarks were intended to be stretch goals for our organization to encourage continuous improvement so in this respect we are quite proud of the progress we have made.

2. Improvements

Since our original implementation, we have made many on-going improvements such as a laboratory interface which stores our data in a structured format and allows us to view and graphically plot historical results all on one screen. We have installed e-prescribing and taken advantage of the e-prescribing incentive. We have implemented the use of rule reminders to help patients stay current with tests and immunizations such as cancer screenings, vaccinations, or disease related testing. We implemented automated insurance eligibility checking and the formulary interface. We implemented use of the automated order tracking system which reduces paper flow in the clinic and allows us to track the progress of orders or troubleshoot overdue orders. We have also implemented a patient portal.

Using the features of our EHR, we have automated many new processes to reduce and/or eliminate paper in our clinic such as a signature pad for consent to treat and patient portal usage. We have created new electronic forms or recurring prescriptions for durable medical equipment. We have successfully implemented PQRI reporting and have received PQRI incentive for the diabetes suite for the past 3 years and implemented data mining as a means to participate in the QIO 9th Scope of Work and other commercial insurance quality improvement projects. We will continue to address new opportunities to eliminate paper or non-value added work as well through automated forms or reengineering of the work process itself.

As we look forward, we are preparing for the second phase of Meaningful Use based upon the current proposed requirements in our efforts to meet our Meaningful Use goal.

The many interfaces and the countless process improvements we have put in place since our original implementation has made our work easier, patients happier or our business more profitable. We have learned that implementing new features one step at a time helped our organization and our patient embrace the change more quickly.

Attached in Appendix F is a copy of a presentation given in August 2010 by Dr. Holsinger at IFMC's 6th Annual Iowa e-Health Summit. This presentation outlines in more detail the improvement steps we took to achieve our remarkable results in the CMS Prevention Program.

3. External Networking

We have described above our external networking activities with IFMC's quality improvement program and with Wellmark's[®] pay-for-performance program. We are currently using an electronic exchange of information for Wellmark's[®] program and are able to update thirty days of clinical information in their database within minutes versus hours or days of data entry. We have successfully tested electronic exchange with other physicians. There are two other clinics in our building and we have agreed to perform electronic data exchange once they have updated their software to a version that is certified for "Meaningful Use".

4. Costs and Benefits

Our cost benefit analysis is attached in Appendix G. Our original EHR investment of \$50,011 was very near our \$50,000 budget. These figures are the total technology costs we incurred to support all the providers in our clinic. Since we were a start-up operation, there is very little real dollars savings. There are many cost avoidance items that could be taken into consideration such as paper, transcription fees, and office equipment for filing, etc. We have chosen to highlight the most important cost avoidance item which is the cost of people.

Other noteworthy items in our cost benefit analysis are the reduction of technical support and the on-going reinvestment in technology. In 2008 we realized a 67% savings when we started using e-MDs and our own employees to perform the upgrades instead of local IT support.

In 2007 we initiated our plan for technology obsolescence by replacing workstations. We have since replaced all of our workstations and added a new server in 2009. While we had planned to replace workstations, we did not anticipate the need for a new server until 2010. We have revised our future plans to replace workstations and the server every five (5) years.

VI. Lessons Learned

1. Success Factors

Opening a practice with an EHR might be easier than converting an existing practice. Establishing our vision and objectives were critical to our success. The vision and objectives were our guides through each step of the process, from EHR product selection to each interface and the EHR functions we implemented. The key performance indicators we established were very useful in assuring we were on the correct path to achieving our objectives. Additionally, these benchmarks gave us a tool for communicating our progress with the staff. They could see how their individual contributions impacted our overall

performance.

Our outside networking with IFMC clearly had the most significant impact on our success. We were chosen because we had an EHR installation. The counseling they provided helped us gain new revenue through PQRI. The additional revenue was shared with the staff to encourage a transition from reactive medicine to preventive medicine. We were able to use the functions built into our EHR system to improve the quality of care to our patients and become one of the leading quality physicians in the state and nation for cancer screenings and vaccinations.

2. Hindsight

If we could roll back the clock, Kathy would have joined the business sooner. Having a business process engineer has helped install a “continuous improvement” mentality in the organization. We think we would be farther down the path on quality initiatives if we had someone on staff from the beginning to consistently challenge the status-quo.

We would also have contracted with our vendor for additional training at 6 months, 12 months and 24 months after implementation. This would have helped us use the intermediate and advanced functions of the EHR more quickly.

3. Advice

Before you shop for an EHR, develop selection criteria. We outlined our EHR selection criteria above and believe they served us well. We strongly recommend a Drummond or CCHIT certified EHR system. Contact your state’s Health Information Technology Regional Extension Center. They provide services to help with vendor selection at affordable prices.

Concerning implementation, our advice is to start from scratch even if you are an existing clinic with a paper system. Focus on business objectives and the quality of care of your patients. It will take longer up front, but re-interview your patients. Get belly-to-belly with them and enter their medical history in the computer as they watch. This helps get better data into the system and will give you a fresh perspective on the patient and their health issues. Keep your paper records and consider scanning them into the system over time but use the paper charts as an emergency backup for critical information that your patient cannot supply.

Change your work processes to fit the flow of the EHR and you will gain efficiencies. Do not try and implement each and every feature during the first six months of implementation. We believe this will overwhelm the staff and will alienate your patients.

VII. Future Plans

1. Expansion

As we look to the future, we will be challenged more than ever to find efficiencies in our

business. Jim was diagnosed with Parkinson's Disease this past summer. Writing and typing are difficult for him so we will continue to concentrate on ways to eliminate paper.

Paper work can be overwhelming, particularly from nursing homes and durable medical equipment suppliers. Our large number of nursing home and elderly patients generates a substantial amount of non-value-added paper work. One of our three primary nursing homes just installed a computerized system so we are investigating options for an interface with their system.

We will take advantage of additional pay-for-performance programs that will help us offset revenue lost when Jim reduced his hospital work due to his illness.

We will revisit the in-house device interfaces and evaluate the current return on investment. We will finish up our website now that we have implemented the patient portal to establish a more professional presence for our business.

2. Keeping current and connecting to others

Our state's electronic immunization registry is planned for completion in the 3rd quarter of 2011. We have already tested our system's data sharing capabilities and plan to test with the state and public health agencies as soon as their schedules allow.

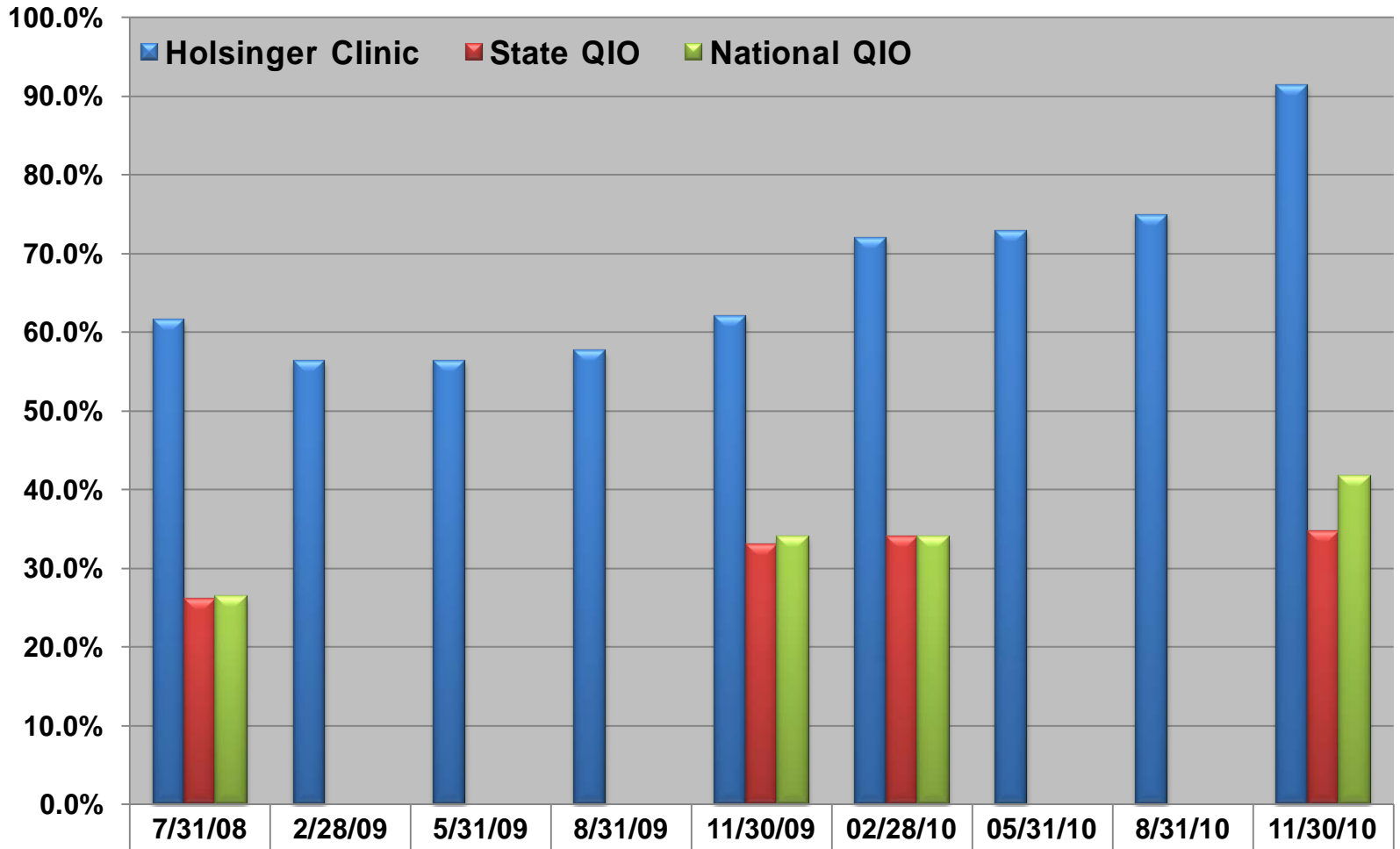
We are working with IFMC on "Meaningful Use" as well as the QIO 9th Scope of Work. We hope to further this relationship in the future.

We have a full-time urologist who uses our EHR. We have made contact with the clinics that provide the largest number of referrals. Two of these clinics that refer patients to urology have recently installed an EHR. We have reached agreement to work toward electronic exchange as the standard of communication. After we have implemented the in-bound referrals, we will apply the same concept to our out-bound referrals.

Our many thanks to our patients for their commitment to a healthy life style and particularly to our staff, Michelle Houghton, Staci Marlin, Merle Eberline, Ashley Hasek, Sheila Monroe, Katie Bierwirth and Kara Dalton. Their contributions have made our vision come true.

