



# Miramont Family Medicine

*Healthcare for Your Family  
from the Heart*

John L. Bender, MD  
Julie DeSaie

National Priorities Partnership goal: Improving the health  
of the population

IT Utilization: EHR and integrated Registry Functionality

## **Stories of Success**

### **Miramont Family Medicine – 2010 Davies Ambulatory Award**

**Contact: John L Bender, MD and Julie DeSaire**

#### **Title: Improving the Health of the Patient Population**

Utilizing our EHR, patient registry, and clinical based guidelines to engage our patients and improve outcomes.

#### **Background knowledge**

Miramont Family Medicine (MFM) has four locations in Northern Colorado, two in Fort Collins, one each in Wellington and Red Feather Lakes. MFM is a multi-specialty clinic of 13 providers and 50 employees. Our providers round at three hospitals and 11 nursing homes. We currently serve over 20,000 patients annually. We implemented our second EHR, e-MD's in 2007, which can be accessed through a secure Virtual Private Network (VPN) connection from any location with internet capabilities. MFM has been named by the Northern Colorado Business Report as the 4<sup>th</sup> fastest growing company, in our region, for 2010. Miramont Family Medicine's model for success is exemplary in a community where 34 Primary Care Physicians have either bankrupted or prematurely closed their doors in the last eight years.

#### **Local Problem**

Before implementing our EHR, we knew we had a diabetic population, but we would not have been able to run a simple report and tell you how many diabetic's we had in our practice, much less what their A1-C rates were. After the implementation, we found that the reporting capabilities of our EHR were not robust enough for our Patient Centered Medical Home. We engaged the use of Clinical Integration Networks of America (CINA) to mine our data. We felt like we were doing a good job of taking care of our diabetics, but once we had the data, we knew we needed to implement critical interventions to improve our outcomes. Our data showed us that we were only documenting 42% of our diabetics A1-C's and that 60% of those had an A1-C over 9.0. Through our patient centered medical home weekly meeting we developed systems of improvement.

#### **Intended Improvement**

Our initial aim was to decrease the A1-C scores of our diabetic population; however, we knew that we would need to design additional interventions to really impact our patient's overall health. We began with 3 objectives for our diabetic population, 1) document a current A1-C, 2) document a current LDL, and 3) evaluate the patient's feet. By utilizing our EHR's flowsheet, CINA was able to pull data into the registry that we could use to implement individual patient interventions. Patient care has definitely improved since we started using the EHR. As reported to our state registry, our diabetic patients are more compliant, more educated, and more engaged in their own healthcare. Our percentage of diabetic patients with documented A1-C's has gone from 42% to 88% and our A1-C's over 9.0 has dropped to 20%. (appendix A)

### **Planning the Intervention**

Miramont Family Medicine is a Level III, Patient Centered Medical Home, recognized by NCQA. We meet weekly to go over quality, safety, and efficiency issues within our practice. We utilize Lean Training and PDSA cycle testing to maximize improvement within our clinic.

As part of our weekly Patient Centered Medical Home meetings we review specific patient reports regarding disease states that provide the most impact to the healthcare system. The chronic disease states that we are following include; diabetes, heart/stroke, prevention, and depression. We found through the reporting that in some areas of care we were doing a great job, where as in other areas we needed to step up our interventions to improve our outcomes. We used several different reports available to us through our EHR, our statewide registry and reports from CINA. (appendix B) to identify those patients that required intervention. We started by looking at patients that had an A1-C value over 9.0. We utilized our registry to report on the individual metrics. We then developed an intervention for these patients. We needed to get these patients back into the clinic and find out what their individual barriers to care were. We found that patients had socio-economic issues, apathy issues about their illness or were overwhelmed with what to do regarding their disease process. We developed a team approach to care involving not only the physician, but also the medical assistant, diabetic educator, and psychologist.

For those patients that had apathy regarding their illness, our diabetic educator had them come in for one on one education about their conditions, creating awareness within the patients. She then added group classes for the patient to include the family or care givers. For patients that seemed to be overwhelmed, we included referrals to our in-house psychologist to help the patients that felt that they had no control over the process. Combining those visits with our diabetic educator eased those patients into education and group classes. For those patients that had socio-economic reasons for not coming in on a regular basis or not taking prescribed medications, we reached out to our medical community for assistance. We applied for grants to help patients cover the cost of care. We engaged our drug company representatives to help us with low cost or no cost pharmaceuticals for those patients that needed them. We these interventions we began to see the A1-C values fall. Before we began our interventions we showed that 56% of our diabetic population had an A1-C over 9.0 and after the intervention we showed that 20% of our population had and A1-C value over 9.0. (appendix C)

We had a patient on our initial listing of patients with A1-C levels over 9.0, with an A1-C of 14.0. While reviewing the patients chart, it was noted that the patient seemed to have some apathy in regards to his condition. He was a young man of only 19, and was covered under his parents insurance. We contacted the patient to have him come in and learned that he had dropped out of college and lost his health insurance coverage and had no funds to come in. We worked with the patient to get him into see our psychologist and diabetic educator and even saw the patient at no charge in order to improve his health. Our diabetic educator and psychologist were able to work with him to get re-enrolled in school and back on his parent's health plan. They worked on his nutrition and exercise habits and over time were able to lower his A1-C to 8.3, the lowest it has been since he started coming to our clinic. We continue to work with this patient and hope to see his A1-C drop below a 7.0. (appendix D)

