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Innovation in Practice: Exploring the Impact of Practice Redesign, Quality Improvement, and Information Technology on the Economics of Physician Offices

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Disclosure of Financial Relationships

Jacqueline W. Fincher, MD, FACP

Has relationships with the following proprietary entities producing health care goods or services.

Consultant - **BMS-Sanofi**
Honoraria- Novartis, Abbott

Research Grants/Contracts - none
Speakers Bureau - none

Disclosure of Financial Relationships

Pam Shivers

Has no relationships with any proprietary entity producing health care goods or services consumed by or used on patients.

EMR Implementation : Practice in Evolution

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Internal Medicine, 2008
Washington, DC

Who are we? McDuffie Medical Associates

Motivating Forces for Implementing EMR

- Documentation needs for proper coding
- Improved charge capture
- **To get paid for what we do**
- Need for legible charting by all physicians & staff
- Elimination of chart pulling and chasing
- Maintenance of current problem list and medication list

Motivating Forces for Implementing EMR

- Improve workflow and deployment of staff
- Minimize prescription errors
- Remote access to record from home or laptop
- Anticipating pay for performance (P4P)
- Create protocols for screenings & immunizations.
- Enable blinded data mining for quality indicators and other purposes, i.e. drug recalls.

Hardest Decision to Make

Which EMR to Purchase?

Which EMR?

- CCHIT – 3 year Certification Commission
- Resources for help: ACP, AAFP, State Medical Association, State Medical Care Foundation, MGMA
- Solid company with secure background
- Software support
- Integrated Practice Management (PM) system and EMR data base

Which EMR?

- Cost
- User friendly system
- Call references
- Site visits of top three systems
- Specialty specific
- Think strategically –what do other practices in the community have?
- Check out the support, possibly use a VAR (Valued Added Reseller)

THE COST

- Should not be the deciding factor
- You get what you pay for
- Cost of EMR – hardware & software
- Cost of Training
- Hidden Costs
- First year of software support
- Add-ons to the product

Certification Commission for Health Information Technology – (CCHIT) www.cchit.org

Questions to ask an EMR Company

1. Tell me about your company. How long have you been in business? How many employees do you have doing development and offering technical service?
2. How many physician practices do you serve? What size are they? May I speak with a few of them?
3. How do you license your product – for a term or perpetually, by physician or user?

Certification Commission for Health Information Technology – (CCHIT)

Questions to ask an EMR Company

4. What are your maintenance or support fees? Do they cover product upgrades?
5. What are your service policies and guarantees?
6. In addition to what I can expect from CCHIT Certified interoperability, what will I pay for other desired interfaces to products or sources of information?
7. Are there third-party costs for modules or components bundled with your product? Will I need to buy some third party products independently to make your product perform as demonstrated?

Certification Commission for Health Information Technology – (CCHIT)

Questions to ask an EMR Company

8. Tell me about your implementation and training services. What do they cost? How long will it take until my practice is successfully up and running using your product?
9. Are you willing to put these terms in a sales agreement?
10. What are your plans for staying up-to-date w/ CCHIT's certification requirements?

Challenges

- Financing
- Personnel
- Change of Workflow

Challenges: Financing

- Lines of Credit
- Present Debt
- Decreasing payment by insurers
- Loss of Volume
- Loss of Revenue

What did we spend?

Remodeling the Building	$ 25,000
Cost of the EMR	
w/ first year support	74,000
Cost of Hardware	78,000
Misc Cost	
Air Conditioner	5,500
Wiring Building	10,000
Total Cost	**$ 192,500**

Estimated Return on Investment

ROI estimated at year 4 based on:

- Revenue past 3 years
- Estimated overhead cost for the next 3 years

Challenges: Personnel

- Physician buy in – CRITICAL- **All or none!**
- Staff buy in – Change of workflow and job functions
- Significant variation of computer skills of staff and physicians
- Technical support – within practice & local community

Challenges: Personnel

!#$&% Happens

These situations actually happened to us while in stage one of implementation.