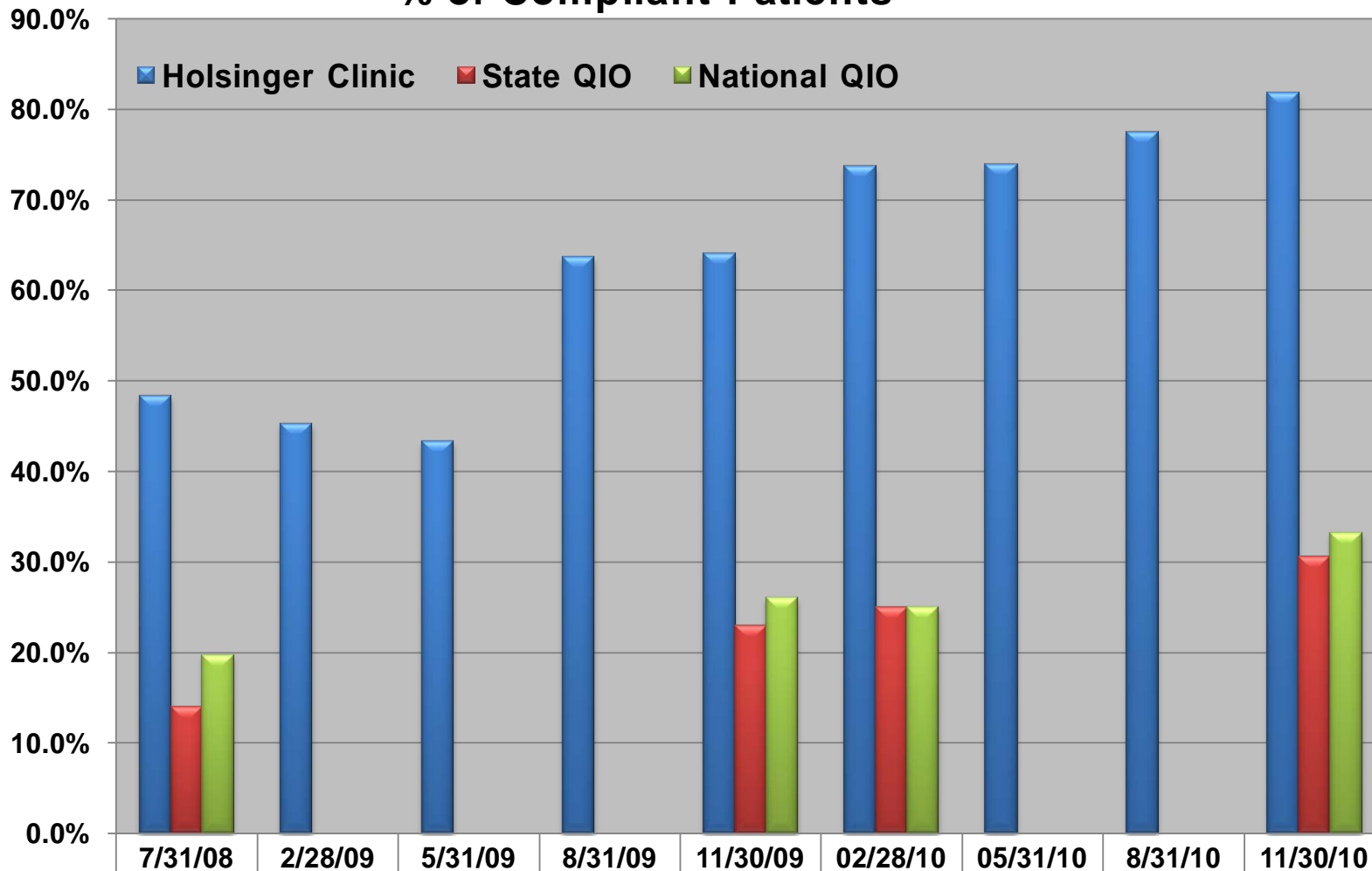
We will continue our journey of continuous process improvement and implement step growth improvements as opportunities exist. Our process has demonstrated there is a pot of gold at the end of the rainbow.

IFMC QIO Prevention Program Breast Cancer Screening % of Compliant Patients



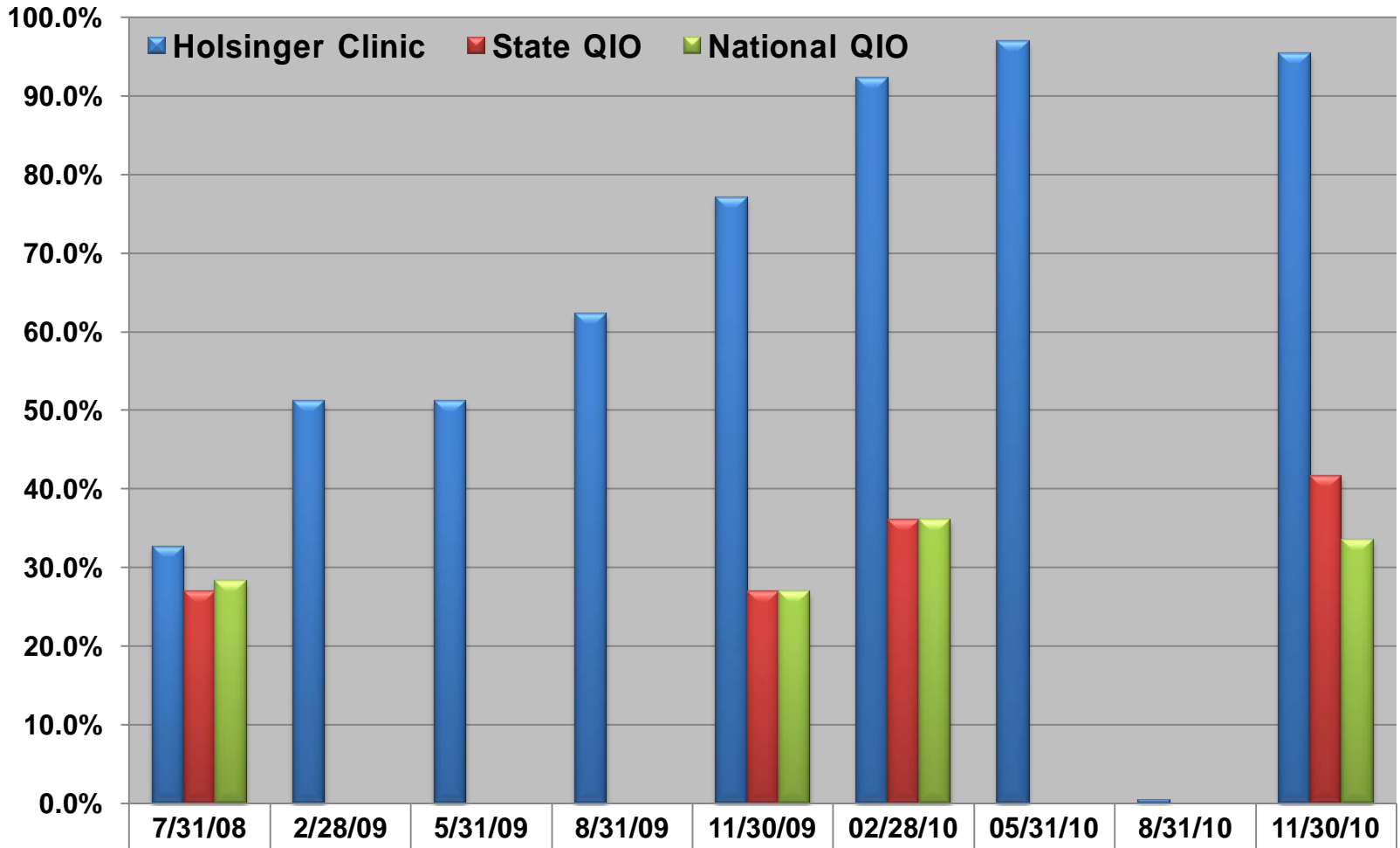
■ Holsinger Clinic	61.5%	56.3%	56.3%	57.6%	62.0%	71.9%	72.8%	74.9%	91.4%
■ State QIO	26.0%				33.0%	34.0%			34.7%
■ National QIO	26.4%				34.0%	34.0%			41.7%

IFMC QIO Prevention Program Colon Cancer Screening % of Compliant Patients



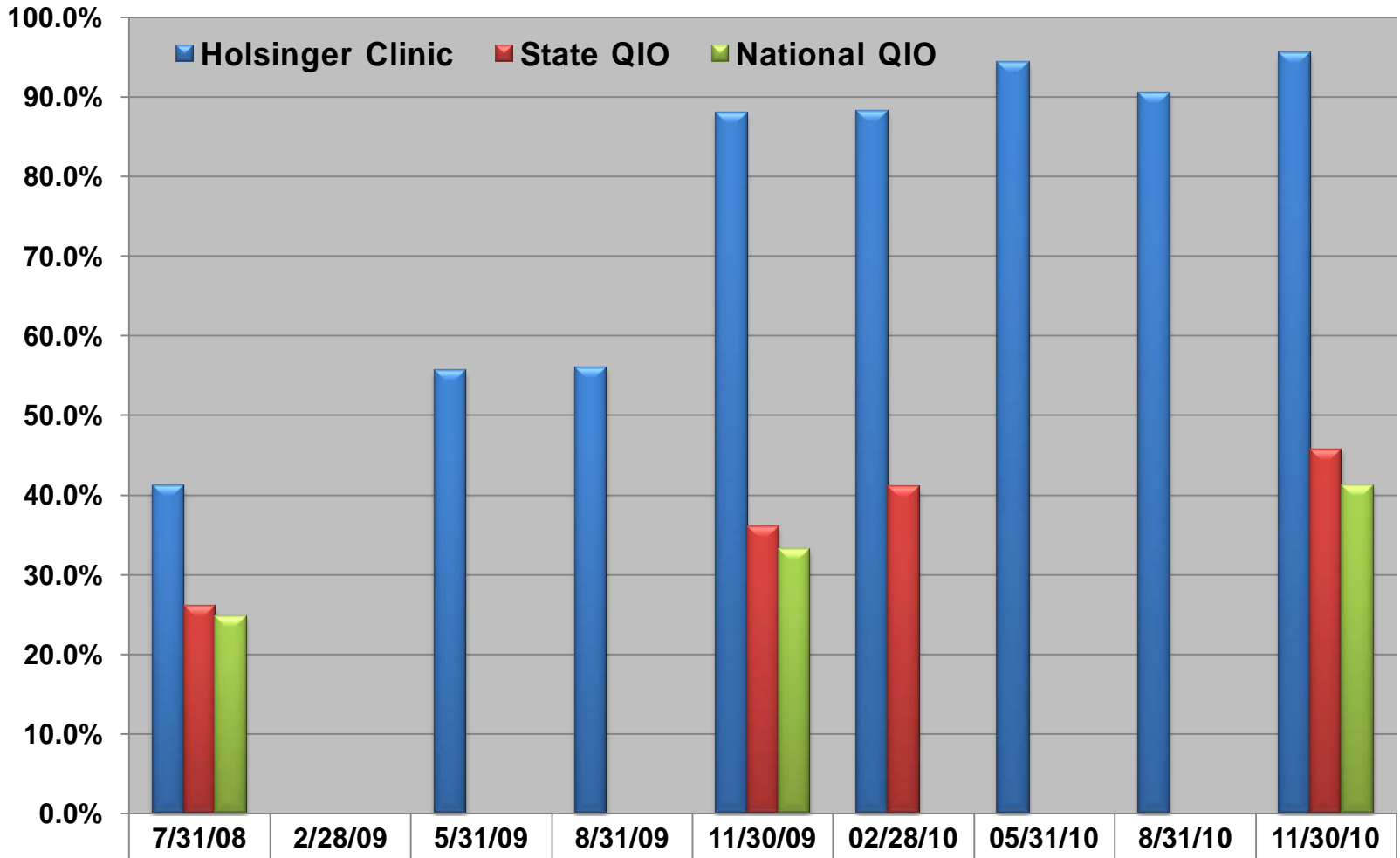
■ Holsinger Clinic	48.3%	45.2%	43.3%	63.6%	64.0%	73.7%	73.9%	77.4%	81.8%
■ State QIO	14.0%				23.0%	25.0%			30.5%
■ National QIO	19.7%				26.0%	25.0%			33.2%

