

Achieving Operational Excellence with an EHR – a CIO's Perspective

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HIT Session 6.02
Thursday, March 29, 2007

Pinehurst Surgical Organization Overview

- Founded in 1947 – Physician Owned
- 8 Surgical Specialties & 1 Non-Surgical
- 36 Physicians & 18.5 Mid-Levels
- Support staff of 221
- One primary location – 6 satellite clinics
- Approximately 110,000 active *charts*

Goal of Implementing EHR

Goal is **NOT**

- *Chartless or paperless*

Goal **IS**

- Control Expense of Visit Related Processes
- Increase Provider Productivity

Outcome **IS**

- Operational Excellence

Measuring EHR Goal Success

Pinehurst Surgical Trends in Staffing					
Month	Support FTEs	MLPs	MDs	Support FTE per Provider	EHR Implementation
Mar-05	196	16.5	28	4.40	Scanning
Apr-05	197	16.5	28	4.43	Scanning
May-05	198	16.5	28	4.44	Scanning
Jun-05	202	16.5	27	4.65	Chart View, Tasks, Document Interface
Jul-05	199	16.5	27	4.57	Lab Results Interface
Aug-05	196	16.5	27	4.51	ePrescribe
Sep-05	200	16.5	27	4.60	Nursing H&P Entry via Notes
Oct-05	200	16.5	29	4.40	Order - Labs Only
Nov-05	205	16.5	30	4.41	ENT - Note, Order, Charge
Dec-05	205	16.5	30	4.41	Neuro & Vascular - Note, Order Charge
Jan-06	214	17.5	33	4.24	OBGYN - Note, Order, Charge
Feb-06	219	17.5	33	4.34	Urology - Note, Order, Charge
Mar-06	214	17.5	33	4.25	Bariatrics - Note, Order, Charge
Apr-06	212	17.5	34	4.11	GS - Note, Order, Charge
May-06	211	17.5	34	4.10	Ortho & Physical Med - Note, Order, Charge
Jun-06	215	17.5	34	4.18	Ortho & PT - Note, Order, Charge
Jul-06	220	17.5	35	4.18	5 Merging Providers - Note, Order, Charge
Aug-06	222	18.5	37	4.00	PACS, 2 New Providers - All Modules
Sep-06	221	18.5	37	3.97	Quality Follow up
Oct-06	221	18.5	37	3.98	Quality Follow up
Nov-06	221	18.5	36	4.05	Quality Follow up

Achieving Operational Excellence Relies on Improved Processes

Bill Gates, CEO of Microsoft, says -

“ A rule of thumb is that a lousy process will consume ten times as many hours as the work itself requires.”

“ A good process will eliminate the wasted time and technology will speed up the remaining real work.”

Implementing EHR created a unique opportunity to redesign workflow processes to achieve operational excellence!

Workflow Runs your Practice *Not Software*

EHR involves redesign of Information

Workflows for -

Collection

- Opportunity for largest and immediate gains in process improvement & staffing efficiencies

- **Management**

- Opportunity for maintaining current gains and achieving new gains

Information Collection Digital Technology

- Improves availability of information
 - Eliminates “mini-charts” & filing lag time
 - Eliminates issue of chart availability at point of care
- Permits operational efficiencies with “building block” approach
- Eliminates document prep & scan FTE costs
- Saves costs on chart supplies, paper & toner

Information Collection Electronic Workflows

Transitional Workflow

- Conversion of paper & chart centric processes to electronic

New Workflow

- Interfaces
- Digital Faxing
- Secure File Transfer Protocol
- Direct entry into EMR
- Scanned entry of loose reports

Transition Information Collection Chart Conversion

- Reduce your charts to lowest level possible
 - retention statutes; current with purges & shredding
- Analyze chart activity to decide what to convert
 - Future scheduled appointments, Activity in past 1- 3 years, Minors with no activity
 - Consider storage for retention period of inactive charts unless revenue opportunities in storage space
- Indexing – High Labor Costs
 - Analyze labor costs of various historical indexing strategies and present to physicians -20% vs 100%

Transition Information Collection Chart Conversion

Internal or Outsourced Scanning

- Cost of scanning equipment needed to scan documents & non-standard chart items
- Time frame for conversion process – usually driven by EMR implementation strategy
- Volume of charts and activity of charts
- Work space adequate for document prep, scanning, indexing staff
- Additional staff needed to handle in house conversion while still supporting old process

Transition Information Collection Chart Conversion - Staffing

ACTIVE CHART CONVERSION & STAFFING ANALYSIS

Future Scheduled Appts		Conversion Period	
# Active charts	49,500	Total # pages	5,445,000
Avg pages per chart	110	Annual Working days 5 days week - 18 months	375
Total # pages	5,445,000	Productive Worked Hrs per day 1 FTE	7.5
# of Interface pages	-	Pages per day	14,520
# of Pages Scanned	5,445,000		

STAFFING ANALYSIS BY FUNCTION

Prepping FTE Projection		Scanning FTE Projection		Indexing FTE Projection	
Prep Pages per day	14,520	Scan Pages per day	14,520	Index Pages per day	14,520
Productive prepping hrs/day	7.5	Productive scanning hrs/day	7.5	Productive indexing hrs/day	7.5
Prepping rate (pg/hr)	870	Scanner rate (pgs/hr)	1325	Indexing rate (pgs/hr)	295
Hrs prepping per day	16.69	Hrs. scanning per day	10.96	Hrs Indexing per day	49.22
Prepping FTE's	2.23	Scanning FTE's	1.46	Full Indexing FTE's	6.56
				Limited Indexing FTE's	1.34