### **HIT Dimensions Utilized**

Miramont Family Medicine has committed to becoming the best patient medical centered medical home. As part of that commitment, we have implemented several different IT solutions. We utilize our EHR to not only chart our patient's care, but to also, e-prescribe, clinical decision support, physician order entry, flow-sheets, and document management. We have interfaced our

EHR with our hospital, clinical laboratories and state immunization information system. We added CINA to be able to provide immediate data on a patient level so that appropriate interventions could be done. Another functionality we use within our EHR for immediate data on the patient level is our Rules and Reminders. The use of the Rules and Reminders module has increased our patient compliance and revenues. The module runs a series of 187 “rules” chosen by the providers. The rules specify parameters for preventive services and certain tests such as a starting age for mammograms, or intervals for colonoscopy, or creatinine testing for a diagnosis of diabetes (appendix E). The rules algorithms are then run for all rules across the database of 20,000 patients, every night after the database backup is complete. In other words, the module checks the patient chart for CPT codes that match a specific test or procedure that the patient needs to have done on a regular basis, such as an A1-C in a diabetic, or a yearly mammogram. It then creates a work list that needs to be addressed as “reminders” attached to each individual patient chart and is present next time the chart is opened. The list can also be sorted as a function of recall, e.g. which patients are due for mammography at this time.

### **Outcomes (a)**

Miramont Family Medicine has been involved with the Patient Centered Medical Home concept since 2007, when we first implemented our current EHR. Through the process we have learned what works, what doesn't, and where our best opportunities for bending the cost curve are. We know that managing our chronic care patients and keeping them out of the hospitals and ER's saves the system money. We manage change within our clinic by using PDSA cycle testing. We have found through small tests of change that we have a larger impact on our patients. If we find something that doesn't work, we can immediately switch gears to find something that will for that patient. One size does not fit all, but it fits most and with our willingness to make changes on the fly we are able to provide care in manner that is beneficial to all of our patients.

When we plan for an intervention, we map the process, look for waste and efficiencies. Through this process, we find where we can have the most impact on patient care. Also through this process, we may find other steps that are labor intensive or duplicated and eliminate them.

### **Outcomes (b)**

*Improved outcomes* has been our mantra for sometime. We get excited even if we are only able to move the bar by one patient. We have improved our metrics for diabetic care, heart/stroke, prevention, depression and obesity. Although, we are not at the levels we would like to be at, we continue to strive for perfection.

### **Barriers Encountered**

We expected staff adoption to be our largest barrier. We also expected to have data collections barriers. We were able to eliminate the majority of data collection barriers with the implementation of CINA's data mining server. The staff adoption was a more difficult barrier. We broke through the barrier by using positive feedback to our providers and staff members. We used specific success stories by early adopters to reinforce why we were doing what we were doing. We created a positive, safe environment for discussion in PCMH meeting for staff to voice concerns. Finally, we used data collection and reports to show our progress, making it easier to accept our new models.

### **Challenges Faced**

During our implementation process, we learned that our demographic data transfer had not been completed, causing a lot of duplicate work after we started using the system. Since we did not have live data to work with, we had to create simulated patients. Creating “test” patients and

simulated visits and billing took longer and overall delayed the implementation of the EHR. Any changes that we had made to improve templates for our work flow during this time were being reverted to the original settings when the data transfer took place. We then had to go back and modify them again. The data-transfer problem was corrected by the vendor before our “go-live” date. Looking back, we would have made sure that our data transfer was completed before our scheduled training.

Challenges we expected included staff adoption at all of our locations, concerns from clinicians about being overwhelmed with too many steps they weren’t prepared to address, in the allotted patient appointment time. We started this project at the main clinic, we utilized the clinical decision support system in all locations, and those other locations adopted the new approach in time as well. Moving new processes to the other clinics was a slower process and we needed to guard against any delay in adoption at the other clinics having a negative impact on the primary site. We believed with appropriate tracking and feedback of the effectiveness of screening and treatment we would be able to overcome any negative impact from the other clinics.

### **Summary**

We are still working within the confines of our multi-stakeholder, multi-payor Patient Centered Medical Home pilot project and are hoping that the results of our pilot will have an impact on healthcare delivery systems. We know that we are bending the cost of care curve in our practice and continue to work to ensure that our patient’s conditions are well monitored and that appropriate interventions are utilized. The strength of our pilot project has been that we share our data with other practices in our pilot and by nature our doctors are competitive and in seeing that someone else is doing something different with a better result, we can share that information and test the process within our own practice and look for improvement. In the beginning, we didn’t want to share our data as it was not very good; however, if it moved, we measured it, and it improved. Our lesson in improvement was even bad data can be improved upon.

### **Interpretation**

Our outcomes have improved, but not as quickly as we had expected. We expected that the majority of patients would readily accept our new processes and would feel more engaged in their own healthcare; however, some patients felt that they were being pushed through the system. We had a medical house, but not yet a home. We continually work to improve our processes and systems and we are committed to delivering excellent, compassionate, modern, timely healthcare in an environment that promotes patient and staff growth, health and happiness.

### **Conclusions**

The interventions we have done on behalf of our patients have improved the health of the patient populations. Our outcomes have improved with each patient visit and continue to put Miramont Family Medicine in front of the other pilots. We continually strive for excellence. We continue to add new projects and new metrics to our patient care model, knowing that what we have learned along the way can be used to integrate new services or new metrics.