- Front office employee retired
- Nursing staff manager returned to school
- Nurse lab manager developed a brain tumor

Challenges: Workflow

Reconfiguration of Physical Building

- Server Room
- Front Office
- Halls
- Work Up Rooms
- Lab
- Nurses' desks
- Exam Rooms
  - PC or tablet
  - Wiring
  - Location of computer
  - Position to patient

Challenges: Workflow

Transformation of Staff & Physicians

- Writing to typing
- Prescription writing to typing/faxing
- Manual chart search to automatic digital protocols for health screenings & immunizations
- Verbal/sticky note ordering to physician order entry for labs, x-rays, referrals with appropriate diagnoses
- Stacks of charts and paper to organized/prioritized documents on desktop

Challenges: Workflow

Communication with Organizations

- Interfaces with labs, hospitals, radiology
- Hospital cooperation with new documentation of orders, charts, etc
- Pharmacy cooperation/communication for prescription faxing or electronic prescribing

Where to Begin

- **Make a timeline** - start **5** months before the "Go Live" date – and ***stick to it***
- Administrative steps
- PM / EMR interface
- Talk to primary labs & hospitals about interfaces
- Set up fax server

Getting the Team Ready

- Take it slow
- Meetings, Meetings, and more Meetings
  Communication is the key to success
- Plan the implementation around a slow time of the year (Primary Care : May – Sept time frame)
- Appoint "Super Users" and start their training 2-3 months prior to "Go Live" date
- Reduce physician schedules to half around "Go Live" date for first month then by one third for next two months.

Training Requirements

Superusers need 3 days offsite training to learn the system and:

- Learn how to set up:
  - Custom lists - meds, referrals, x-rays, pharmacies, order sets for labs
  - Flow sheets
  - Obs terms
- Assign tasks
- Understand and create work flows

Lab Draw Workflow

When the pt comes in the nurse verifies the orders. She hands the pt an forms that are needed, such as pick a lab, or sign an ABN (if needed.)

The blood is drawn and the nurse documents in the chart and on the superbill. The chart is sent to the lab queen under an "Admin Hold" status.

Once the lab queen prepares the specimen to go out, she changes the status to "In Process" which prints an order to accompany the specimen.

The lab queen checks a daily report to verify that all labs have been received and changes the order to "Complete" once we have the results.

Getting Started

- Start first with intra-office communication - "flags"
- Second, phone communications – "phone notes"
  - Medication refills
  - Patient phone calls, requests
  - Communications from other clinics, nursing homes, hospitals, etc

Chart Set Up

- Start loading charts in the order patients are scheduled
- Diagnoses/Problem List - push from Practice Management side
- Doctors and Clinical Staff need to preload
- Preload
  - Problem list
  - Medication
  - Pertinent past medical history
  - Pertinent reports – last labs, x-rays, ekgs, diagnostics
  - Health screenings- last pap, mammogram, PSA, etc
  - Immunizations

Chart Set Up

- Quick text recurring words, sentences, instructions
- Custom list – medications w/ instructions
- Pharmacies – fax, phone, address
- Referral docs – fax, phone, address

The chart set up gets everyone navigating within the new system without the pressure of a live patient in front of them.

Countdown to "Go Live"

- Write down "workflows" and walk through them literally
- Mock patient visits
- Have weekly meetings to communicate and assess how everyone is doing
- Don't spend time on changing systems and processes – go with what you have
- Don't be afraid to move "Go Live" date if absolutely needed

“GO LIVE” DATE

- Very light schedule
- EMR Representative and IT person on site
- “Super-users” in place
- Delay clinic opening ~2 hours
- “Go live” meeting that morning
- Mock patient walk through
- Communicate to patients about the new system and the extra time it will take initially

Measuring Success

- Dramatic coding improvement
- Capturing missed charges
- Streamlining charge posting
- Never go back to paper
- Implement tracking of quality indicators
- Minimal staff turnover during implementation
- Accuracy of tracking system for labs and referrals

Future Goals

- Forms
- Improving processes – physician side
- Staffing- constant re-evaluation
- Reporting quality indicators
- Integrating with hospitals, labs, radiology, and other practices
- Data sharing/benchmarking with other practices

In Retrospect…

Two things:

- OBS terms (Terminology used by your IT and software people) making sure all parts of the EMR are using the same one

  Example: forms, flowsheets, labs, etc.. – use 1 OBS term

- Don’t spend a lot of time on Forms in the beginning

Our Advice to You

- Get Practice Management component first, several months before the EMR component. PM component is not nearly as difficult to implement and generates the billing and your payment!
- PM component can “push” the diagnoses list to the EMR component, saving some effort/time
- Preloading Charts – make a worksheet of specific items needed from old chart (problem list, meds, last labs, immunizations, preventive/screening tests done, etc)

Our Advice to You

- Have everyone, including the doctors, preload charts
- Do NOT scan in the whole paper chart, only scan significant documents (consults, diagnostic tests, etc)
- Minimize schedule first week (1-2 pts/hr)
- **Use your EMR to its fullest – Only 15% of all EMR users use it to its fullest**

Our Advice to You

Get Going !