Total Staffing - Full Indexing
10.25

Total Staffing - Limited Indexing
5.03

Transition Information Collection Chart Conversion

Outsourced Chart Conversion

- Compare in house costs to vendor quotes. Add costs of: partial indexing, boxes, pickup, shredding and stat requests
- Add internal costs of completing indexing, developing chart management reports and importing of converted electronic files
- Contract should cover image quality, turn around time, % of records QA, sample tracking reports and successful test of electronic file delivery

Transition Information Collection Chart Conversion

- Begin scanning charts with appointment activity 90+ days in advance of users on EMR
- Require users to view scanned documents on echart as soon as possible for operational gains
 - Turn on Document & Lab Interfaces, Digital Faxing and FTP
 - STOP creating new charts or pulling scanned charts
 - STOP filing loose paper in charts
 - Rededicate filing & chart pull/refile FTEs to new processes

Transition Information Collection Chart Conversion

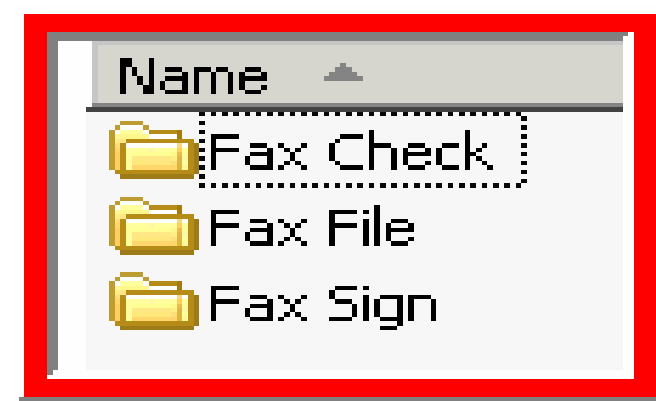
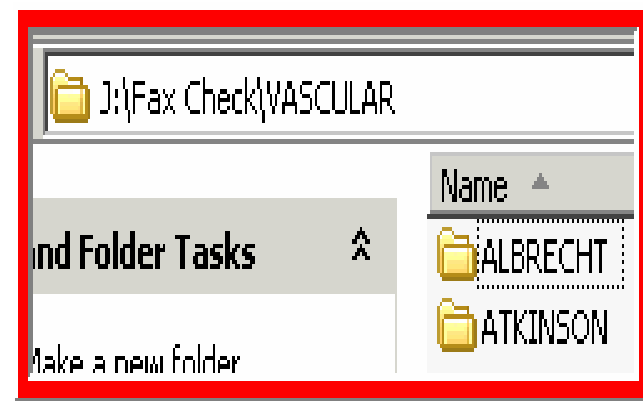
- Set up a QA process so you can shred charts within 30 days of scanning
- If providers require paper, print it from the echart
- Add just enough temporary staff to continue current chart pulls. Have temps work late & early hours
- Track productivity to insure you reach your conversion targets monthly

New Information Collection Interfaces

- Eliminate duplicate entry into multiple information systems – registration, scheduling, providers, ICD9 & CPT4 codes
- Provide discrete data – Lab Information System
- Link processes across information systems – LIS order & results, PACS orders & results, charges
- Cost effectiveness of interface
- Data synchronization and timeliness of data delivery more important consideration than cost

New Information Collection Digital Faxing

- efax phone numbers deliver documents directly to each providers sub folder in the Fax Check folder
- Documents are reviewed online and moved to Fax File for efilng **or** to Fax Sign for efilng and tasking to provider



Information Collection New Secure FTP

From: faxMonitor@pinehurstsurgical.com

Sent: Fri 3/2/2007 7:40 AM

To: Helpdesk

Cc:

Subject: Report of fax Import

Document Processing Started: 03/02/2007 7:39:36 AM

Found zip files in directory..continuing processing.

File Decompression Done. (60 images to be processed)

Finished Processing Files for Decryption - 60 files.

Cleanup Done - Deleted all .pgp files.

Document Processing Completed..Finished Processing All Messages: 03/02/2007 7:39:41 AM

New Information Collection Direct Entry

Note Type: Benefit Forms For: 22 Jun 2006 Status: Edited Owner: [Physician,Test](#)

To/CC [Personalize](#)

1

ID# Group # Effective Date:

Deductible Amt: Met

OOP: Met

Pre-existing waiting period: Insurance Pays:

Insurance Rep Name: Precert Rep Name:

Precert Required Precert # Precert Telephone:

Prior Approval Required Prior Approval # 2nd Opinion required

Date Verified: Date Received: Initials:

Secondary Ins Info: Note:

Insurance: Telephone:

ID# Group # Effective Date:

Deductible Amt: Met

OOP: Met

Note Type: Coumadin Form For: 20 Feb 2006 Status: New Owner: [Physician,Test](#)

To/CC [Personalize](#)

1

Coumadin Anticoagulant Record

Patient Name: Account # Phone:

Surgeon: Family Provider:

Diagnosis: Date of Surgery:

Home Health Agency: Telephone:

Notes:

D/C Results: PT INR Coumadin mgm Tablets

Date	PT	INR	Dosage	Instructions	PA/DR	HH Nurse
/ /						
/ /						
/ /						

Electronic Forms
Benefits Pre-Cert & Coumadin Tracking

New Information Collection

Direct Entry - Nursing

- Convert nursing processes to new workflows well in advance of provider
 - Problem & medication entry with appropriate status of active, D/C, resolved, history of
 - Order entry of diagnostic tests
 - Build enotes that become a central portal for all EMR data & functions – problems, meds, vital signs, lab results, orders
 - Print enote for provider but also task to review electronically