### **Financial Considerations**

Miramont Family Medicine subscribes to the doctrine that as Family Medicine providers we need to invest in ourselves. We have made friends with the lawyers, bankers and community leaders in order to increase our investment. We have invested over \$200,000 into our EHR and IT closet and are willing to invest more if efficiencies and safety can be improved upon (appendix F). We have reaped the benefits of our investment by becoming part of the PCMH pilot project and other research project in which we are paid for our de-identified data. Cost savings have come from having a fully integrated EHR and practice management system.

Miramont Family Medicine Data • Report Period: April 2011

Diabetes Graphs

Show data for

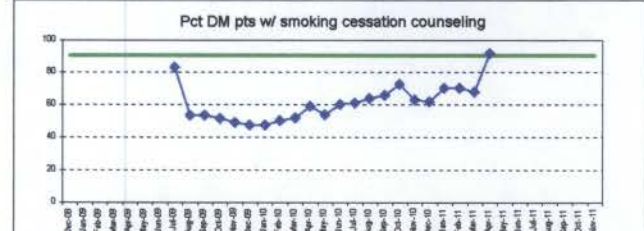
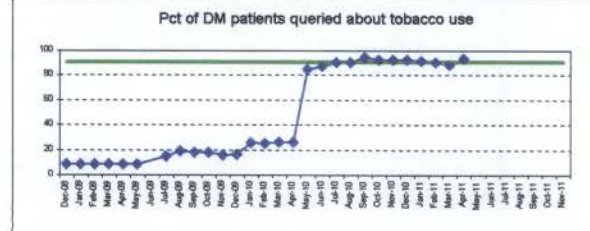
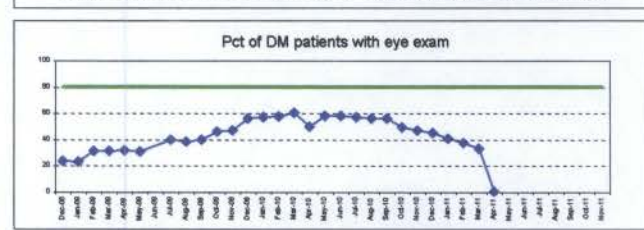
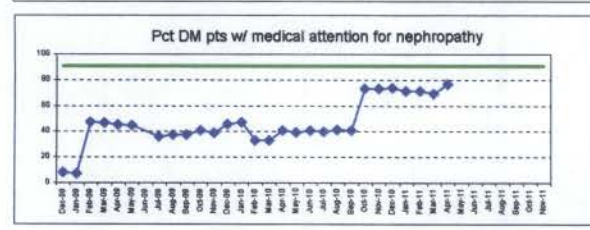
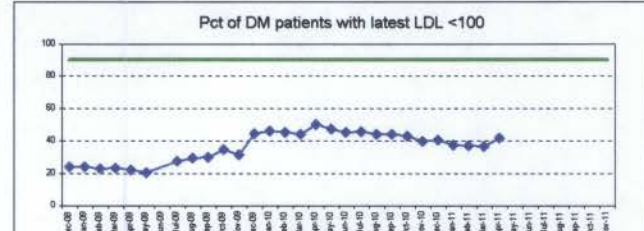
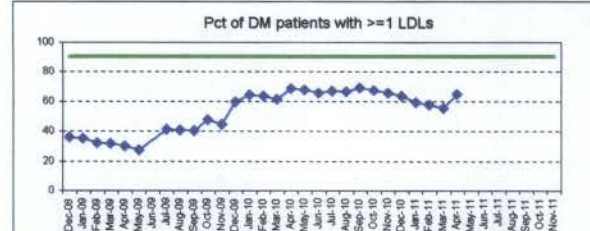
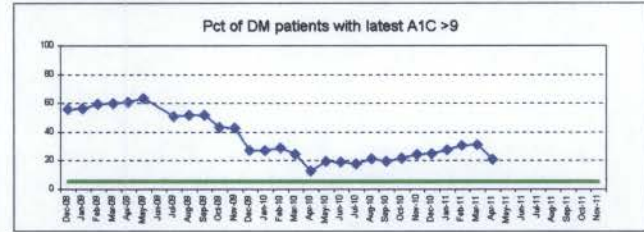
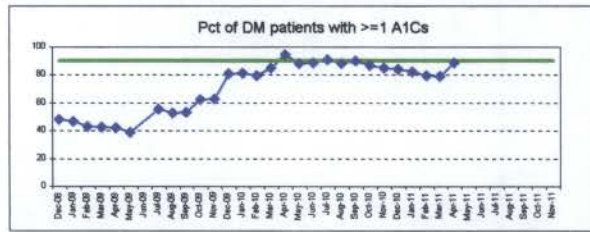
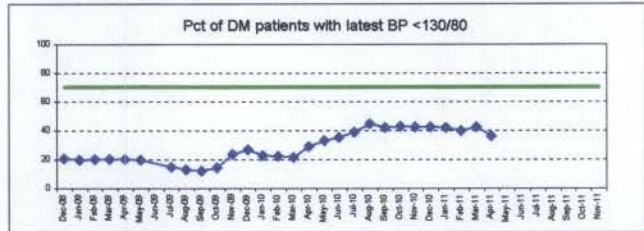
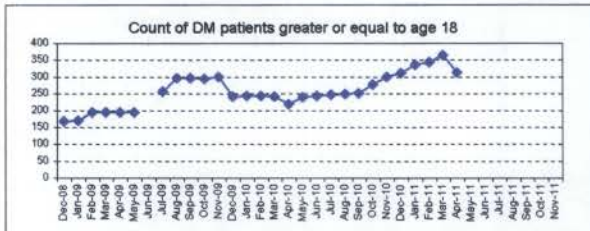
Apr-11