IFMC QIO Prevention Program Influenza Vaccination % of Compliant Patients



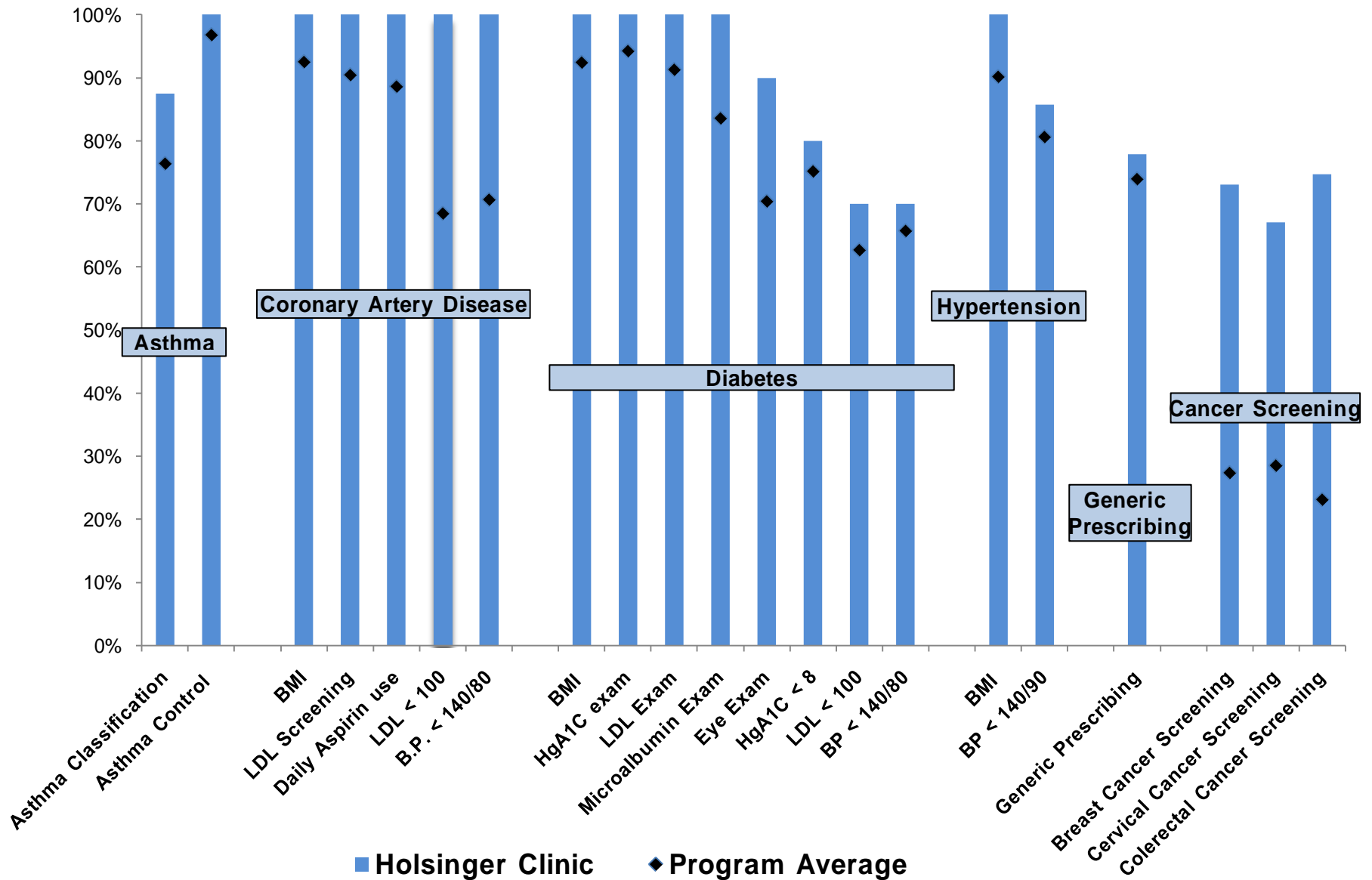
■ Holsinger Clinic	32.7%	51.2%	51.2%	62.2%	77.0%	92.3%	96.9%	0.5%	95.3%
■ State QIO	27.0%				27.0%	36.0%			41.6%
■ National QIO	28.3%				27.0%	36.0%			33.5%

IFMC QIO Prevention Program Pneumococcal Vaccination % of Compliant Patients



■ Holsinger Clinic	41.1%		55.6%	56.0%	88.0%	88.2%	94.3%	90.5%	95.6%
■ State QIO	26.0%				36.0%	41.0%			45.7%
■ National QIO	24.7%				33.2%				41.1%

Wellmark® Blue Cross Blue Shield 2010 Collaboration on Quality® Primary Care Program

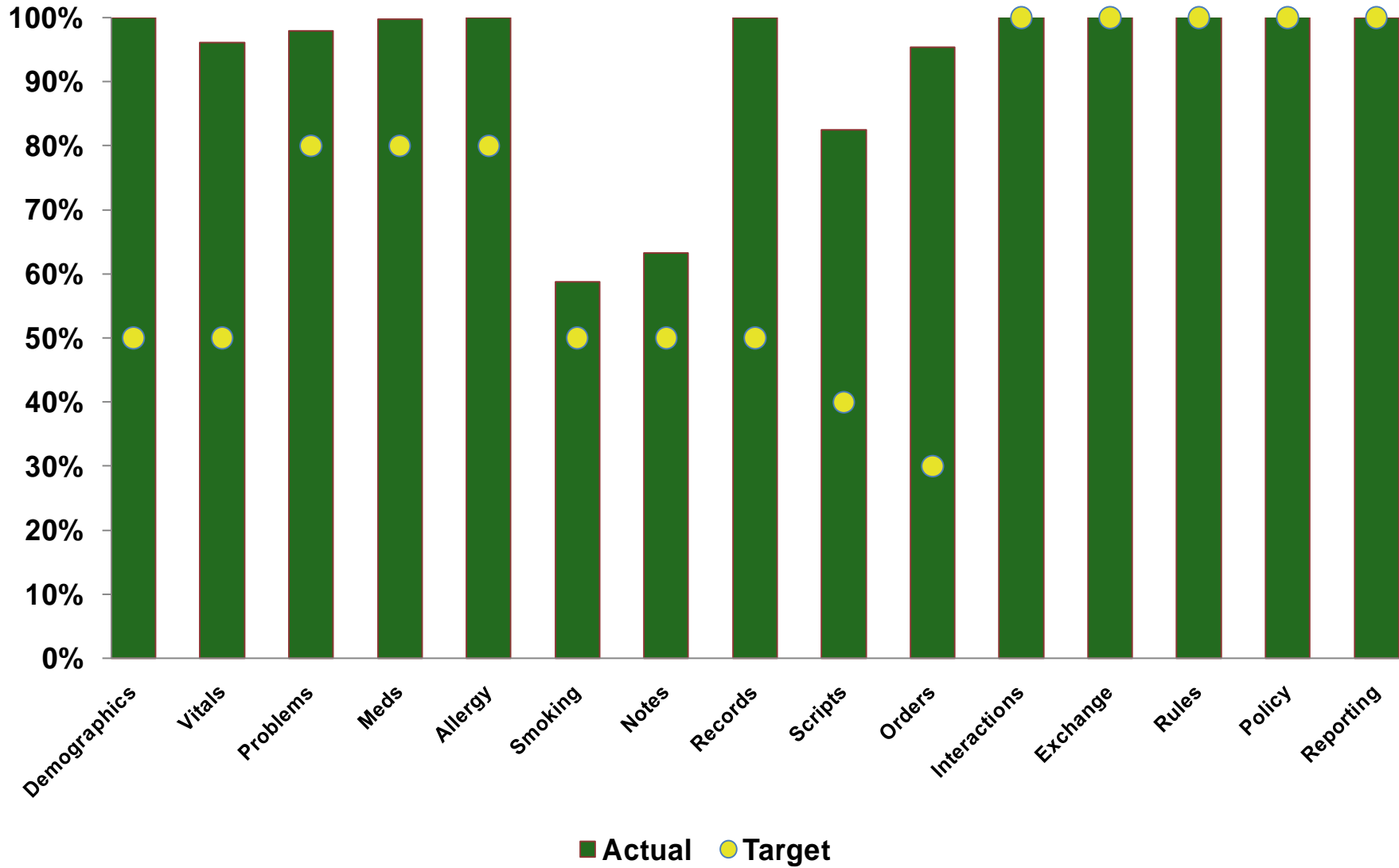


Report Create Date: 03/23/2011 08:24:31 AM, Reporting Period - 2010 Report

Clinical Suite	Type Of Measure	Performance Indicator	Performance Indicator Goals				Results
			Level 1	Level 2	Level 3	Current Score %	
Members with Asthma	Process	Classification of asthma severity using NAEPP guidelines	70.00%	80.00%	85.00%	87.50%	Level 3
		Use of long-term medication in patients classified as persistent asthmatics	80.00%	90.00%	95.00%	100.00%	Level 3
Asthma Results							Level 3
Breast Cancer Screening	Process	Patients who have had a breast cancer screening during the measurement year or year prior				73.07%	Reporting Only
Breast Cancer Results							
Cervical Cancer Results	Process	Patients who have had a cervical cancer screening during the measurement year or two years prior				67.10%	Reporting Only
Cervical Cancer Results							
Colorectal Cancer Screening	Process	Patients who have had a colorectal screening				74.72%	Reporting Only
Colorectal Cancer Results							
Members with Coronary Artery Disease	Process	Body Mass Index	80.00%	85.00%	90.00%	100.00%	Level 3
		Low-density Lipoprotein Exam	85.00%	90.00%	94.00%	100.00%	Level 3
	Outcome	Low-density Lipoprotein less than 100	65.00%	70.00%	75.00%	100.00%	Level 3
		Blood pressure less than 140 systolic and less than 80 diastolic	60.00%	70.00%	75.00%	100.00%	Level 3
		Daily Aspirin Use	80.00%	90.00%	95.00%	100.00%	Level 3
Coronary Artery Disease Results							Level 3
Members with Diabetes	Process	Body Mass Index	80.00%	85.00%	90.00%	100.00%	Level 3
		Hemoglobin A1C Exam	85.00%	90.00%	94.00%	100.00%	Level 3
		Low-density Lipoprotein Exam	85.00%	90.00%	94.00%	100.00%	Level 3
		Microalbumin Exam	75.00%	80.00%	90.00%	100.00%	Level 3
		Retinal Exam	60.00%	65.00%	70.00%	90.00%	Level 3
	Outcome	Hemoglobin A1C less than 8	70.00%	75.00%	80.00%	80.00%	Level 3
		Low-density Lipoprotein less than 100	60.00%	65.00%	70.00%	70.00%	Level 3
		Blood pressure less than 140 systolic and less than 80 diastolic	60.00%	70.00%	75.00%	70.00%	Level 2
Diabetes Results							Level 2
Members with Hypertension	Process	Body Mass Index	80.00%	85.00%	90.00%	100.00%	Level 3
	Outcome	Blood pressure less than 140 systolic and less than 90 diastolic	75.00%	80.00%	85.00%	85.71%	Level 3
Hypertension Results							Level 3