New Information Collection Direct Entry - Nursing

NURSES must EXCEL in EMR

- Nursing is the key to EMR productivity for the provider
- Nursing collects the “building block” data for provider documentation – problems, medications, vital signs
- Redesign your nursing processes for triage and office visits

New Information Collection Direct Entry - Nursing

Triage Encounters Tasked to Provider

Call Process Unfinished Calls

PATIENT, TEST P MRN: 2725100 Sex: F H Phone: (910)295-1111 Allergies: Yes
Age: 27 Years SSN: 282-82-8282 W Phone: Security: No Restrict
DOB: 01/01/1980 Directives: FYI: FYI Note: [Select](#)

Select Patient

Call Processing

Unfinished Calls: 0 [Personalize](#)

Patient: PATIENT, TEST P [Select Pt...](#) [Clear Pt](#)

Prev Appt: 27Feb2007 03:45 PM Physician, Test Next Appt:

Patient is Caller Date/Time of Call: 04 Mar 2007 9:37 AM

Caller: PATIENT, TEST P Phone Number: (910)295-1111 Home

Relation: Self

Route to: User Team

General Surgery Nurse Team [All](#) Reason for Call: Medical Complaint/Problem

Comments:

Date of Surgery: 02/23/07
Surgeon: Dr. XXX
Type of surgery: [Lap-Chole]
Fever: 102 Chills Pain Swelling
Comments: []
Plan/Instructions given: Schedule appt today in office

[Text Templates...](#) [Print](#) [Copy To Note](#) [Copy To Task...](#) [Clear Form](#) [Finish Later](#)

New Information Collection Direct Entry - Nursing

Problems [Personalize](#)

View: 1 Active 2 PMH 3 PSH 4 Family Hx 5 Pers Hx 6 All

Category	Problem	ICD-9	Onset	Status
	Arterial Embolism Of The Iliac Artery	444.81		Active
	Arteriovenous Fistula	447.0		Active
History of	Bladder Cancer	V10.51		Resolved
History of	Carcinoma In Situ Of The Larynx	V10.21		Resolved
	Carotid Artery Stenosis	433.10		Active
	Cholecystectomy			Active
	Chronic Tonsillitis	474.00		Active
	Compression Arthralgia Of The Knee /	719.46		Active
	Cough	786.2		Active
	Cysticercosis	123.1		Active
	Cystoscopy With Resection Of Tumor			Active
	Esophageal Reflux	530.81		Active
Family history	Genetic Susceptibility To Malignant	V84.03		Active
	Joint Pain, Localized In The Hip	719.45		Active
	Left Breast Infection Previous Mastectomy	788.81		Active

Records Problems during Office Visit
Building Block

New Information Collection Direct Entry - Nursing

Medications [Personalize](#)

View: 1 Active 2 Past 3 All Rx Benefit: NOT LISTED [Edit](#)

	Name	SIG	DS:Qty:Ref	Dates of Therapy	Rx By
😊	Hydrochlorothiazide 25 MG	TAKE 1 TABLET DAILY.		27Feb2007-	
😞	Levoxyl 88 MCG Tablet	TAKE 1 TABLET ONCE BEFORE		27Feb2007-	

Records Medications during Office Visit
Building Block

New Information Collection Direct Entry - Nursing

Vital Signs [Personalize](#)

Date/Time: Status:

Last Entry: (27 Feb 2007 11:19 AM) **Last Entry:** (27 Feb 2007 11:19 AM)

BP Systolic: <input type="text" value="127"/> mm Hg	140 mm Hg	Height: <input type="text" value="65"/> <input type="text" value="in"/> <input type="button" value="Dropdown"/>	65 in
BP Diastolic: <input type="text" value="78"/> mm Hg	85 mm Hg	Weight: <input type="text" value="147"/> <input type="text" value="lb"/> <input type="button" value="Dropdown"/>	135 lb
Location: <input type="text" value=""/> <input type="button" value="Dropdown"/>		BMI: 24.5 <input type="text" value="kg/m2"/> <input type="text" value="Calc."/>	22.5kg/m2 <input type="text" value="Calc."/>
Position: <input type="text" value=""/> <input type="button" value="Dropdown"/>		Head Circum: <input type="text" value=""/> <input type="text" value="cm"/> <input type="button" value="Dropdown"/>	
Temperature: <input type="text" value="99"/> <input type="text" value="F"/> <input type="button" value="Dropdown"/>		Pain Scale: <input type="text" value=""/> (0-10)	
Method: <input type="text" value=""/> <input type="button" value="Dropdown"/>		LMP: <input type="text" value="01 Mar 2007"/> <input type="button" value="Calendar"/>	
Heart Rate: <input type="text" value=""/> bpm		O₂ Saturation: <input type="text" value=""/> (%)	
Location: <input type="text" value=""/> <input type="button" value="Dropdown"/>		F _i O ₂ : <input type="text" value=""/> (%)	
Quality: <input type="text" value=""/> <input type="button" value="Dropdown"/>		O ₂ Source: <input type="text" value=""/> <input type="button" value="Dropdown"/>	
Respirations: <input type="text" value=""/> R/min			
Quality: <input type="text" value=""/> <input type="button" value="Dropdown"/>			

Record Vital Signs during Office Visit
Building Block

New Information Collection Direct Entry - Nursing

Note Type: Abdominal Pain For: 27 Feb 2007 Status: Unsigned Owner: [Physician,Test](#)

To/CC CC: LAM MD, DOUGLAS [Personalize](#)

Defined Sections [Go To](#) [Cite](#) [Add](#) [Text](#) [Dictation](#) [Findings](#) [Image](#) [Remove Entry](#)

All Note Sections

- Reason For Visit
 - PCP
 - Referred Here
 - HPI
- Allergies
- Current Meds
- Active Problems
- PMH
- PSH
- Family Hx
- Personal Hx
- ROS
- Vital Signs
- Physical Exam
- Assessment
- Orders
- Plan
- Signature

Reason For Visit
[TEST PATIENT](#) is referred for evaluation of abdominal pain.