- Count of DM patients greater or equal to age 18
- Pct of DM patients with  $\geq 1$  A1Cs
- Pct of DM patients with  $\geq 1$  LDLs
- Pct DM pts w/ medical attention for nephropathy
- Pct of DM patients queried about tobacco use
- Pct of DM patients aged 40-75 on aspirin
- Pct of DM patients with latest BP <130/80
- Pct DM pts screened for depression
- Pct DM pts Screened - Positive
- Count of DM patients 55-75
- Pct DM patients with latest LDL <130
- Pct DM patients with SM Goal
- Pct DM pts with pneumo vacc

Goal	Apr-11
313	313
90	88
90	65
90	76
90	93
85	83
70	36
40	69
50	0
45	0
50	0
55	0
60	0

- Count of DM patients 40+ yo
- Pct of DM patients with latest A1C >9
- Pct of DM patients with latest LDL <100
- Pct of DM patients with eye exam
- Pct DM pts w/ smoking cessation counseling
- Pct of DM pts prescribed a statin
- Pct of DM patients with current flu vaccination
- Pct of DM pts reassessed w/severity scale in 3 mos
- Pct of DM pts w/6 mo assessment decreased 50%
- Pct DM patients with latest BP <140/90
- Pct DM patients with foot exam
- Pct DM pts 55-75 taking ACE/ARB
- Pct DM patients referred for eye exam

Goal	Apr-11
211	211
5	20
90	42
80	1
90	92
60	66
75	48
60	
60	
47	0
52	0
57	0
62	0



# Greater than 9.0

Providers: All Providers

Age Range: 18 - 75

Gender: Male,Female,Unknown

Date Range: 5/30/2010-5/31/2011

130 Patients w/Recorded Event in Period

	DOB	Address	Phone	Completed	Result
	07/10/1952		970-484-1729	12/10/2010	10
	07/09/1942		970-482-4909	04/22/2011	10
	04/23/1944		970-656-3724	12/07/2010	11
	04/24/1936		970-482-8183	01/10/2011	11
	10/16/1943		970-308-2111	03/24/2011	9
	03/20/1952		970-204-4434	10/28/2010	9
	12/29/1948		000-000-0000	08/27/2010	10
	06/16/1944		970-223-7974	03/10/2011	10
	06/01/1935		970-692-4421	11/22/2010	11
	01/21/1976		970-226-0710	12/01/2010	10
	12/02/1962		970-663-7126	12/10/2010	11
	10/14/1969			12/08/2010	13
	02/27/1963			12/20/2010	13
	08/24/1940		918-633-9636	04/18/2011	11
	04/12/1963			02/07/2011	10
	01/26/1962		970-689-2778	03/04/2011	10
	10/07/1951			05/04/2011	12
	12/27/1952		308-254-5916	05/10/2011	10
	08/21/1957			07/12/2010	10
	01/09/1949		970-674-7104	02/12/2011	9
	03/12/1970		970-206-0847	03/08/2011	12
	07/12/1951			04/22/2011	9
	02/07/1948			06/16/2010	11
	08/17/1979		970-667-7696	07/14/2010	9
	05/26/1960		970-223-6069	10/25/2010	11
	06/03/1969		970-412-9161	11/08/2010	13
	08/01/1953			01/11/2011	12
	06/15/1964			04/25/2011	11
	07/14/1963			01/24/2011	9
	11/28/1944		719-661-3576	03/29/2011	11
	06/03/1987		970-493-2014	03/03/2011	11

Health Record  
Clinical Docs  
**Care Plans**  
Care Notes  
Care Team  
Upload User Photo

**Legend**

- Overdue
- Behind
- Current

**Care Plan:** Diabetes [Audit History]  
**Guideline:** A1c \*  
**Information:** General goal <7% A lower goal may be beneficial if no significant risk of hypoglycemia; and if appropriate for patient age, life expectancy, and co-morbidities.

**Frequency:** 3 months [Configure Care Plan]  
**Target Date:** 7/14/2011  
**Status:**  Current  
**Last A1c:** 4/14/2011 by Julie DeSaire  
**Date of A1c:**  (mm/dd/yyyy)  
**Most Recent A1c Value:**   
**Declined:**



**History**

Completed	Value		
4/14/2011	8.30	Edit	Delete
1/7/2011	9.70	Edit	Delete
9/22/2010	14.00	Edit	Delete
6/14/2010	11.70	Edit	Delete