- Do something!
- If you are doing nothing, you’re already behind
- Look at your PM (Practice Management) product and find out with what EMR products it may or could already interface
- Start looking at different EMRs
- See what other physician practices or hospitals in your community have or are considering

ADULT MEDICATION SHEET

Patient Name: ______________________________

Date of Birth: ______________________________

Date												
Medication Dose / Route												
Frequency												
qd bid tid qid qhs prn												
qd bid tid qid qhs prn												
qd bid tid qid qhs prn												
qd bid tid qid qhs prn												
qd bid tid qid qhs prn												
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qd bid tid qid qhs prn												

DATE	SHORT TERM MEDICATION	DATE	SHORT TERM MEDICATION	DATE	SHORT TERM MEDICATION

Vaccine Administration Record for Adults

Patient name: ____________________

Birthdate: ____________________

Chart number: ____________________

Before administering any vaccines, give the patient copies of all pertinent Vaccine Information Statements (VISs) and make sure he/she understands the risks and benefits of the vaccine(s). Update the patient's personal record card or provide a new one whenever you administer vaccine.

Vaccine	Type of Vaccine[1] (generic abbreviation)	Date given (mo/day/yr)	Route	Site given (RA, LA)	Vaccine		Vaccine Information Statement		Signature/ initials of vaccinator
					Lot #	Mfr.	Date on VIS[2]	Date given[2]	
Tetanus and Diphtheria e.g., Td, Tdap			IM						
			IM						
			IM						
			IM						
			IM						
Hepatitis A[3] e.g., HepA, HepA-HepB			IM						
			IM						
			IM						
Hepatitis B[3] e.g., HepB, HepA-HepB			IM						
			IM						
			IM						
Measles, Mumps, Rubella MMR			SC						
			SC						
Varicella Var			SC						
			SC						
Pneumococcal, polysaccharide (PPV)			IM•SC						
			IM•SC						
Meningococcal[4] MCV4 (conjugate) IM MPSV4 (polysacch.) SC									
Influenza[5] TIV (inactivated) LAIV (live, attenuated)									
Other									
Other									

1. Record the generic abbreviation for the type of vaccine given (e.g., PPV, HepA-HepB), *not* the trade name.
2. Record the publication date of each VIS as well as the date it is given to the patient. According to federal law, VISs must be given to patients before administering each dose of Td, MMR, varicella, or HepB vaccine. Use of the VISs for hepatitis A, influenza, and meningococcal vaccines will become mandatory later in 2005.
3. For combination vaccines, fill in a row for each separate antigen in the combination.
4. Give MCV4 via the IM route and MPSV4 via the SC route.
5. Give TIV via the IM route and LAIV intranasally (IN).

www.immunize.org/catg.d/p2023b.pdf • Item #P2023 (10/05)

Name: ____________________

DOB: ____________________

Health Maintenance/Preventative Care

Physical Exam	Date								
CPE									
Prostate									
DRE									
PAP/Pelvic Exam									
Breast Exam									
LABS/SCANS									
EKG									
CXR									
PFT									
DEXA Scan									
Mammogram									
Colonoscopy									
SOB									
Lipids									
HbA1c									
PSA									
CBC									
Urine protein									
Creatinine									
Other Tumor Markers									

Name:
DOB: Height:
Address:

Phone: (h)
(w)
(c)
Insurance primary:
Insurance primary:
Insurance Secondary:
First Visit:
Advanced Directives: Y N
Living Will:

Allergies:

Intolerance:

SH: M S D SEP W Children:
Smoke:
Alcohol: Rec. Drugs:
Occupation:

FH: Father:
Mother:
Other:

ICD Code	Past Medical History- Chronic	Date

Past Surgical History	Date

Acute Medical/Hospitalizations	Date

ABNORMAL RESULTS CONTACT SHEET

PATIENT NAME:

DOB:

URGENCY OF CONTACT:

ABNORMAL RESULT(S):