Allergies
Amoxicillin TABS
Latex
Penicillins.

Current Meds
Hydrochlorothiazide 25 MG Tablet;TAKE 1 TABLET DAILY.; RPT
Levoxy188 MCG Tablet;TAKE 1 TABLET ONCE BEFORE MEALS 30 minutes prior to dinner; RPT.

Active Problems
Lumbago (724.2).

PSH
Wrist Arthroscopy.

Family Hx
Family history of Emphysema.

Personal Hx
Previous History Of Smoking.

Vital Signs
Recorded by Physician,Test on 04 Mar 2007 10:41 AM
BP:127/78,
Temp: 99 F,
Height: 65 in, Weight: 147 lb, BMI: 24.5 kg/m2,

Cite information to Note and add Reason for Visit & Carbon Copy
60-80% of Office Visit Documentation is complete

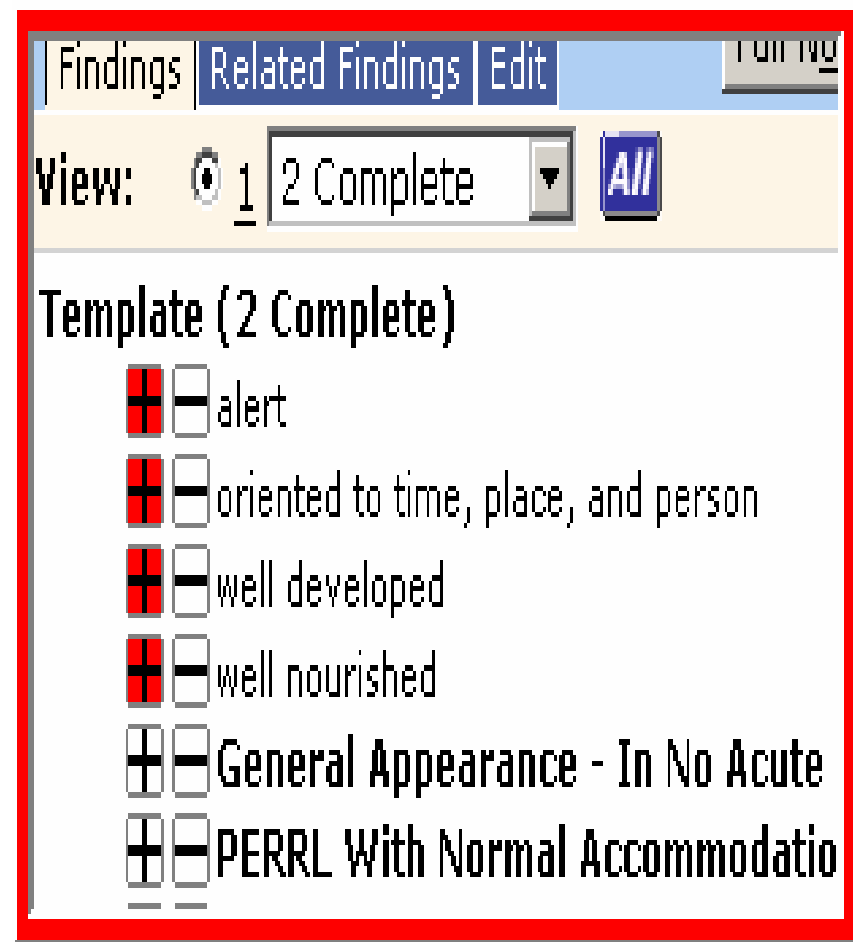
New Information Collection

Direct Entry - Provider

- Make sure all nursing “building block” processes are working smoothly
- Combine nursing documentation into a note with provider documentation
 - Nurse captures 60-80% of the documentation for the office visit
- Provider portion of new process should require about the same time as dictation

New Information Collection Direct Entry - Provider

Completes Physical
Exam



The screenshot shows a software window with a menu bar containing 'Findings', 'Related Findings', and 'Edit'. Below the menu bar is a 'View:' section with a search icon, a text input field containing '1 2 Complete', a dropdown arrow, and an 'All' button. The main content area is titled 'Template (2 Complete)' and lists six items, each with a red cross icon and a checkbox:

- alert
- oriented to time, place, and person
- well developed
- well nourished
- General Appearance - In No Acute
- PERRL With Normal Accommodatio

New Information Collection Direct Entry - Provider

Assesses Diagnosis
Code

The screenshot shows a software interface with a red border. At the top, there are tabs for 'Findings', 'Related Findings', and 'Edit', along with buttons for 'Full Note', 'Show Details', and 'Show Preview'. Below this is a 'View:' section with a dropdown menu set to 'Abdominal Pain', an 'All' button, and two search filters labeled '2 Prompt' and 'IP'. The main area is titled 'Template (Abdominal Pain)' and contains a list of diagnosis codes, each with a plus sign and a checkbox. The code 'gangrenous appendicitis with generalized peritonitis (540.0)' is highlighted in blue and has a red plus sign next to it. Other codes include nausea, abdominal pain, diarrhea, DIVERTICULOSIS DUODENAL, DIVERTICULITIS OF SMALL INTESTINE, ACUTE ABDOMEN, APPENDICITIS, ACUTE, WITH GENERALIZED PERITONITIS, FULMINATING, OBSTRUCTIVE, and CHRONIC.