Miramont Family Medicine Data - Report Period: April 2011

Diabetes Graphs

Show data for

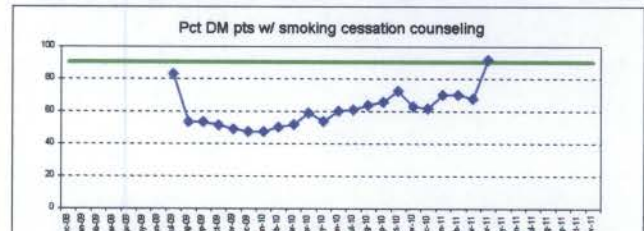
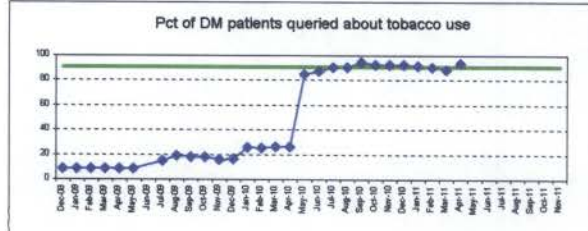
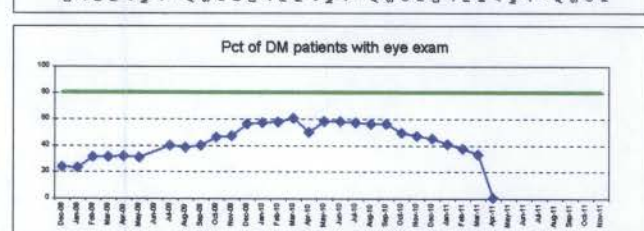
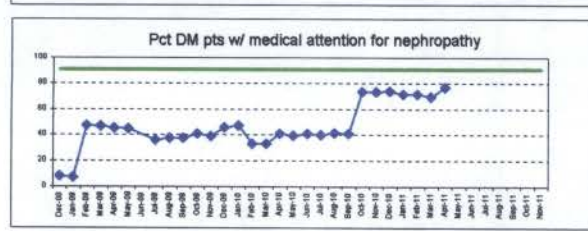
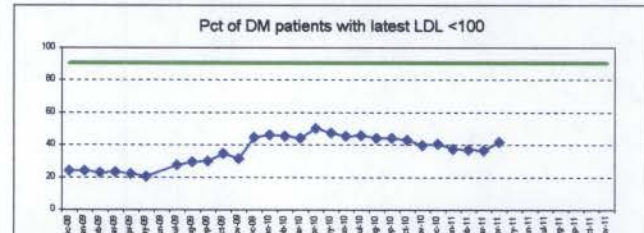
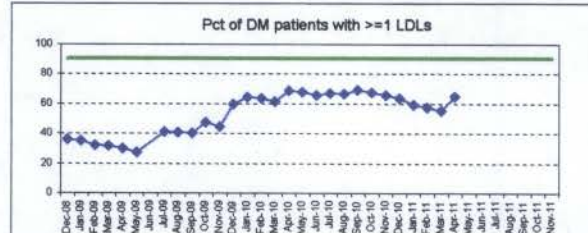
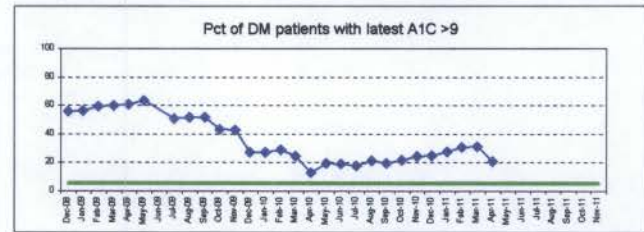
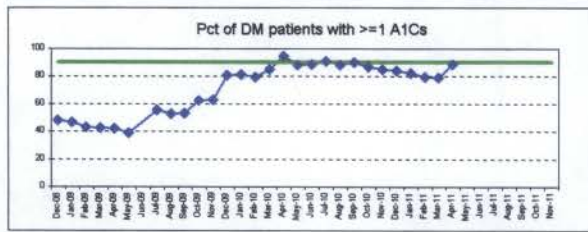
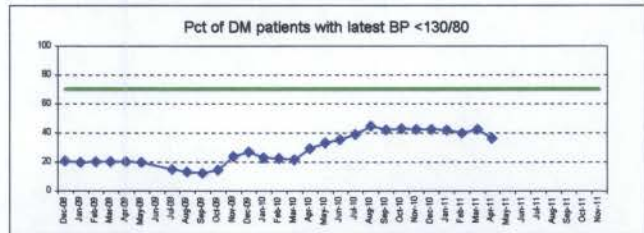
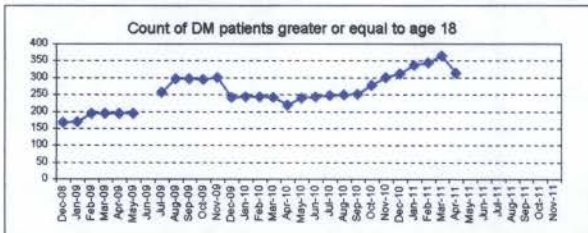
Apr-11

- Count of DM patients greater or equal to age 18
- Pct of DM patients with  $\geq 1$  A1Cs
- Pct of DM patients with  $\geq 1$  LDLs
- Pct DM pts w/ medical attention for nephropathy
- Pct of DM patients queried about tobacco use
- Pct of DM patients aged 40-75 on aspirin
- Pct of DM patients with latest BP <130/80
- Pct DM pts screened for depression
- Pct DM pts Screened - Positive
- Count of DM patients 55-75
- Pct DM patients with latest LDL <130
- Pct DM patients with SM Goal
- Pct DM pts with pneumo vacc

Goal	Apr-11
313	313
90	88
90	65
90	76
90	93
85	83
70	36
40	69
50	0
45	0
50	0
55	0
60	0

- Count of DM patients 40+ yo
- Pct of DM patients with latest A1C >9
- Pct of DM patients with latest LDL <100
- Pct of DM patients with eye exam
- Pct DM pts w/ smoking cessation counseling
- Pct of DM pts prescribed a statin
- Pct of DM patients with current flu vaccination
- Pct of DM pts reassessed w/severity scale in 3 mos
- Pct of DM pts w/6 mo assessment decreased 50%
- Pct DM patients with latest BP <140/90
- Pct DM patients with foot exam
- Pct DM pts 55-75 taking ACE/ARB
- Pct DM patients referred for eye exam

Goal	Apr-11
211	211
5	20
90	42
80	1
90	92
60	66
75	48
60	
60	
47	0
52	0
57	0
62	0