____

____

____
PRACTITIONER INITIALS

PATIENT CONTACT INFORMATION:

TELEPHONE NUMBERS:

(H) (W) (C)

ADDRESS:

____

	MESSAGE	SPOKE TO	RESPONSE	FINAL RESULT
1ST PHONE CALL DATE: TIME: INTLS:				
2ND PHONE CALL DATE: TIME: INTLS:				
LETTER DATE: INTLS:				
REGISTERED LTR DATE: INTLS:				

NAME____ DOB______________

PHYSICAL EXAMINATION: Circle, check, cross out as appropriate; NL = normal; [ ] = choices; write in comments where appropriate

APPEARANCE:
☐ WD WN INAD

HEAD:
☐ NC AT No lesions

EYES R/L:
☐ Sclera-white, Conjunctiva - pink,Lids - NL, PERRLA,Iris-NL
☐ Fundi-sharp discs, nl vessels, no exudates or hem.

EARS R/L:
☐ NL-ext. insp., no lesions, mass, EACs-NL [dry,red,cerumen]
☐ TMs-NL [congested,dull,red,bulging] Hearing-NL

NOSE:
☐ NL-Ext. inspection, no lesions, mucosa/septum/turbinates

MOUTH/THROAT:
☐ NL-lips, teeth [edentulous dentures], gums, oropharynx
☐ NL-salivary glands,palate-hard/soft/mucosa/tongue
☐ NL-post.Pharynx[red, exudates, tonsil swelling, nasal drainage]

NECK:
☐ Supple symmetrical nontender no adenopathy trachea midline
☐ NL-Thyroid size shape consistency no masses

CHEST:
☐ NL-Insp.,config.,symmetry,wall motion/expansion,[dec]
☐ NL-Excursion [decreased]

RESPIRATORY:
☐ NL-Resp. effect-retractions acc. muscle use
☐ NL-Diaphragm movement [decreased]
☐ NL-Percussion [dull hyperresonant]
☐ NL-Tactile fremitus [decreased]
☐ NL-Auscultation [crackles wheeze rhonchi rub stridor]
☐ NL-Airflow/breath sounds [decreased fair poor]

CARDIAC:
☐ NL-Palpation size PMI [medial lateral] no thrills
☐ NL-Auscultation [rub click murmur]
☐Regular rhythm [irregular, irregularly irregular]
☐ NL-Sounds-S1 S2 [S3 S4]

VASCULAR:
Pulses (r/l) Car __/__ Rad__/__ Fem__/__ DP__/__ PT__/__
☐ No Bruits [abd car rad fem] NL-amplitude [decrease increase]
☐ NL-Abd. Aorta [pulsatile enlarged nonpalpable]

GASTROINTESTINAL:
☐ NL-Insp.,soft,nl bowel sounds,no guard rebound masses ascites
☐ NL-liver, spleen
☐No hernia

LYMPHATICS:
☐ NL-Neck Axillae Groin Epitrochlear Other

EXTREMITIES:
☐ No clubbing cyanosis edema ischemia inflammation

MUSCULOSKELETAL:
☐ NL-Gait station muscle strength mass tone
☐ No atrophy flaccid cog wheeling spasticity
☐ Head neck/Spine ribs pelvis/RUE/LUE/RLE/LLE
(circle if examined)
☐ NL-Insp.palp.alignment symmetry muscle strength tone movements
☐ No crepitence defect tenderness contractions dislocation laxity

SKIN:
☐ No rashes papules vesicles macules ulcers redness lesions
☐ No induration subcutaneous nodules tightening

NEUROLOGIC:
☐ NL-CN II-XII DTR Babinski touch pin vibr. propriocep.
II-visual acuity fields fundi III,IV, VI-pupils eye movement
V-face sensation corneals VII-face symm. Strength
VIII-hearing IX-spont./reflex palate movement
XI-shoulder shrug strength XII-tongue protrude
☐ NL-Att.span conc naming repeat phrase speech knowledge
☐ NL-Coordination finger heel alt. movements

PSYCH:
☐ NL-Judgement insight orientated x 3 recent remote memory
☐ NL-mood/affect [depression anxiety agitation]

RECTAL:
☐ No hemorrhoids [external internal]
☐ NL-Sphincter tone [deceased increased] perineum rectum
☐ Negative heme test [positive]