Findings Related Findings Edit Full Note Show Details Show Preview

View: 1 Abdominal Pain All 2 Prompt IP 3

Template (Abdominal Pain)

- + nausea
- + abdominal pain
- + diarrhea
- + DIVERTICULOSIS DUODENAL
- + DIVERTICULITIS OF SMALL INTESTINE
- ACUTE ABDOMEN
- APPENDICITIS
 - + ACUTE
 - WITH GENERALIZED PERITONITIS
 - gangrenous appendicitis with generalized peritonitis (540.0)
 - FULMINATING
 - OBSTRUCTIVE
 - CHRONIC

New Information Collection Direct Entry - Provider

Order Entry


Problems Active All

- Abdominal Pain 789.00
- Acute Pansinusitis 461.8
- Acute Urinary Retention 788.20
- Appendicitis With Generalized Peritonitis 540.0
- Bladder Cancer 188.9
- Blood In The Urine 500.7

View: 1 My Favorites 2 3

Cast, Removal/Repair Full Arm/Leg, applied
DME, Custom Toe Appliance
DXA, Bone Density Appendicular Skeleton
Follow-up, Keep scheduled appt
Follow-up, Office will call with results & ap...
Follow-up, Pre-op Appt
 Surgery, Appendectomy
Surgery, Appendectomy at time of oth

Post Text to Current Note Pages: 1

Order	O	R	Problem
 Surgery, Appendectomy			Appendicitis With Generalized Peritonitis

Provider or nurse enters orders

New Information Collection Direct Entry - Provider

Note Type: Abdominal Pain **For:** 27 Feb 2007 **Status:** Unsigned **Owner:** [Physician,Test](#)

To/CC: CC: LAM MD, DOUGLAS [Personalize](#)

Defined Sections
All Note Sections

- Reason For Visit
- PCP
- Referred Here
- HPI
- Allergies
- Current Meds
- Active Problems
- PMH
- PSH
- Family Hx
- Personal Hx
- ROS
- Vital Signs
- Physical Exam
- Assessment**
- Orders
- Plan
- Signature

Go To **Cite** **Add** **Text** **Dictation** **Findings** **Image** **Remove Entry**

Hydrochlorothiazide 25 MG Tablet,TAKE 1 TABLET DAILY.; RPT
Levoxyl 88 MCG Tablet,TAKE 1 TABLET ONCE BEFORE MEALS 30 minutes prior to dinner; RPT.

Active Problems
Lumbago (724.2).

PSH
Wrist Arthroscopy.

Family Hx
Family history of Emphysema.

Personal Hx
Previous History Of Smoking.

Vital Signs
Recorded by Physician,Test on 04 Mar 2007 10:41 AM
BP:127/78,
Temp: 99 F,
Height: 65 in, Weight: 147 lb, BMI: 24.5 kg/m2,
LMP: 01 Mar 2007.

Physical Exam
[Alert, oriented](#) to time, place, and person, [well developed](#), and [well nourished](#).
[The bowel](#) sounds were abnormal, [abdominal](#) percussion was abnormal, and [abdominal](#) tenderness.

Assessment
• [Gangrenous](#) appendicitis with generalized peritonitis (540.0)

Orders
[Surgery](#), Appendectomy.

Provider uses building blocks of nursing
documentation - may add Plan, signs enote
Completed

New Information Collection Direct Entry - Provider


Provider records or Nurse records prescription request and tasks provider to authorize









New Rx Rx Benefit: NOT LISTED [Edit](#) [Personalize](#)

Problems Active All

- Abdominal Pain 789.00
- Acute Pansinusitis 461.8
- Acute Urinary Retention ...
- Appendicitis With Genera...

[New Problem](#) [Details](#) [Resolve](#) [Assess](#) [Rx Detail](#) [Update Link](#) [Remove](#)

Problem-based My Favorites  Search Master

Medication	SIG	Days	Qty	Ref	daw	
<input type="text"/>	New					
 Ambien 10 MG Tablet	TAKE 1 TABLET 4 TIMES DAILY.	10	40	0	<input type="checkbox"/>	Detail 
 Amitriptyline HCl 25 MG Tablet						
 Amoxicillin 200 MG/5ML Susper						
 Ativan 2 MG Tablet						
 Cipro 250 MG Tablet						
 Cipro 500 MG Tablet						
 Detrol LA 4 MG Capsule Extens						

New Information Collection

Direct Entry - Orders

- Eliminates
 - Misinterpretation of handwritten orders
 - Need for manual tracking
 - Duplicate entry if interfaced
- Improves
 - Workflow and timeliness of test resulting
 - Strengthens documentation
 - Automates Charge entry if order set to charge

New Information Collection

Direct Entry - Charges

- Eliminates
 - Redundant entry of data
 - Missed charges, keying errors or legibility issues
 - Non-payment of uncovered services
- Improves
 - Accuracy of coding
 - Claims denial rate for certain denial types
 - Revenue cycle – no lag of charge entry

New Information Collection FTE Impact

Impact on Scan & Index FTEs of
Strategies to reduce paper documents

FTE Impact Analysis - Digital Documents

<u>Month</u>	<u># Working Days</u>	<u>Month Loose Reports</u>	<u>Avg Daily Loose Reports</u>	<u>Estimated Scan/Index FTEs Needed</u>	<u>Estimated FTE Impact</u>	<u>Process Transition</u>
Mar-05	23	101,723	4423	2.49		Pre-EMR
Jul-05	20	66,765	3338	1.88	-0.61	Document & Lab interfaces
Aug-05	23	69,741		1.71	-0.17	ePrescribe
Jul-06	20	44,811	2241	1.26	-0.45	Completion of Order, Charge, Note
Aug-06	23	49,910	2170	1.22	-0.04	Post EMR