# Appendix E

Rules Manager - e-MDs Rule Manager

Rule Run Help  
Clinic Tasks

New Rule Copy Rule Edit Rule Delete Rule Search Current All Run Selected Run All Help Exit

Rule Name	Rule Description	Daily	Weekly	Monthly	Last Run Start	Last Run End
Chlamydia screen	Chlamydia screen for 12 months old	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:30:07	08/10/2010 03:30:13
Asthma / Action Plan	ACTION PLAN Discuss/Verify understanding yearly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:30:13	08/10/2010 03:30:21
Asthma / Aerochamber (Space)	AEROCHAMBER (Space) Discuss/Demonstrate use yearly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:30:22	08/10/2010 03:30:25
Asthma / MDI	METERED DOSE INHALER Discuss/Demonstrate use yearly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:30:25	08/10/2010 03:30:28
Asthma / Peak Flow	PEAK FLOW METER Discuss/Demonstrate use yearly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:30:28	08/10/2010 03:30:31
Asthma/COPD - Spirometry	SPIROMETRY yearly for asthmatics over age 5 and any p...	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:30:32	08/10/2010 03:30:36
Chlamydia screen	Chlamydia screen at annual well woman exams	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 13:47:47	08/10/2010 13:47:49
Cholesterol, LDL > 100 (Adult)	CHOLESTEROL, LDL > 100 in Adults	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:30:42	08/10/2010 03:30:49
Cholesterol, Total > 170 (Ped)	CHOLESTEROL, TOTAL > 170 in Children age 2-19 years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:30:45	08/10/2010 03:31:02
Chronic Disease / Influenza	INFLUENZA VACCINE yearly for patients with Asthma, CAI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:31:02	08/10/2010 03:31:10
CPD O2 saturation	Pulse oximetry yearly on COPD patients	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:31:10	08/10/2010 03:31:14
Depression screening	check for Depression annually as part of review of systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 13:47:49	08/10/2010 13:47:50
Dens/abx/diag/ct/mri/mrcopouse	Bone density w/abx indications	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:32:09	08/10/2010 03:32:14
Diabetes / Annual Foot Exam	FOOT EXAM (Monofilament, Pulsion) yearly for Diabetic pat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 09:32:29	08/10/2010 09:32:29
Diabetes / Creatinine	Creatinine yearly for Diabetic patients	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 09:32:29	08/10/2010 09:32:29
Diabetes / Eye Exam	DILATED EYE EXAM yearly for Diabetic patients	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 09:32:25	08/10/2010 09:32:27
Diabetes / HgA1c	HEMOGLOBIN A1C every 3 months for Diabetic patients	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 09:32:29	08/10/2010 09:32:29
Diabetes / Lipid Panel	LIPID PANEL yearly for Diabetic patients	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:32:32	08/10/2010 03:32:35
Diabetes / Microalbumin	MICROALBUMIN yearly for Diabetic patients	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 09:32:30	08/10/2010 09:32:30
DTaP 1st dose	DTaP 1st dose at 2 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:32:39	08/10/2010 03:32:42
DTaP 2nd dose	DTaP 2nd dose at 4 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:32:43	08/10/2010 03:32:45
DTaP 3rd dose	DTaP 3rd dose at 6 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:32:45	08/10/2010 03:32:49
DTaP 4th dose	DTaP 4th dose between 15 and 18 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:32:43	08/10/2010 03:32:52
DTaP 5th dose	DTaP 5th dose between 4 and 5 years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:32:52	08/10/2010 03:32:54
Heart failure	ACE or ARB - verify on for CHF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:32:55	08/10/2010 03:32:57
Heart failure	Aldactone - verify on for moderate to severe CHF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:32:58	08/10/2010 03:32:59
Heart failure	Annual LV assessment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:32:59	08/10/2010 03:33:01
Hemoccult-FOB	Hemoccult yearly on anyone over age 40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 09:32:30	08/10/2010 09:32:31
Hepatitis A 1st Dose	HEPATITIS A 1st dose at 1 year	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:13	08/10/2010 03:43:15
Hepatitis A 2nd Dose	HEPATITIS A 2nd dose between 18 and 24 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:15	08/10/2010 03:43:22
Hepatitis B 1st Dose	HEPATITIS B 1st dose soon after birth	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:23	08/10/2010 03:43:26
Hepatitis B 2nd Dose	HEPATITIS B 2nd dose between 1 and 4 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:26	08/10/2010 03:43:28
Hepatitis B 3rd Dose	HEPATITIS B 3rd dose at 6 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:28	08/10/2010 03:43:31
Hib 1st Dose	HIB 1st Dose at 2 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:31	08/10/2010 03:43:34

Rules Manager - e-MDs Rule Manager

Rule Run Help  
Clinic Tasks

New Rule Copy Rule Edit Rule Delete Rule Search Current All Run Selected Run All Help Exit