MALE:
☐ NL-Scrotum testicles penis [mass lesions]
☐ NL-Prostate [enlarged symmetrical nodular tender masses]

BREASTS:
☐ NL-Symmetry nipple [discharge mass tender scar retractions]

FEMALE:
☐ NL-Ext.genitalia hair estrogen effect [discharge lesions]
☐ NL-Pelvic support [rectocoele cystocoele]
☐ NL-Urethra [mass tender scarring] Bladder [full tender masses]
☐ NL-Cervix appearance [lesions discharge]
☐ NL-Uterus size contour position mobility consistency support
☐ NL-Adenexa/parametrium

OTHER:

DIAGNOSTICS:

Spirometry: ____/____ ☐ Normal Testing
Obstruction: ☐mild ☐moderate ☐severe
Restriction: ☐mild ☐moderate ☐severe
Urine Dip:______________________________
EKG: ☐Normal ☐Other______________________

LAB/Radiology Results:

Signature:______________________________

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Bridgette Hubbard, PA-C

NAME______________________________ **DOB**__________ Age______ ☐ M ☐F DATE______________
Height________ Weight________ Wt. Chg.________ Temp.________ Pulse________ Regular: ☐ Y ☐ N BP________ Resp________
Allergies: ☐ Reviewed & updated ☐ NKDA______________________ Medications: ☐ Reviewed & updated
Pt. Comments: ______________________________ MA/RN Initials: ______________
____

Chief Complaint:

HPI:
Problem
Location
Quality
Severity
Duration
Timing
Context
Modify
Associated S/S

ROS: (check if negative, circle if positive)
CONS: ☐ NEGATIVE except: weight loss, weight gain, fever, chills, malaise, fatigue, weakness
INTEG: ☐ NEGATIVE except: rash, ulcer, pruritis
EYES: ☐ NEGATIVE except: pain, tearing, discharge, redness, visual disturbance
EARS: ☐ NEGATIVE except: tinnitus, discharge, hearing loss, ear ache
ENMT: ☐ NEGATIVE except: sore throat, congestion, post-nasal drainage, hoarseness, epistaxis, mouth ulcers, lesions
CARDIAC: ☐ NEGATIVE except: CP, PND, SOB, DOE, orthopnea, edema, palpitations, tachycardia, murmur, claudication
BREAST: ☐ NEGATIVE except: tenderness, mass, D/C, color change
RESPIRATORY: ☐ NEGATIVE except: cough, wheeze, hemoptysis, dyspnea, sputum
GI: ☐ NEGATIVE except: abd. Pain, N/V, diarrhea, constipation, reflux, hematochezia, melana, jaundice
GU: ☐ NEGATIVE except: frequency, urgency, hesitancy, dysuria, hematuria, nocturia, urge/stress incontinence, stones, lesions/STD
GYN/REPROD: ☐ NEGATIVE except: ERT, D/C, dyspareunia, pruritis, abnl uterine bleeding, menorrhagia, metrorrhagia, dysmenorrheal, STD
HEME/LYMPH: ☐ NEGATIVE except: bruising, bleeding, anemia, transfusions, lymphadenopathy
M/S: ☐ NEGATIVE except: joint pain, swelling, erythema, stiffness, myalgia, muscle weakness, cramps, arthritis, arthralgias
NEURO: ☐ NEGATIVE except: dizziness, vertigo, syncope, LOC, focal weakness, memory loss, seizures, diplopia, numbness, h/a, insomnia
PSYCH: ☐ NEGATIVE except: depression, anxiety, suicidal ideations, panic, delusions, paranoia
ENDO: ☐ NEGATIVE except: polyuria, polydypsia, polyphagia, heat/cold intolerance, hot flashes
COUNSELING: ☐ safe sex ☐ seat belts ☐ lipids ☐ BSE/F ☐ TSE/M ☐ cig/etoh/drugs ☐ occult blood ☐ calcium ☐ advanced directives
IMMUN: ☐ Up to date and appropriate: Tetanus________ Pneumonia________ Influenza________ Hepatitis________ TB testing________

INTERVAL HISTORY: ☐ PMH/PSH reviewed/updated, original date______________________
FH ☐ reviewed, no changes, original date____________________
SH ☐ reviewed, no changes, original date____________________
ASSESSMENT/PLAN:

F/U VISIT______________________ Labs/Tests Ordered______________________________

Flow Sheet Updated ☐ **Signature:** ______________________________