Per report rate 0.0045

New Information Collection FTE Impact

Medical Records

- Eliminated 7.5 FTEs in Medical Records
 - 4 FTEs chart pull & re-file eliminated; 1 FTE moved to Index
 - Moved 1 FTE Release of Information to Scan & Index
 - 3.5 FTEs filing loose reports eliminated

Transcription

- Eliminated all 7 FTEs internal Transcriptionists
 - Any remaining transcription is outsourced
 - Will always have some transcription
 - Outsourced transcription cost reduced 60-95% based on specialty

New Information Collection FTE Impact

March 2005 – November 2006

– Eliminated 14.5 FTEs

– Added 10.5 new providers

Information Management

Direct Entry - Building Blocks

Recorded once for many uses -
documentation, medical decision making &
data based analysis

- Problems
- Findings
- Medications
- Vital Signs
- Lab Results

Information Management Prescribing

- Eligibility and benefits checking inform provider of formularies and preferred medications
 - Eliminates call backs or non-compliance due to cost
- Drug interactions
 - Eliminates call backs or acute events
- Facility specific history of prescribed medications
 - Tracks patient compliance with filling script
 - Eliminates drug seekers
 - Outcome analysis when linked to problem lists, tests and results

Information Management Orders

- Feeds interfaces for LIS and PACs
- Allows results to auto complete orders
- Tracking of past due diagnostic test results
- When linked to charge, eliminates re-keying of charge
- Forces diagnosis assignment at time of order and CPT accuracy
- Tracking of services ordered and performing location for business analysis

Information Management Orders & Results linked to PACS

The screenshot displays a medical information system interface. At the top, a patient's information is shown: **TEST, AUNT**, MRN: 3828137, Age: 27 Years, Sex: F, SSN: 123-45-6789, H Phone: (910)555-0000, W Phone: (910)555-0000, Allergies: Yes, Security: No Restricted Data, and Pri Ins: (Select). The interface includes a **ChartViewer** section with a view filter set to 'All by Section by Sub-Section *' and 75 total chart items. Below this, an **Item Viewer** shows a 'US, Abdominal, Complete PRG' test by Terry, William, dated 25 Oct 2006 06:00 AM. A **Web Page Dialog** is open, displaying a table of Neurostar Solutions web-based image viewer links. The table has columns for Simple Viewer, Advanced Viewer, Last, First, MRN, Study Date, Modality, Ref. Doctor, and Study Description. Two entries are listed for 'test, aunt' with MRN 3828137, both for a 'US' modality study on 10/25/2006.

Simple Viewer	Advanced Viewer	Last, First	MRN	Study Date	Modality	Ref. Doctor	Study Description
		test, aunt	3828137	10/25/2006 08:40:43 am EDT	US	terry^william	us, abdominal, complete
		test, aunt	3828137	10/25/2006 08:37:51 am EDT	US	terry^william	us, abdominal, complete

ALLSCRIPTS
https://psc.neurostarsolutions.com/Views/patient_portal/patient_portal.jsp?AUHawd24743AKLWUywedwDHAW654=touchworks&JHHvbnmvadK Trusted sites

Information Management Charges

- Provides a link to diagnosis that is assessed for office visit, diagnostic orders and surgeries
- Simplifies coding audits
- Simplifies financial audits
 - Audit trail tracks all changes up to submission of charge

Information Management Charges

- Pay for Performance & Physician Voluntary Performance Reporting
 - Measures are age, sex, diagnosis and procedure specific
 - Build additional questions that prompt for Category II codes to report

The screenshot shows the Allscripts web application interface. The main window displays an encounter form for patient SCHUCK, PHYLLIS J. The form includes fields for Day, Date, Time, Billing Provider (Eaton, Kat), Performing Provider (Eaton, Kat), and Referring Provider. A table shows a primary charge with ICD Code 733.00. A dialog box is open, asking 'Did you enter CPT Category II ...?' with a dropdown menu and a 'Needs Info' status. The dialog box also contains the text 'Did you enter CPT Category II 4005F and use the appropriate modifier?'. The bottom of the screen shows the user's name (schos), site (Pinehurst Surgical - Pine...), encounter date (08 May 2006 10:00 AM), and encounter type (Appointment).

Information Management Hospital & Surgery

- Hospital Census list received by interface daily
 - Use elists as check and balance for charge entry of IP, OP, Consults, ER Visits
 - Use elists for discharge follow up calls
- Use elists to track patients scheduled for surgery with outstanding paper work
 - Pending test results
 - Pending orders

Information Management Chart Structure

- Good structure & views take advantage of computer speed in retrieving & grouping records
- Increased Productivity for providers

The screenshot displays a software interface titled "ChartViewer" with a search bar containing "Bariatric Pre-Op Clearance". Below the search bar are two dropdown menus for "Group:" (set to "Section") and "Sub-Section". A table header shows columns for "Item", "Date", and "Owner". To the left is a tree view of folders: Clinical, PSC H&P, Administrative, Bariatric, Clinic Notes, Diagnostic Studies, Bone Density, and Labs. To the right, an "Item Viewer" pane shows details for "Owner: Physic" and "Encounter: 16", followed by a list of medical items including "Allergies Sulfa Drugs", "Current Meds Meclizine HCl 12.5", "Albuterol 90 MCG AND AS DIRECT", "Acetaminophen-C Rx", "Celexa 20 MG Tab", and "UNKNOWN MEE".