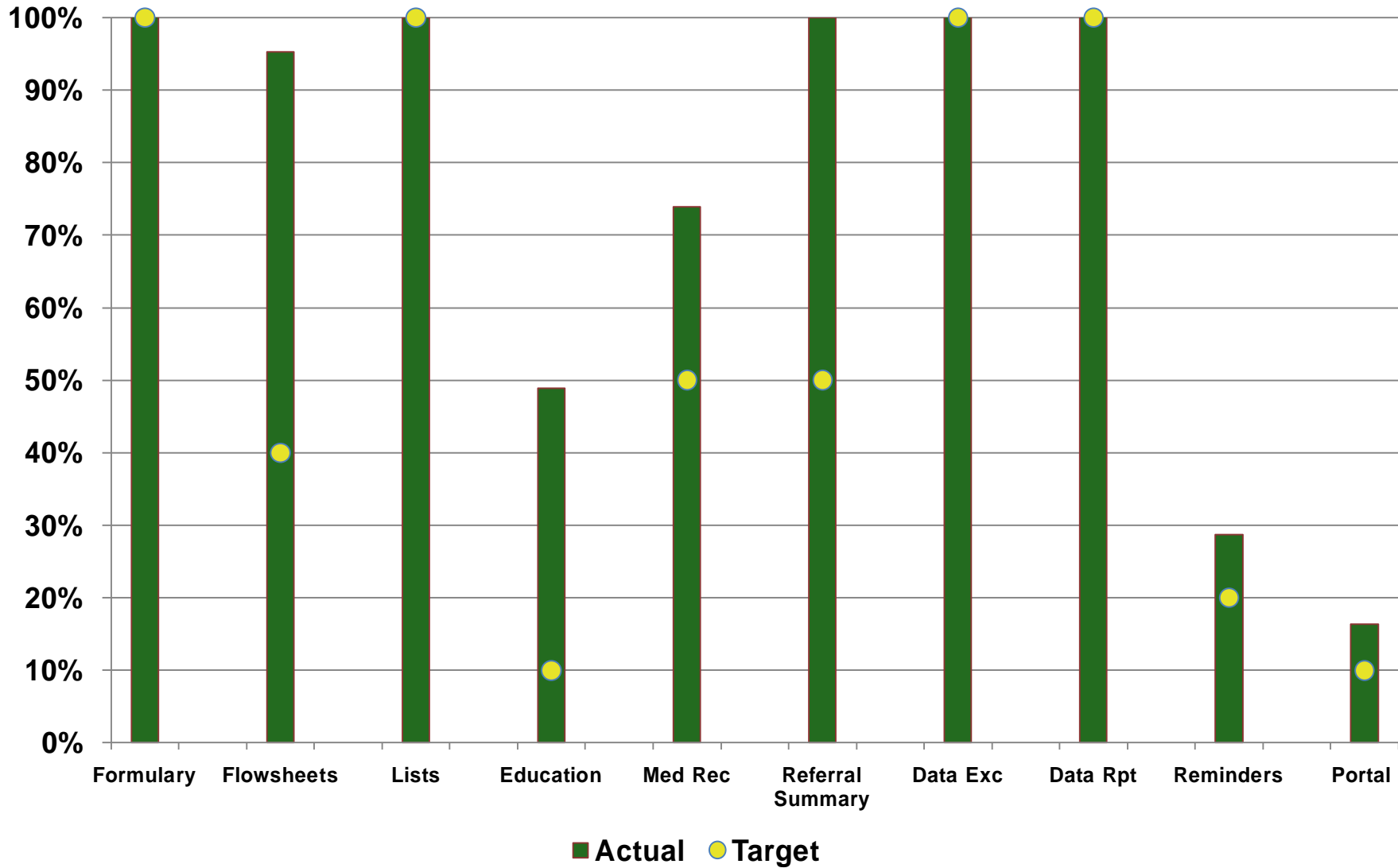
Dr. Holsinger Meaningful Use Core Performance Measures

April 24, 2011

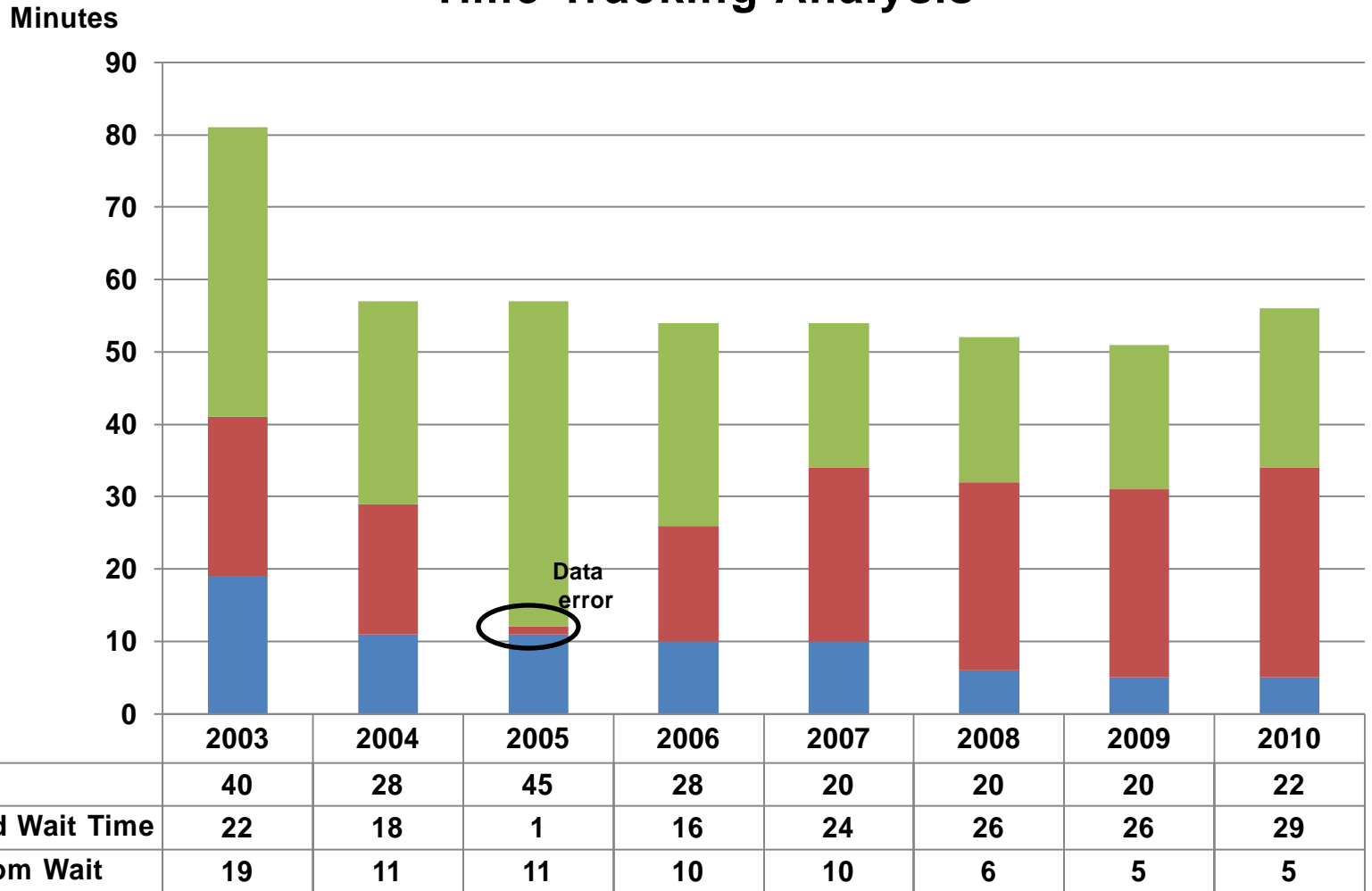


Dr. Holsinger Meaningful Use Menu Set Measures

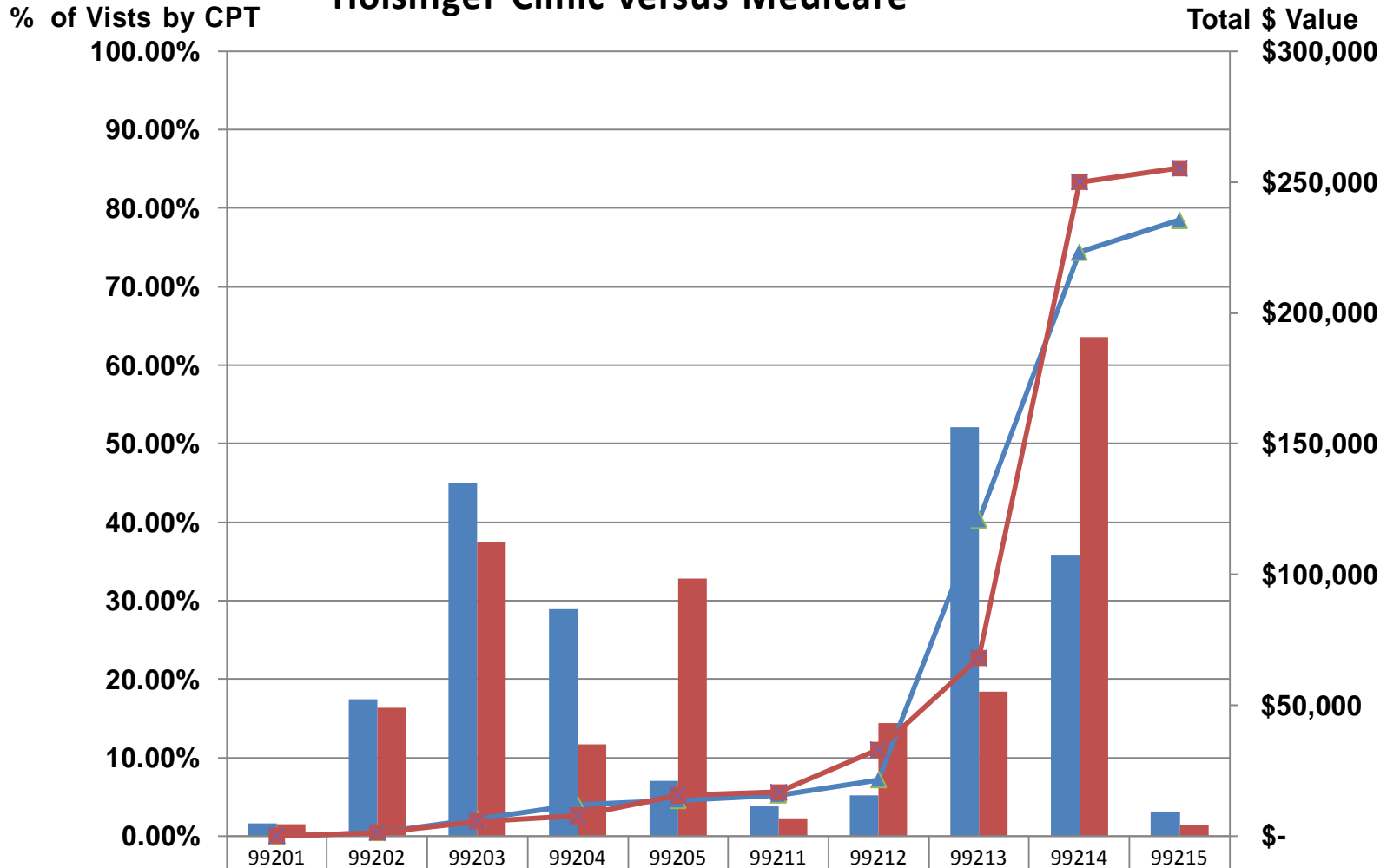
April 24, 2011



James F. Holsinger M.D., PC Time Tracking Analysis



Office Visit Evaluation and Management Benchmark Holsinger Clinic versus Medicare



■ Medicare Benchmark	99201	99202	99203	99204	99205	99211	99212	99213	99214	99215
■ Holsinger Clinic	1.64%	17.46%	44.93%	28.96%	7.01%	3.80%	5.17%	52.05%	35.82%	3.15%
▲ Medicare Accumulated \$ Value	1.56%	16.41%	37.50%	11.72%	32.81%	2.28%	14.39%	18.41%	63.55%	1.37%
■ Holsinger Accumulated \$ Value	\$74	\$1,436	\$6,518	\$11,998	\$13,666	\$15,770	\$21,620	\$120,846	\$223,307	\$235,490
■ Holsinger Accumulated \$ Value	\$70	\$1,350	\$5,592	\$7,809	\$15,619	\$16,878	\$33,145	\$68,235	\$250,026	\$255,331

Office Visit Evaluation and Management Benchmark Holsinger Clinic versus Medicare

CPT Code	CPT Description	2008 Medicare # of Family Medicine Visits	2010 Iowa Medicare Fee	Dr. Holsinger			Medicare Benchmark			Accum. Value Holsinger	Accum. Value Benchmark
				# of Visits	%	\$ Value	Implied # of Visits	%	\$ Value		
99201	OV,New,Straightforward	24,496	\$ 35.08	2	1.56%	\$70.16	2	1.64%	\$ 73.64	\$ 70	\$ 74
99202	OV,New,Expanded	260,864	\$ 60.95	21	16.41%	\$ 1,279.95	22	17.46%	\$ 1,362.50	\$ 1,350	\$ 1,436
99203	OV,New,Low	671,090	\$ 88.37	48	37.50%	\$ 4,241.76	58	44.93%	\$ 5,082.01	\$ 5,592	\$ 6,518
99204	OV,New,Moderate	432,573	\$ 147.83	15	11.72%	\$ 2,217.45	37	28.96%	\$ 5,479.43	\$ 7,809	\$ 11,998
99205	OV,New,High	104,702	\$ 185.94	42	32.81%	\$ 7,809.48	9	7.01%	\$ 1,668.31	\$ 15,619	\$ 13,666
99211	OV,Est.,Minimal	1,519,340	\$ 18.52	68	2.28%	\$ 1,259.36	114	3.80%	\$ 2,104.43	\$ 16,878	\$ 15,770
99212	OV,Est.,Straightforward	2,067,510	\$ 37.83	430	14.39%	\$ 16,266.90	155	5.17%	\$ 5,849.56	\$ 33,145	\$ 21,620
99213	OV,Est.,Low-Expanded	20,795,408	\$ 63.80	550	18.41%	\$ 35,090.00	1,555	52.05%	\$ 99,226.47	\$ 68,235	\$ 120,846
99214	OV,Est.,Moderate-Detailed	14,311,037	\$ 95.73	1899	63.55%	\$181,791.27	1,070	35.82%	\$ 102,461.00	\$ 250,026	\$ 223,307
99215	OV,Est.,High-Comp.	1,258,949	\$ 129.39	41	1.37%	\$ 5,304.99	94	3.15%	\$ 12,182.83	\$ 255,331	\$ 235,490
Totals				3116		\$ 255,261.16			\$ 235,416.55		
					Value Added	8.43%				\$ 19,844.61	