Rule Name	Rule Description	Daily	Weekly	Monthly	Last Run Start	Last Run End
Hib 2nd Dose	HIB 2nd Dose at 4 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:34	08/10/2010 03:43:36
Hib 3rd Dose	HIB 3rd Dose at 6 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:36	08/10/2010 03:43:40
Hib 4th Dose	HIB 4th Dose between 12 and 15 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:40	08/10/2010 03:43:44
High risk sexual behavior	CHLAMYDIA TEST for female patients at risk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:44	08/10/2010 03:43:46
HIV risk factors	HIV test for high(er) risk patients	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:46	08/10/2010 03:43:46
HPV 1st dose	HPV 1st dose at 11 years (min age 9 yrs/ max age 26 yr)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:46	08/10/2010 03:43:51
HPV 2nd dose	HPV 2nd dose-2 months after 1st dose	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:51	08/10/2010 03:43:55
HPV 3rd dose	HPV 3rd dose-6 months after 1st dose	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:43:55	08/10/2010 03:44:02
Influenza (65 and older)	INFLUENZA VACCINE yearly for all patients age 65 and ol	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:02	08/10/2010 03:44:16
Influenza (ped)	INFLUENZA VACCINE yearly for all children aged 5 month	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:17	08/10/2010 03:44:24
INR / Coumadin	INR check every 4 weeks for patients on Coumadin	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:25	08/10/2010 03:44:30
IPV 1st dose	IPV 1st dose at 2 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:31	08/10/2010 03:44:39
IPV 2nd dose	IPV 2nd dose at 4 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:33	08/10/2010 03:44:37
IPV 3rd dose	IPV 3rd dose between 6 and 18 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:38	08/10/2010 03:44:41
IPV 4th dose	IPV 4th dose between 4 and 5 years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:41	08/10/2010 03:44:43
Lab Tracking		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:43	08/10/2010 03:44:51
LDL > 70/ CAD High Risk	LDL > 70 for Patients at High Risk for CAD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:43	08/10/2010 03:44:52
LDL > 110 (Ped)	LDL > 110 in Children age 2-19	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:52	08/10/2010 03:44:54
Lead Screening	Lead screening in medicaid pts at 12 and 24 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:54	08/10/2010 03:44:56
LFTs / Atorvastatin	LIVER FUNCTION TEST every 6 months for patients on A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:44:56	08/10/2010 03:45:08
LFTs / Lovastatin	LIVER FUNCTION TEST every 6 months for patients on L	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:45:08	08/10/2010 03:45:12
LFTs / Pravastatin	LIVER FUNCTION TEST every 6 months for patients on P	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:45:12	08/10/2010 03:45:16
LFTs / Rosuvastatin	LIVER FUNCTION TEST every 6 months for patients on R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:45:17	08/10/2010 03:45:19
LFTs / Simvastatin	LIVER FUNCTION TEST every 6 months for patients on S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:45:19	08/10/2010 03:45:54
LFTs / Vitorin	LIVER FUNCTION TEST every 6 months for patients on V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:45:54	08/10/2010 03:46:05
Mammogram	MAMMOGRAM yearly for all female patients 50 and older	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 09:32:31	08/10/2010 09:32:31
Meningococcal 1st dose	MENINGOCOCCAL 1st dose at 11 to 12 years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:46:28	08/10/2010 03:46:31
Meningococcal 2nd dose	MENINGOCOCCAL 2nd dose at 13 to 18 years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:46:31	08/10/2010 03:46:35
Mellormin / Renal Function	RENAL FUNCTION yearly for patients on Mellormin	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 09:32:31	08/10/2010 09:32:33
MMR 1st dose	MMR 1st dose between 12 and 15 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:46:29	08/10/2010 03:46:43
MMR 2nd dose	MMR 2nd dose between 4 and 5 years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:46:29	08/10/2010 03:46:43
Needs CPE - age 18-39	CPE due yearly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 13:47:51	08/10/2010 13:47:51
Needs CPE - age 39-64	CPE due yearly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 09:32:33	08/10/2010 09:32:33
Needs CPE - age 65+	CPE due yearly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	08/10/2010 03:47:11	08/10/2010 03:47:19