Information Management

Release of Information

- Eliminate duplicate handling to tab documents and copy
- Eliminate copier & paper costs with efaxing
- Eliminate 90% of postage costs with efaxing
- Documents available same day to release if using enotes or 72 hours if transcribed
- Tasking logs the receipt of an authorization request
- eLetters for prebills to insurance company or attorney
- Release template provides audit trail of documents released
- Automatically part of the chart

Information Management Tasking

- Specific tasks allow for routing and follow up of tasks by views
 - Create tasks for key actions in workflows
 - Use specific task such as Surgery Charging or Precert vs. generic task for Insurance/Billing
 - Create views of tasks that allow staff & providers to manage their tasks

Information Management Tasking

- Task Views - Staff
 - Charges are submitted for every encounter
 - Edited/Adjusted charges are resolved
 - Pending orders are scheduled
 - Past due orders are followed up
 - Precerts are current with authorizations
 - Triage is current with call backs
 - 1yr-5yr follow ups & preventive health services are current

Information Management Tasking

- Task Views – Providers
 - Prescription requests & refills
 - Documentation creation & signoff
 - Review of test results & verification
 - Review of external documents
- Task Views – Managers
 - All of these and more!

Information Management Correspondence

- Patient Result Letters
- Pre-Admit H&Ps
- Patient DKA letters
- Patient Discharge letters
- Referring Provider letters
- Letters to Insurance Companies
- Return to Work notes

Information Management Processes

- Management oriented training in your EHR is a must (i.e. EMR, PACS, PMS)
- Work one-on-one with clinical managers to observe how they use task views, key reports and tools
- Set the paradigm that technology is integral to processes they supervise so literacy is a job requirement

Information Management Processes

Establish physician agreed upon minimums that all providers, nursing or technical staff must do in EMR

- Prescribing with meds linked to problems
- Enter problems and resolve
- Assess diagnosis codes
- eNote for nursing & provider documentation
- Orders entered & tracked electronically
- Charges for E&M codes, clinical supplies & services

Information Management Processes

- Schedule Quality Follow Ups – Are “standards” being met?
- Document what you find and report it to the organization

EMR Focused Follow Ups Department September 18 – 29, 2006	
Observations/Problems	Recommendation
Mixture of providers/nurses creating notes	The nurse is to create the note so that all H&P and RFV are reviewed with patient.
Mixture of providers/nurses entering CC's	The nurse is to enter the referring or PCP since they are the ones interviewing the patient about this information
Mixture of provider/scheduler entering orders and charges	The provider or nurse are to enter the order prior to patient checking out with scheduler. Favorites, Quicksets, etc should be used so that it will be easier for ordering.
Writing new Rx's for meds that are already in the patient's chart	Use the change and renew functions under the meds tab instead of New RX.
Handwriting Rx's instead of using TW	The nurse should enter this in as an Hx and the Rx should not be sent down to MR to be scanned. A \$5 fine for each Rx will be charged to the provider/department.

Information Management Processes

EMR Role Handling MATRIX

Required Role for all processes except Charges - Provider/Nurse/Scribe

Process Owner	DIAGNOSIS CODES	ORDERS	CHARGES	RXs	E-NOTES
<i>Specialty A</i>					
1	provider	provider	provider	provider	provider
2	provider	provider	provider	provider	provider
3	provider	provider	provider	provider	provider
4	provider	provider	provider	provider	provider
5	provider	provider	provider	provider	provider
<i>Specialty B</i>					
1	provider	provider	provider	provider	provider
2	provider	provider	provider	provider	provider
3	provider	nurse	nurse/scheduler	provider	provider
4	provider	nurse	provider	provider	provider
5	provider	provider	provider	provider	provider
6	provider	nurse	provider	provider	provider
7	provider	nurse	provider	provider	provider
8	provider	provider	provider	provider	provider
9	provider	provider	provider	provider	provider
10	provider	nurse	provider	provider	provider
<i>Specialty C</i>					
1	provider	provider	provider	provider	provider
2	provider	provider	scheduler	nurse	provider
3	provider	provider	provider	provider	provider
4	provider	provider	provider	nurse	provider
<i>Specialty D</i>					
1	nurse	nurse	nurse/scheduler	nurse	provider
2	nurse	nurse	scheduler	nurse	provider
3	scribe	scribe/nurse	scribe	scribe/nurse	provider
4	nurse/scheduler	nurse/scheduler	nurse/scheduler	nurse	provider
5	scribe	scribe/nurse	scribe	scribe/nurse	provider
6	scribe	scribe/nurse	scribe	scribe/nurse	provider
7	provider	provider	provider	nurse	provider

Information Management Processes

PS Care Process Management Report						
<i>Process Owner</i>	<i>Provider</i>		<i>Support Staff</i>		<i>Support Staff</i>	
	<i># Outstanding tasks</i>	<i>Date range Outstanding Tasks</i>	<i># Unscheduled Orders</i>	<i>Date range Unscheduled Orders</i>	<i># Past Due Results</i>	<i>Date range Past Due Results</i>
Specialty A						
1	140	1.26.07-2.23.07	50	12.9.06-2.23.07	33	1.30.07-2.20.07
2	323	11.14.06-2.23.07	7	12.14.06-2.23.07	8	2.19.07-2.20.07
3	54	12.24.06-2.23.07	18	1.19.07-2.21.07	8	1.23.07-2.21.07
4	23	2.20.07-2.23.07	43	12.22.06-2.22.07	3	2.19.07-2.21.07
5	39	1.15.07-2.23.07	63	11.17.06-2.23.07	270	10.3.06-2.21.07
Specialty B						
1	80	1.8.07-2.23.07	1	2.22.07	37	2.1.07-2.21.07
2	14	2.6.07-2.23.07	6	2.13.07-2.22.07	6	2.20.07-2.21.07
3	26	2.22.07-2.23.07	0	-	10	2.1.07-2.21.07
4	55	2.16.07-2.23.07	0	-	96	2.12.07-2.21.07
5	32	2.9.07-2.23.07	0	-	11	2.13.07-2.21.07
6	1	2.23.07	2	2.22.07	0	-
7	463	1.24.07-2.23.07	0	-	20	2.1.07-2.20.07
8	29	1.22.07-2.22.07	5	2.22.07	10	2.19.07-2.20.07
9	2	2.22.07	0	-	12	10.16.06-2.19.07
10	7	2.20.07-2.22.07	0	-	4	11.8.06-12.7.06
Specialty C						
1	164	10.23.06-2.23.07	17	2.16.07-2.23.07	156	12.12.06-2.21.07
2	9	2.19.07-2.21.07	0	-	0	-
3	162	12.27.06-2.23.07	0	-	41	1.24.07-2.21.07
4	42	2.14.07-2.23.07	2	2.20.07-2.21.07	221	2.23.06-2.21.07