Source: CMS.gov/MedicarefeeforsvcpartsAB

James F. Holsinger M.D., PC

Key Performance Indicators

Key Performance Indicator	Gold Standard	2003	2004	2005	2006	2007	2008	2009	2010
Electronic filing success rate	> 97%		89.9%	70.3%	83.5%	77.4%	96.0%	97.7%	98.3%
Support staff / physician	< 5	3.42	3.25	3.04	2.74	2.66	3.53	3.44	3.35
Overtime %	< 3.5%						0.8%	0.3%	0.2%
Overhead %	< 32%	47%	33%	31%	29%	24%	31%	23%	22%
Total annual visits ⁽¹⁾	> 4,000	634	2,440	3,163	3,626	3,915	4,820	4,412	4,110
Charges / visit ⁽¹⁾	> \$225*								
Expense / visit	< \$141								
Net revenue / visit ⁽¹⁾	> \$80*								
Visits / support staff	> 960	186	751	1,040	1,321	1,474	1,367	1,284	1,305
A/R over 120 days %	< 21%	10%	19%	27%	39%	30%	20%	16%	6%
Co-pays collections %	> 95%						58%	88%	96%
Electronic claims %	> 90%					97%	99%	99%	99%
Gross collections %	> 55%	26%	57%	52%	55%	57%	54%	48%	49%
Net collection %	> 98%	94%	99%	98%	99%	99%	98%	96%	98%
Days in AR	< 42 days	123	83	71	85	45	34	36	20

Gold Standard Source: Physician Revenue Cycle Gold Standard Study, 2008 Gateway EDI and LarsonAllen

(1) – Gold Standard adjusted for 1 physician versus multiple physicians - Holsinger estimate

James F. Holsinger M.D. PC - Cost Benefit Analysis

Investment

	2003*	2004	2005	2006	2007	2008	2009	2010	TOTAL
I EHR SOFTWARE									
a. EHR software (license for providers, users and enterprise)	18,183								18,183
b. EHR related software (clearinghouse and internet charges)	720	943	2,070	3,260	3,913	1,532	1,569	1,800	15,807
d. Interfaces (labs, PM systems, devices, hospitals, etc)				171				1,014	1,185
e. Yearly EHR and EHR related software maintenance / support		8,796	4,296	9,923	6,042	4,331	4,331	4,575	42,294
	18,903	9,739	6,366	13,354	9,955	5,863	5,900	7,389	77,469

II EHR HARDWARE

a. Local servers (for EHR, images, etc)	5,990						5,992		11,982
b. EHR user devices (PC's tables laptops, scanners, upgrades) ⁽¹⁾	18,150	4,827	2,520	1,883	4,083		6,641	3,203	41,307
d. External connectivity (internet, T1 lines, etc)	594	1,188	1,188	1,188	1,188	1,188	1,188	1,188	8,910
	24,734	6,015	3,708	3,071	5,271	1,188	13,821	4,391	62,199

III ADDITIONAL COSTS

a. Training costs for EHR and EHR related software	1,899								1,899
c. Technical support	938	682	9,303	6,772	7,996	2,647	3,211	2,667	34,216
d. Server software (virus protection)	450	630	675	720	720	720	720	720	5,355
f. On-time implementation costs (system installation cost)	3,087								3,087
	6,374	1,312	9,978	7,492	8,716	3,367	3,931	3,387	44,557

Total Technology Investment Costs	50,011	17,066	20,052	23,917	23,942	10,418	23,652	15,167	184,225
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Savings or Cost avoidance

I Actual Cost reduction⁽²⁾

a. Malpractice insurance			1,487	982	857	663	661	623	5,273
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II Staffing - Cost avoidance

<i>Number of actual EHR using providers</i>	1.0	2.0	2.0	3.0	2.5	2.0	2.0	2.0	
<i>Actual number of full and part time employees</i>	3.0	5.8	6.3	7.2	6.9	6.5	6.5	6.5	
<i>Gateway / LarsonAllen 2008 benchmark @ 5/provider</i>	5	10	10	15	12.5	10	10	10	
<i>Number of people saved</i>	2.0	4.2	3.7	7.9	5.6	3.5	3.5	3.5	
<i>Median salary of medical assistant in Keokuk per Salary.com</i>	27,134	27,134	27,134	27,134	27,134	27,134	27,134	27,134	
<i>Benefits of medical assistant at 30%</i>	8,140	8,140	8,140	8,140	8,140	8,140	8,140	8,140	
b. Reduction in staff-to-provider ratio	35,274	148,152	130,515	276,902	198,241	123,460	123,460	123,460	1,159,463

III Increased Revenue⁽²⁾

c. PQR Incentive						1,905	9,840	9,400	21,145
d. Other pay for performance programs							5,125	7,590	12,715
e. Level of service billing - Increased level of E/M See appendix D	9,922	19,845	19,845	19,845	19,845	19,845	19,845	19,845	148,837
	9,922	19,845	19,845	19,845	19,845	21,750	34,810	36,835	182,697

Total Technology Cost Savings	45,196	167,997	151,847	297,729	218,943	145,873	158,931	160,918	1,347,433
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Return on Investment

(4,814)	150,931	131,794	273,812	195,001	135,455	135,279	145,751	1,163,208
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* Six months of savings

(1) Includes costs of windows software and Microsoft office products

(2) Includes only Dr. Holsinger

Achieving High Compliance Rates for Preventive Health Screenings

James F. Holsinger, M.D. PC
Family Medicine Practice
Keokuk, IA

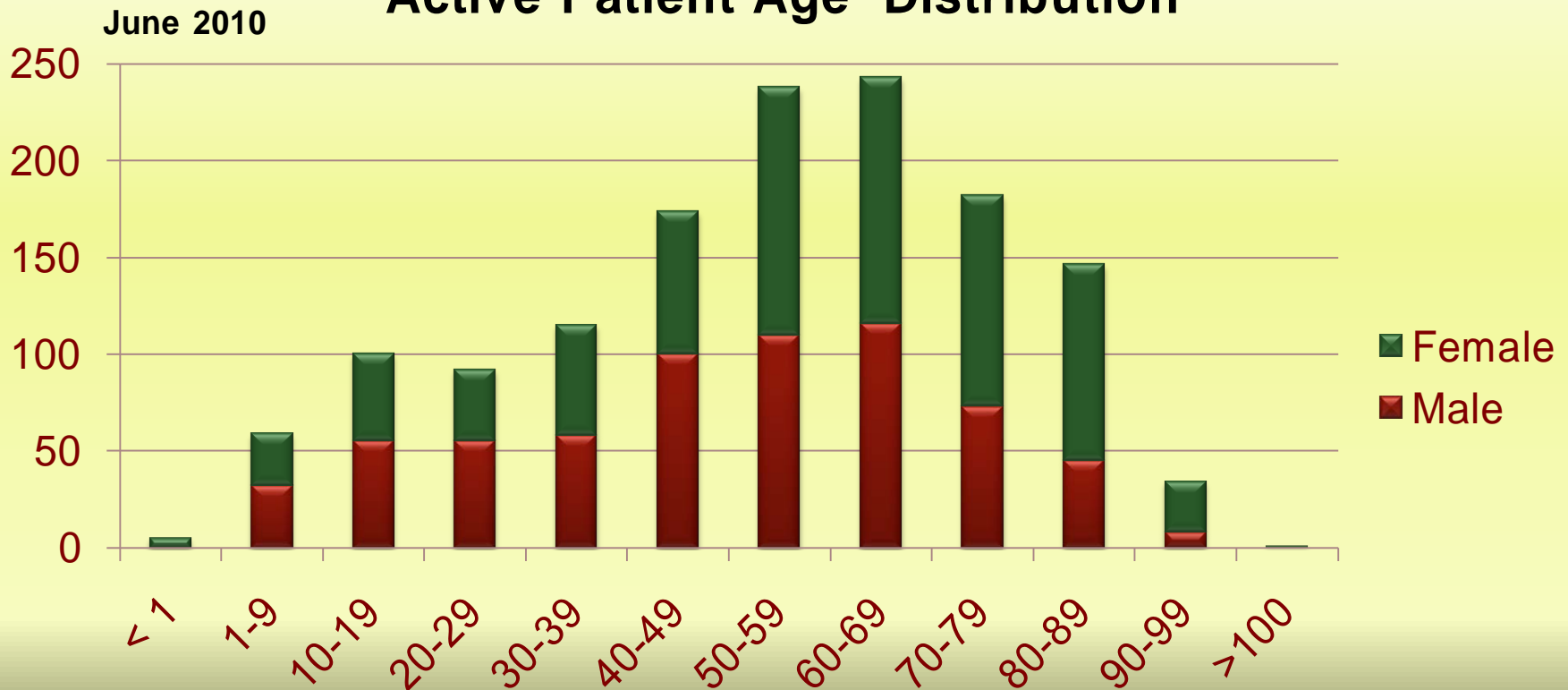
August 2010

James F. Holsinger M.D. is a solo family medicine practice in Keokuk. The practice serves a community of approximately 20,000 people. Roughly 70% of our active patients are residents of Iowa and the other 30% are Illinois and Missouri residents.



The clinic which opened in July 2003, has quickly grown to nearly 1,400 active patients. We have an aging patient base, which is typical of middle America primary care practices which do not offer obstetric services.

James F. Holsinger M.D. Active Patient Age Distribution

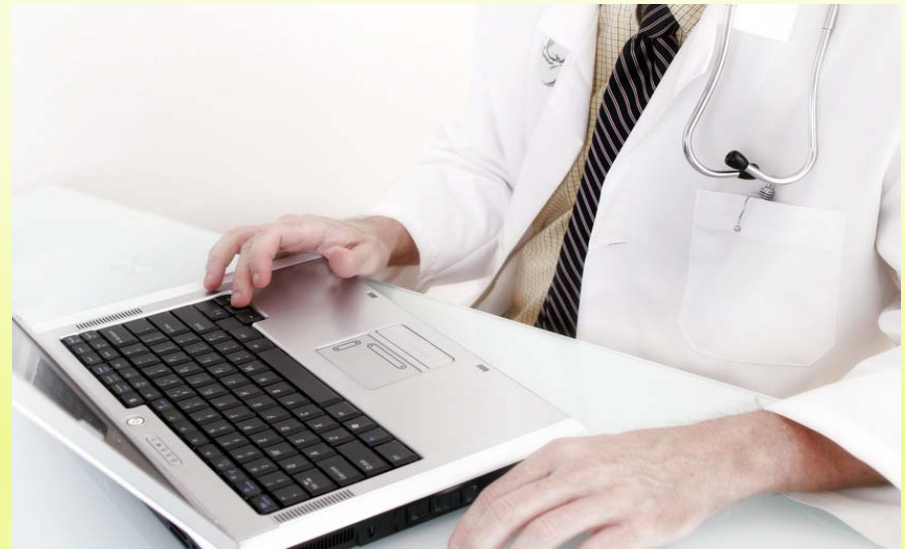


Doctor Holsinger's background is quite diverse



- **B.S. cum laude, Fairleigh Dickinson University**
- **MBA, New York University**
- **Sales management, Corn Products International**
- **Sales and Marketing Executive, H.J. Heinz Company**
- **Owner, retail bookstore**
- **M.D., Ross University**
- **Family Medicine Residency, Southern Illinois University**
- **Chief Resident, Southern Illinois University**
- **Board Certified, Family Medicine**
- **Solo family medicine practice**
- **2 terms as Chief of Staff, Keokuk Area Hospital**
- **Director, Keokuk Health Systems**
- **Medical Director, Lee County Juvenile Detention Center**
- **Medical Director of 3 of the 4 local nursing homes**
- **Known in the community as the doctor who listens**

We had the benefit of opening the practice with a fully integrated EHR / EMR system avoiding the need and cost to maintain a paper system.