Run  DB  Schedule  Tracking Board  Chart  TaskMan  DeckMan  Rule Manager

e-MDs Rule Manager

Rule Run Help  
 Copy Tasks

Rule Name	Rule Description	Daily	Weekly	Monthly	Last Run Start	Last Run End
LFTs / Rosuvastatin	LIVER FUNCTION TEST every 6 months for patients on R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:45:17	08/10/2010 03:45:18
LFTs / Simvastatin	LIVER FUNCTION TEST every 6 months for patients on S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:45:19	08/10/2010 03:45:54
LFTs / Vitorin	LIVER FUNCTION TEST every 6 months for patients on V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:45:54	08/10/2010 03:46:05
Mammogram	MAMMOGRAM yearly for all female patients 50 and older	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 09:32:31	08/10/2010 09:32:31
Meningococcal 1st dose	MENINGOCOCCAL 1st dose at 11 to 12 years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:46:28	08/10/2010 03:46:31
Meningococcal 2nd dose	MENINGOCOCCAL 2nd dose at 13 to 18 years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:46:31	08/10/2010 03:46:35
Metformin / Renal Function	RENAL FUNCTION yearly for patients on Metformin	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 09:32:31	08/10/2010 09:32:33
MMR 1st dose	MMR 1st dose between 12 and 15 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:46:39	08/10/2010 03:46:43
MMR 2nd dose	MMR 2nd dose between 4 and 6 years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:46:43	08/10/2010 03:46:45
Needs CPE - age 18-39	CPE due yearly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 13:47:51	08/10/2010 13:47:51
Needs CPE - age 39-64	CPE due yearly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 09:32:33	08/10/2010 09:32:33
Needs CPE - age 65+	CPE due yearly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:47:11	08/10/2010 03:47:23
NQ Post CAB surgery	Antiplatelet therapy - verify taking	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 13:47:50	08/10/2010 13:47:50
Pap	PAP TEST biannual for all female patients age 65 to 85	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:48:02	08/10/2010 03:48:08
Pap	PAP TEST yearly for all female patients age 18 to 65	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 13:47:50	08/10/2010 13:47:50
Pneumococcal (65 and older)	PNEUMOCOCCAL VACCINE - All patients age 65 and older	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:48:31	08/10/2010 03:48:39
Pneumococcal 1st dose	PNEUMOCOCCAL VACCINE 1st dose at 2 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:48:39	08/10/2010 03:48:42
Pneumococcal 2nd dose	PNEUMOCOCCAL VACCINE 2nd dose at 4 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:48:42	08/10/2010 03:48:44
Pneumococcal 3rd dose	PNEUMOCOCCAL VACCINE 3rd dose at 6 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:48:44	08/10/2010 03:48:47
Pneumococcal 4th dose	PNEUMOCOCCAL VACCINE 4th dose between 12 and 15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:48:48	08/10/2010 03:48:51
Portal Appt Notification Message	Portal Appointment Notification Messages	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:48:52	08/10/2010 03:48:53
Portal Auth Form	Portal Authorization Form	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:48:53	08/10/2010 03:48:55
Pregnancy Test / Accutane	PREGNANCY TEST monthly for female patients on Isotret	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:48:55	08/10/2010 03:48:57
PSA NQ	PSA yearly for all male patients age 40 to 50	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:48:57	08/10/2010 03:49:08
Rotavirus 1st dose	ROTAVIRUS 1st dose at age 5 to 12 weeks (Do not stat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:49:09	08/10/2010 03:49:10
Rotavirus 2nd dose	ROTAVIRUS 2nd dose at 4 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:49:10	08/10/2010 03:49:11
Rotavirus 3rd dose	ROTAVIRUS 3rd dose at 6 months (if Rotavix given at 2 or	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:49:12	08/10/2010 03:49:13
Screening Colonoscopy	COLONOSCOPY every 10 years for patients age 50 to 80	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 09:32:27	08/10/2010 09:32:28
Td (Adult)	TETANUS / DIPHTHERIA required every 10 years for all c	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 09:32:29	08/10/2010 09:32:28
Tdap (Adult)	Tetanus/Diphtheria/Pertussis dose between 18 and 65 yea	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:50:11	08/10/2010 03:50:47
Tdap dose (Adolescent)	TETANUS / DIPHTHERIA/PERTUSSIS dose between 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:50:47	08/10/2010 03:50:52
Tobacco Abuse	Offer smoking cessation assistance to all smokers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:50:50	08/10/2010 03:50:52
Varicella 2nd dose	VARICELLA VACCINE 2nd dose between 4 and 6 years	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:50:53	08/10/2010 03:50:55
Varicella dose	VARICELLA VACCINE between 12 and 18 months	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06/10/2010 03:50:55	08/10/2010 03:51:03

Start | e-MDs Solution Series | Document1 - Microsoft W... | 2:03 PM

**Annual Ongoing Costs**  
**Investment**

**EHR Software**

EHR Software Licenses	\$10,000.00
EHR Related Software	\$5,000.00
Yearly EHR & EHR-Related Software Maintenance/support	Included in License Fees

**Hardware**

External Connectivity	\$0.00
External Services	\$22,000.00
Internet Fees	\$6,350.00

**Additional Costs**

Technical Support	Included in yearly Maintenance Fee
<b>Total</b>	<b>\$43,350.00</b>

**Returns**

**Paper Chart Cost Savings**

Transcription Savings	\$36,000.00
Malpractice Reductions	\$10,000.00

**Increased Collections**

Increased collections for Providers	\$28,000.00
Increased Procedure Charges	\$4,500.00
PQRI Incentives	\$4,000.00
PCMH Incentives	\$35,400.00
Grants	\$550.00
Reduction in A/R relative to monthly billings	\$14,000.00
<b>Total</b>	<b>\$132,450.00</b>

<b>Return on Investment</b>	<b>\$89,100.00</b>
-----------------------------	--------------------

**Initial Investment ROI****EHR Software**

EHR Software Licenses	\$10,000.00
EHR Related Software	\$33,000.00

**Hardware**

Local Servers	\$7,000.00
User Devices	\$30,000.00
Networking Equipment	\$20,000.00
External Connectivity	\$8,400.00
External Services	\$4,500.00

**Additional Costs**

Training Costs	\$3,000.00
Ancillary Costs	\$7,000.00
Technical Support	Included in yearly Maintenance Fee
Server Software	\$5,000.00
Additional Personnel	\$4,000.00
One Time Implementation	\$3,000.00
<b>Total</b>	<b>\$134,900.00</b>

**Returns****Paper Chart Cost Savings**

Reduction in Transcription Costs	\$16,200.00
Malpractice Reductions	\$7,600.00
Reduction in Paper Chart Supplies	\$3,000.00
Reduction needed for Storage	\$5,400.00

**Staffing Savings**

Reduction in overtime hours	\$13,000.00
Reduction in staff to provider	\$0.00
Reduction in Billing costs	\$4,200.00

**Increased Collections**

Increased collections for Providers	\$86,000.00
Increased Procedure Charges	\$16,000.00
PQRI Incentives	\$10,200.00
Grants or other P4P moneys	\$56,000.00
Change in Level of Service billing	\$0.00
Reduction in A/R relative to monthly billings	\$14,000.00

<b>Total</b>	<b>\$231,800.00</b>
<b>Return on Investment</b>	<b>\$96,700.00</b>
<b>ROI%</b>	<b>71.68%</b>