Information Management Processes

- Organization must agree what steps to take when a provider refuses to follow electronic standards
 - Require clinical staff to input for provider. May increase his/her staffing level and direct expense
 - Set paper handling costs at punitive levels for pieces of paper that should have been done electronically
 - Address as a peer review issue as non-compliance affects entire organization

Achieving Operational Excellence

EHR Goal Met?

- Ratio of Support Staff to Providers has **declined by .35 FTEs since March 2005**
- Current Ratio of **4.05 Support Staff per Provider** is in line with **MGMA Median of 4.00**

Achieving Operational Excellence

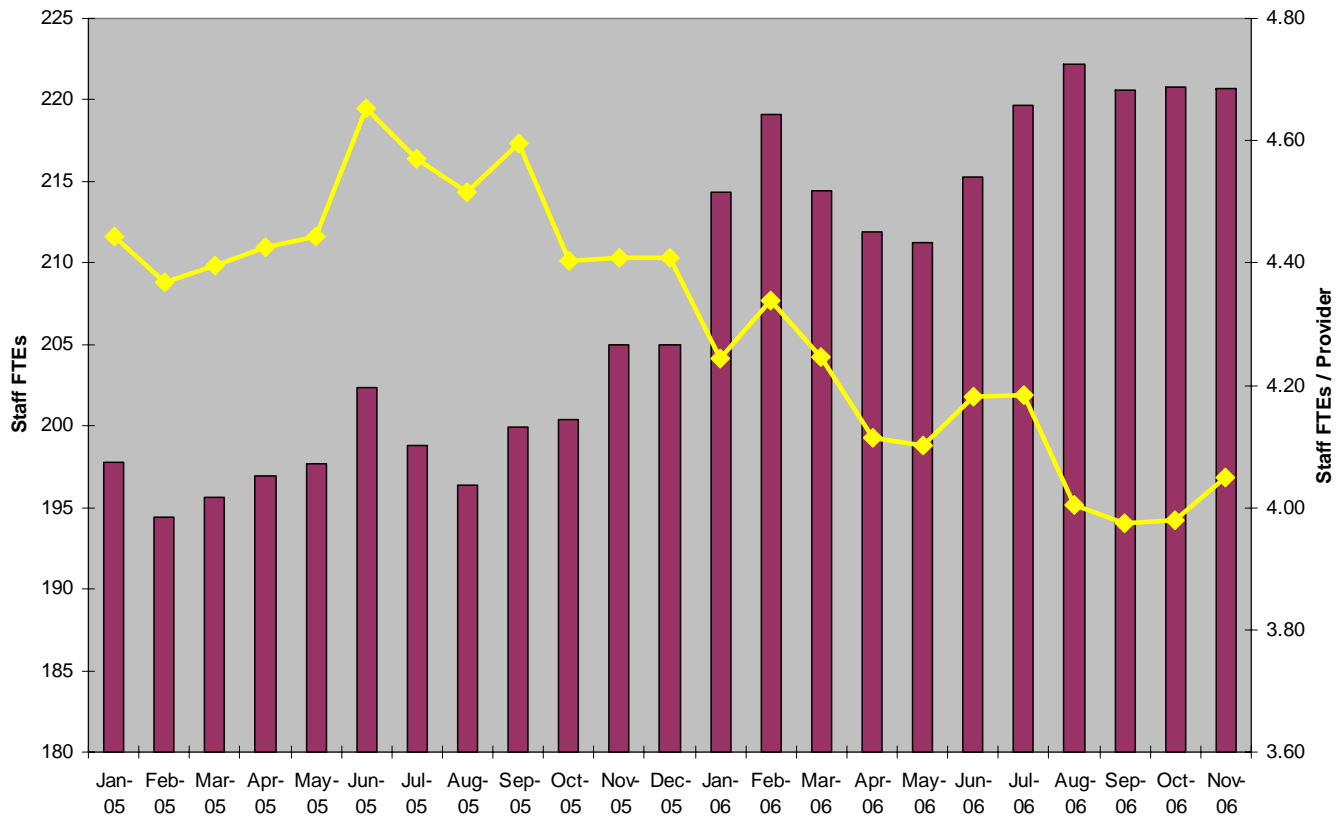
EHR Goal Met?

- MGMA Specialty Practice Median is 4.46 FTEs per 10,000 RVUs
- Based on Total RVUS, PS has **2.90 FTEs per 10,000 RVUs**
- PS ranks above the **75th Percentile for Productivity**

Achieving Operational Excellence

EHR Goal Met!

Staffing Ratios



Achieving Operational Excellence with an EHR

Questions?

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