From the beginning, patient data has been captured in accessible format. Diagnosis, tests, labs, vaccinations and demographic data are all searchable

Our EMR / EHR and facility investment has allowed us offer various business services to other independent providers with minimal support staff

- **2 full time physicians, Dr. Holsinger and an independent urologist**
- **Part-time medical providers such as cardiology, neurology, podiatry and audiology, staff support varies for each part-time providers**
- **Moderately complex CLIA approved laboratory**
- **6.5 employees support current clinic operation**
 - **1 full time receptionist with medical assistant training**
 - **1 part time document scanner, 30 hours/week with a business background**
 - **1 part time billing and accounts payable, 30 hours/week, business background**
 - **2 half time nurses, job sharing for total of 40 hours/weeks, both RN**
 - **1 full time nurse, LPN**
 - **1 full time nurse/lab assistant, medical assistant**
 - **1 full time lab nurse, RN**

Our EMR / EHR system offers a clinical quality management module which can significantly improve the quality of patient care and in turn improve screening and vaccination compliance rates.

Quality management modules should include:

Clinic rules for:

- Disease management
- Health maintenance
- Immunization records
- Medication rules by cpt and icd codes
- Lab test rules by icd codes
- Lab results

Customized patient rules to manage individual patient needs

Reminder system for overdue rules

Reminder system for needed labs / tests

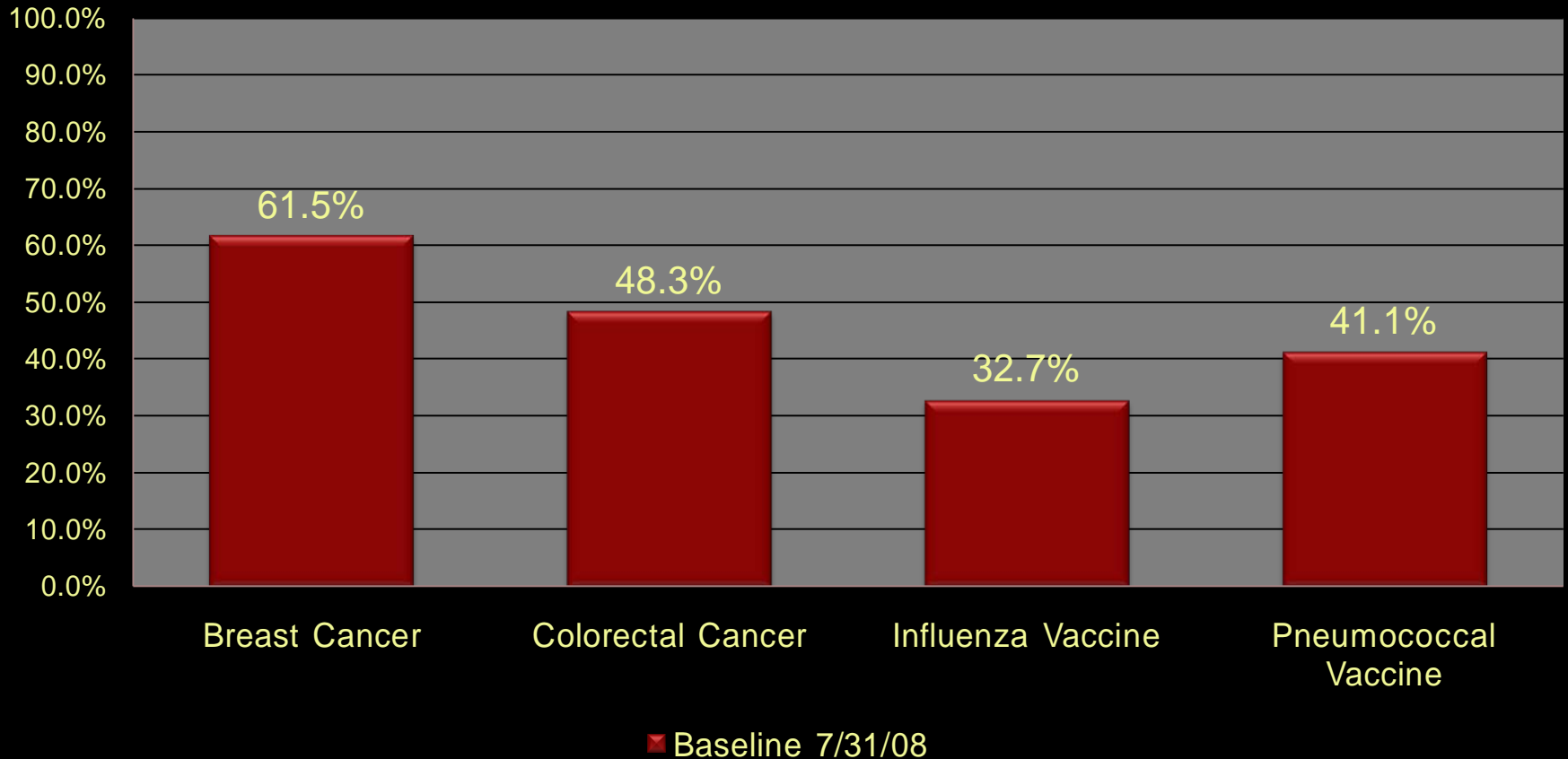
Automated laboratory interface

Report capability for compliance / non-compliance

A review of our baseline cancer screening and immunization compliance data revealed opportunities for improvements

IFMC Performance Data James F. Holsinger

Percent of Compliant Patients

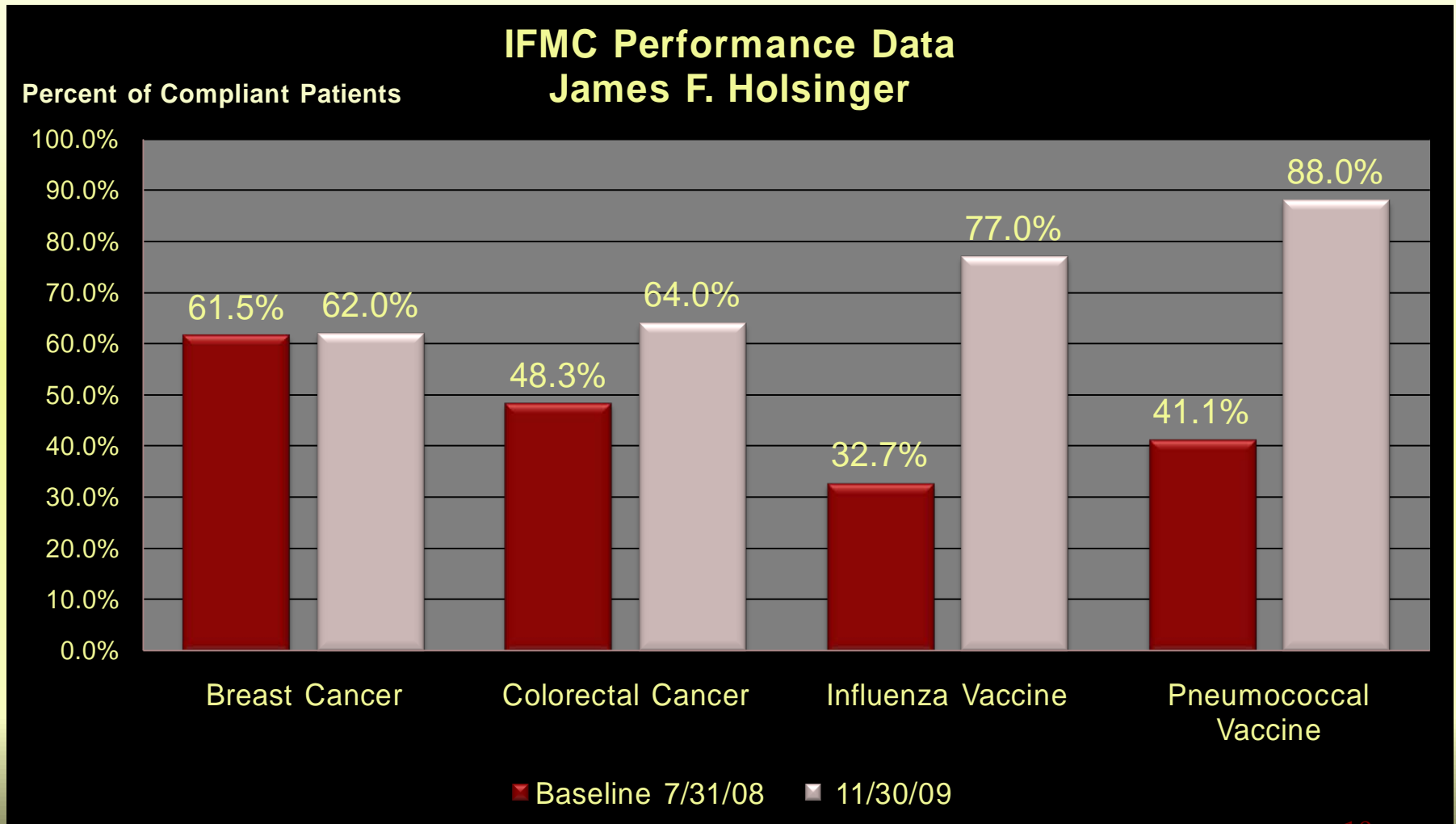


Since our participation with IFMC's initiative coincided with flu season, we chose to focus our efforts to improve vaccination compliance first.

We began our process improvement by:

- **Securing physician and clinic management support**
- **Appointing joint project champions:**
 - 1 business champion (front office)
 - 1 clinic champion (back office)
- **Sharing project initiative with 100% of staff members**
- **Reviewing data to assure data and query integrity**
- **Generating patient lists**
 - Patients who received influenza vaccination prior year
 - Patients seen within prior 24 months who did not receive influenza vaccination the prior year
 - Patients who had not received a pneumococcal vaccination
- **Calling patients to schedule vaccination appointments**
 - Assigned call list to both front and back office staff to create ownership
 - Staff utilized physician day out of clinic to complete calls
 - Staff completed calls in less than 2 weeks

IFMC's November 2009 report revealed significant improvement in compliance rates for influenza and pneumococcal vaccinations



Our initial vaccination compliance rate success encouraged us to raise the bar. Subsequently, we began to shift our staff's focus from reactive care to preventive care by:

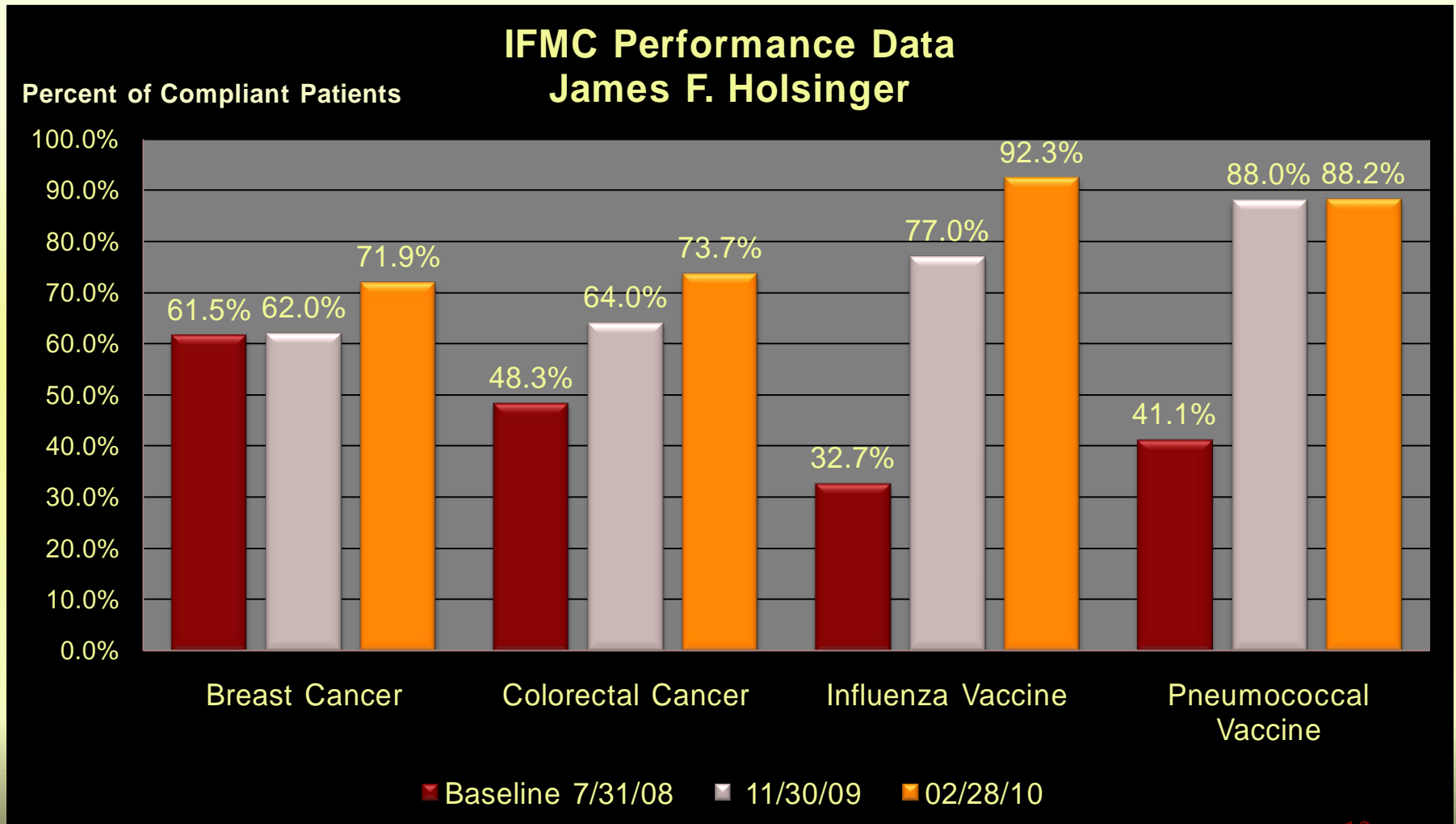
- **Sharing IFMC results with 100% of the staff**
- **Conveying our vision to shift from reactive to preventive medicine**
 - Requested clinical staff to address patient reminders at each patient visit
 - Documenting patient non-compliance and alerting physician prior to patient encounter
- **Communicating our intent to participate in PQRI diabetes reporting**
 - Created chart templates to interface with claims module
 - Trained clinical staff on template use
 - Communicated the financial rewards we could receive if reporting was successful
- **Purchasing e-prescribing software in order to expand PQRI initiative**
- **Tying our bonus system to quality of care and health of business**
 - Committed to sharing a portion of the financial rewards from the PQRI initiative
 - Bonus paid only if we achieve continuous improvement in IFMC data and key business performance indicators based on national benchmarks

The clinical staff took the lead as we concentrated our efforts to improve cancer screening compliance rates.

The staff:

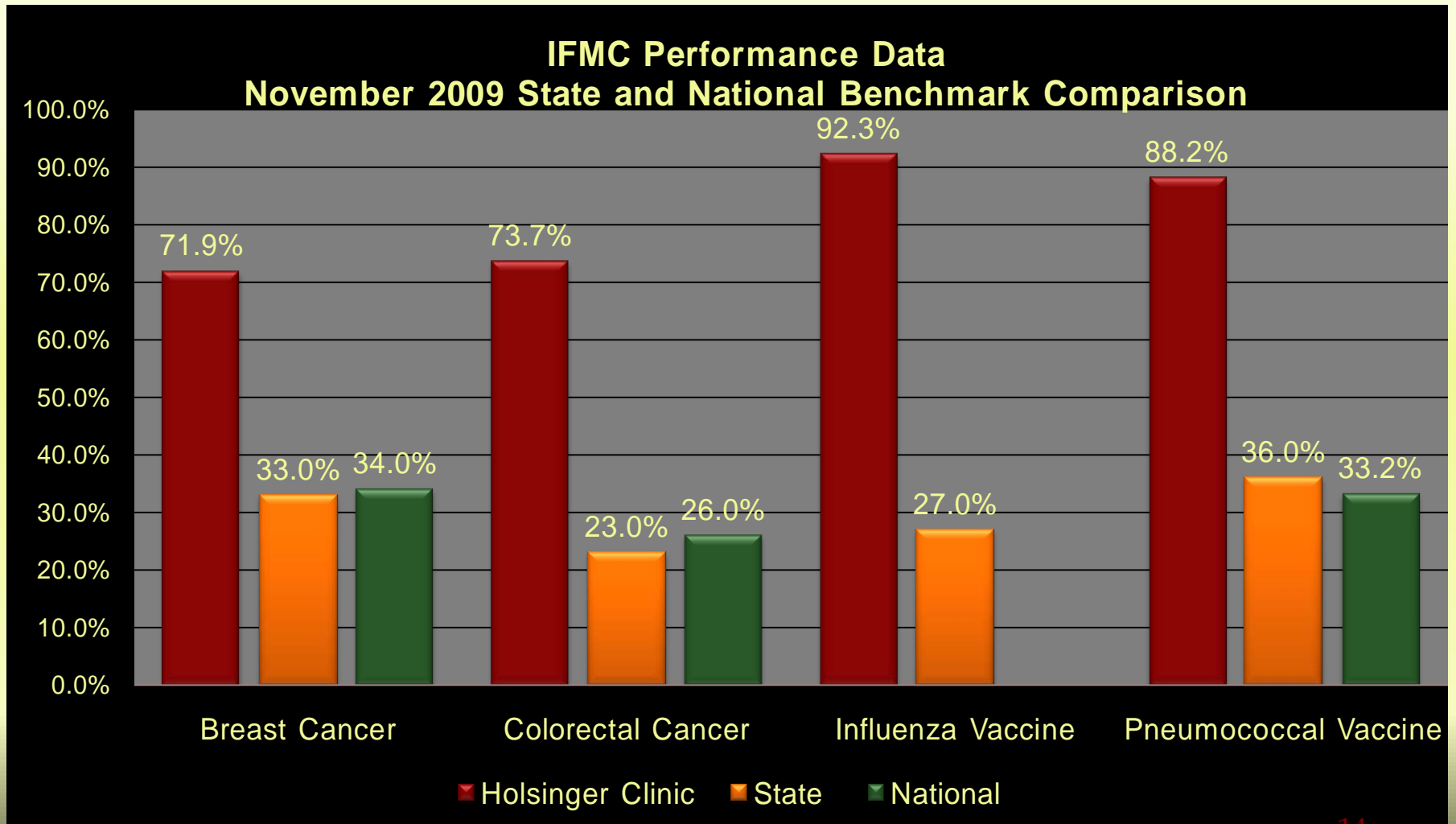
- **Requested reports of patients who were overdue for cancer screenings**
- **Divided the list and contacted patients without management intervention**
- **Began to address patient reminders at each patient visit as a routine business process versus an afterthought**
- **Completed necessary documentation for PQRI diabetes suite coding**
- **Implemented e-prescribing for 2009 reporting year**

The staff's efforts were rewarded with notable improvement in colorectal and breast cancer screening compliance and outstanding results for influenza vaccination compliance



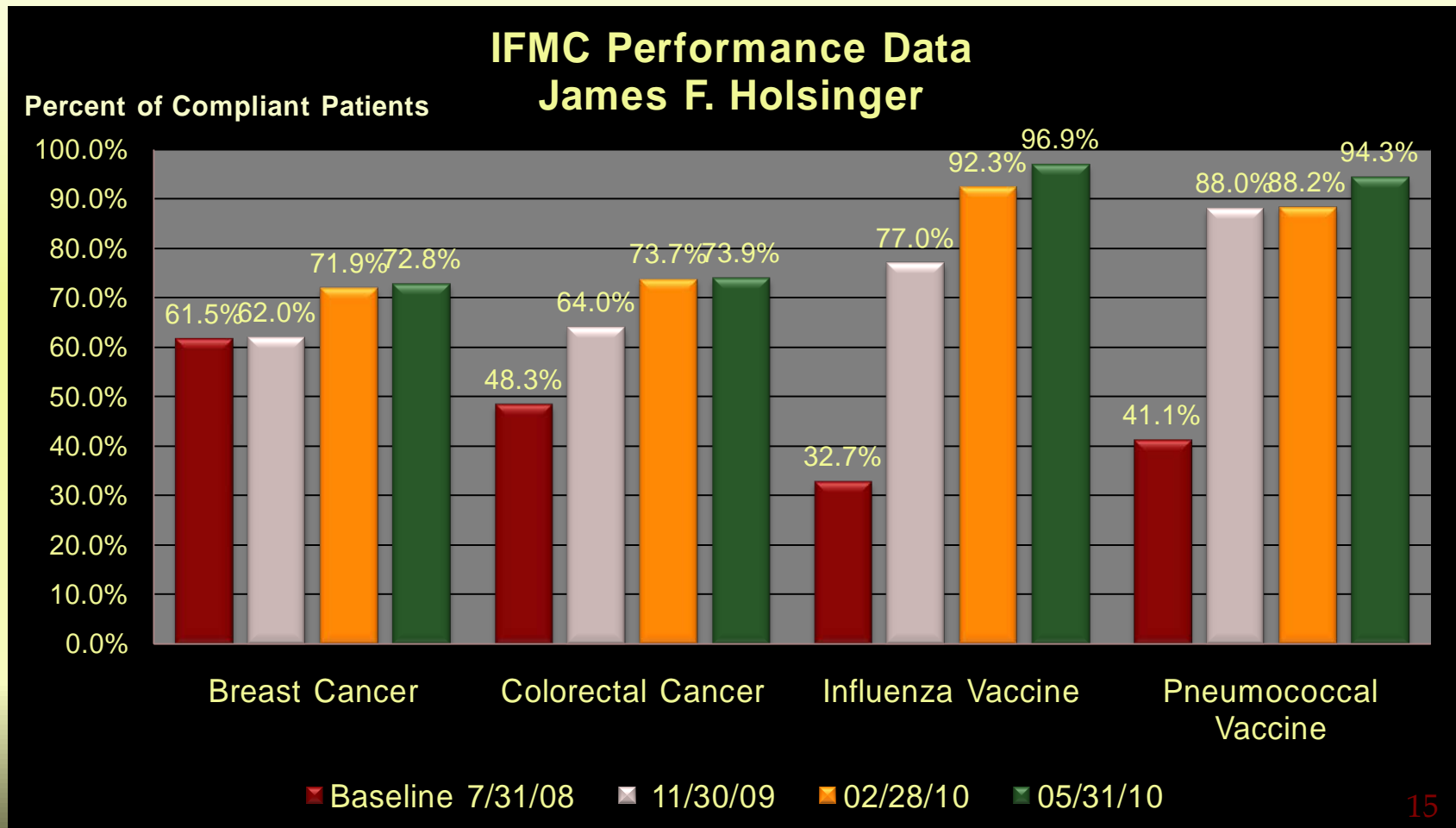
IFMC's publication of the Prevention Project participating practice's state and national results indicate we are a high-performing clinic.

We are very proud of our staff's and patients achievements!



However, the most recent publication shows a slower rate of improvement for our clinic.

We have most likely achieved the upper limit for vaccination compliance but believe there is still an improvement opportunity for cancer screenings.



We continue to manage to our preventive care vision. Our current initiatives and activities include:

- **Expand quality focus by participating in commercial insurance quality programs**
- **Preparing business and staff for “meaningful use” incentive**
 - Assure compliance for features currently available with installed technology
 - Implemented insurance eligibility interface in March 2010
 - Implemented Rx Hub drug and pharmacy interface in April 2010
 - Evaluating patient portal implementation
- **Implemented procedure to assure patients have a future appointment or recall date to establish appointment in order to address overdue rules such as cancer screening**
- **Regularly communicate our progress to the staff and reinforce our goal is “continuous internal improvement” versus external benchmark**
- **Openly communicate our vision with patients and community**

Clinics with minimal computer automation can also achieve quality improvements.

- **Major commercial insurance quality program offers data management tool with customized options to securely manage all patient data**
- **Basic spreadsheet program can easily track patient rules with automated alerts to highlight non-compliance**
 - Initial investment to create patient database if not currently in a downloadable form
 - Minimal manpower needed to review and update rule manager data on a daily basis
 - Example spreadsheet is available in electronic form for those interested

Full Name	Sex	Age	DOB	Last Test Date	Due Date	Overdue?	Address	City, State and Zip	Home Phone
									# cycle days
MAMMOGRAM every 2 years for all female patients 50 and older									730
Mary Martin	F	66	10/12/1943	05/10/2010	05/10/2012	NO	1599 Keokuk Sreet	Hamilton Illinois, 62341	(217)847-3931
Susan Smith	F	54	06/13/1955	Unknown	06/22/10	YES	RR 3, Box 39D	Kahoka Missouri, 63445	(660)754-6071
Nancy Noone	F	60	09/07/1949	Unknown	06/22/10	YES	606 Franklin St	Keokuk Iowa, 52632	(630)479-8434
Julie Jones	F	56	03/06/1954	03/12/2009	03/12/11	NO	1626 Sth 7th Street	Keokuk Iowa, 52632	(319)524-3550



Questions

James F. Holsinger, M.D.

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Damage to Health Records System Contingency Plan Policy (JFH-HIPAA-27)

Policy

To provide a contingency plan to be used in cases of emergency.

Purpose

This policy is developed to create a contingency plan for the organization of James F. Holsinger M.D., PC. This policy will satisfy the HIPAA Security Rule Administrative safeguards [164.308(a)(7)] in that it establishes (and implements as needed) a contingency plan and procedures for responding to an emergency or other occurrence (for example, fire, vandalism, system failure natural disaster) that damages systems that contain electronic protected health information.

The plan includes

- A data backup plan that establishes and implements procedures to create and maintain retrievable exact copies of electronic protected health information.
- An emergency mode operation plan (EMO) that establishes (and implements as needed) procedures to enable continuation of critical business processes for protection of the security of electronic protected health information while operating in emergency mode
- A disaster recovery plan that establishes (and implements as needed) procedures to restore any loss of data.
- Testing and revision procedures for periodic testing and revision of contingency plans.
- Applications and data criticality analysis to assess the relative criticality of specific applications and data in support of other contingency plan components.

This document will be reviewed and each component tested not more than annually by the Business Manager and Dr. James F. Holsinger M.D..

Process

- **Data Backup Plan**

The data back plan establishes and implements procedures to create and maintain retrievable exact copies of the electronic data including electronic protected health information (ePHI).

Procedure

- The e-MDs database which contains our ePHI will be backed up to a separate disk file on the secondary server each day to allow for quick recovery in the case of failure of the primary database.
- Each day all data on both servers will be backed up to a removable disk. There a two (2) disks that will be rotated every other day. The removable backup disk for the current day will be removed from the clinic site to an undisclosed destination. In case of server failure the most recent backup disk will be used to restore our system.
- Each day a copy of the current day patient visit notes will be downloaded to a personal computer which is dedicated solely for the purpose of continuity of patient care. These

patient notes will allow us to continue to treat our patients in the event both of our servers are unavailable due to an emergency. This personal computer will be removed the clinic site each day to an undisclosed location. This computer will have a full disk file backup on a daily basis which will be stored at an undisclosed location separate from the personal computer.

- **Emergency Mode of Operation**

This emergency mode of operation (EMO) provides policies & procedures to be used in the event of an incident impacting our clinic, our computer operations and any e-PHI.

Procedure

- **Employee and patient safety**

Individual safety is of primary concern therefore, in the case of emergency, employees should follow and direct any non-employees in our clinic to follow our Clinic emergency policy, see policy JFH-GP-08.

- **Disaster Classification, Situations and assumptions**

The clinic Business Manager or Dr. James F. Holsinger will classify the disaster as outlined below. This classification will be used to direct employees on the emergency mode of operation. This classification will also be used as a guide for any needed data recovery as defined in the data restore plans,

- Level 0 Disaster

An unplanned event that is only likely to have minimal impact on our patients, computer operations and electronic protected health information. Control of the incident is within the capabilities of Clinic and the duration of the incident is short term, less than one (1) hour. An example of a Level 0 Disaster would be a short term power outage.

- Level I Disaster

An unplanned event that may adversely impact our clinic operation and our electronic protected health information, but only minimally impacts our operations and a specific subset of data. Control of the incident is within the capabilities of the Clinic and the duration of the incident is short term, less than eight (8) hours. An example of a Level 1 Disaster would be a longer-term power outage or an e-MDs application problem which does not impact the ePHI data integrity.

- Level II Disaster

An unplanned event that has minimal impact on our facility operation but may adversely impact our electronic protected health information. Control of the incident is within the capabilities of the Clinic. Long-term implications may result. An example of a Level II Disaster would be an e-MDs database corruption or failure.

- Level III Disaster

An unplanned event that may adversely impact our facility operation and/or electronic protected health information on a large scale. Control of the incident will require specialists in addition to Clinic IT personnel. Long-term implications may result. An example of a Level III Disaster would be a failure of the primary e-MDs server or inability to have access to our clinic and subsequently no access to our primary server.

- **Emergency Plan of Operation**

- Level 0 Disaster

In the event of a Level 0 Disaster, we will temporarily suspend patient treatment and the use of our e-MDs (EHR) system. All employees and non-employees will proceed to an area which is safe. Any data that was not recorded prior to a Level 0 disaster will be reconfirmed with the patient and recorded into the EHR system after the disaster has past.

Appendix H

- Level I Disaster

In the event of a Level I Disaster, the Business Manager or Dr. James F. Holsinger will determine if we will suspend patient treatment or continue clinic operation. If clinic operation is suspended, we will follow Level 0 Disaster plan as described above. Otherwise, the following Level I Disaster steps should be followed:

 - In the event of loss of phone service: The phone company will be asked to forward all lines of the clinic to Dr. Holsinger's cell phone. We will contact Keokuk Area Hospital and have them direct any calls to Dr. Holsinger's cell phone.
 - The personal computer which contains the patient visit notes will be used to treat patients.
 - A new note will be created for the current visit and this note will be used to update the primary EHR database once operations return to normal
- Level II Disaster

In the event of a Level II Disaster, the Business Manager or Dr. James F. Holsinger will determine if a Level 1 Disaster also applies. If a Level I Disaster applies, we will follow Level I Disaster plan as well as the Level II plan until the disaster is resolved. The following Level II Disaster plan is as follows:

 - The most recent back-up copy of the database will be used for data restoration. We will follow the Data Restore procedure as documented below.
 - Once data operations have been restored will we verify the accuracy of the EHR database. We will review all patient charts which may have been updated after the database backup which was used for restore.
 - We will follow Level I Disaster plan for data recovery of visit notes created during the disaster.
 - We will review all patient charts (in addition to charts updated using the Level I plan) which may have been updated after the database backup which was used for restore. We will use the following to verify database integrity:
 - If available, we will use the audit logs to assure the database is in sync.
 - Use the EHR schedule system for the appropriate time period to gain accuracy of patient charts. If necessary, patients will be contacted to verify the accuracy of the visit note.
 - Contact local pharmacies to assure all prescriptions are up-to-date.
 - Use the bank deposit(s) to assure payment system is in sync.
 - Paper documents will be re-scanned into the system.
- Level III Disaster

In the event of a Level III Disaster, the Business Manager or Dr. James F. Holsinger will determine if our primary clinic site is suitable for use. If the clinic is suitable for use, our external Information System support will be contacted and we will proceed with a Level 2 disaster plan. If our primary clinic site is not suitable for use, we will:

 - Temporarily suspend clinic operations. We will reschedule preventive visits and refer all acute care to Keokuk Area Hospital Emergency Room or another local provider or
 - Establish temporary clinic operation at another available site in our building or Keokuk Area Hospital. We will then proceed with a Level II disaster plan.

- **Data Restore Plan**

The data restore plan established and implements procedures to restore exact copies of the electronic data including e(PHI)

Procedure

- Level 0 Disaster
No data restore is necessary
- Level I Disaster
No data restore is necessary
- Level II Disaster
Data restore is necessary
- Level III Disaster
Data restore is necessary

If a data restore is necessary, the following is the ranked priority of our data restore plan.

1. Restore an exact copy of the ePHI to the primary server used for our EHR system and verify accuracy of contents as outlined in our Emergency Plan of Operation.
2. Restore an exact copy of the ePHI to the backup server, if the primary server is not functional. Once the primary server is functional, create an exact copy backup of all ePHI on the backup server and restore to our primary server. Verify accuracy of contents on primary server from backup server data.
3. Using the universal feature of our backup software, restore an exact copy of the ePHI to a designated personal computer for emergency use until a full restore to the primary or backup server can be completed. This restore feature will be used for Disaster Level II and Disaster Level III in order to minimize impact on our daily operations.

- **Testing and Revision Procedures**

A complete back-up and restore for the primary server containing all ePHI will be conducted and verified on an annual basis. A complete back-up and restore of non ePHI data will be conducted on an annual basis. If necessary, procedure revisions will coincide with testing.

- **Application and Data Criticality Analysis**

Application and data criticality analysis assesses the relative criticality of specific applications and ePHI data in support of other contingency plan components

Criticality Rating

Each application has been rated below using the following scale:

1.	<u>Primary</u> source of PHI for <i>treatment (patient care)</i>
2.	<u>Primary</u> source for <i>billing or scheduling or other healthcare operations not related to treatment which contains ePHI.</i>
3.	<u>Primary</u> source for <i>clinic support applications not related to treatment and not containing ePHI</i> <u>Secondary</u> source of PHI for <i>treatment, payment or healthcare operations</i>

Application	Rating
e-MDs Chart	1
e-MDs Flowsheets within chart	1
e-MDs Dashboard	2
e-MDs Schedule	2
e-MDs Order Tracking	2
e-MDs Docman	2
e-MDs Taskman	2
e-MDs Refill Request	2
e-MDs Bill	2
e-MDs Schedule	2
e-MDs Flowsheet maintenance	2
e-MDs Fax Manager and Monitor	2
e-MDs Template editor	2
e-MDs Rule Manager	2
e-MDs Refill Request	2
e-MDs Unsigned Notes	2
Surescripts e-prescribing	2
Gateway EDI clearinghouse	2
KAH Pacs Radiology	2
Brentwood – Midmark EKG and Spirometry	2
Insurance and formulary benefits	2
Peachtree Accounting software	3
DocmentQ business document management	3
Card scanning	3
Shared documents (S drive storage)	3

Level-1 includes critical applications or data that require and can afford the cost of the highest level of availability.

- Recovery Goal: These systems will sustain an outage of less than eight (8) hours.

Level 2 includes critical services for which the cost of keeping data in sync across primary and back-up servers may not permit Level 1 preparedness.

- Recovery Goal: These systems can be restarted in a fully functional condition within a sixteen (16) hour window.

Level 3 includes applications or data for which the cost of keeping data in sync across primary and back-up media may not permit Level 1 or Level 2 preparedness.

- Recovery Goal: These systems can be restarted in a fully functional condition within a seventy-two (72) hour window.