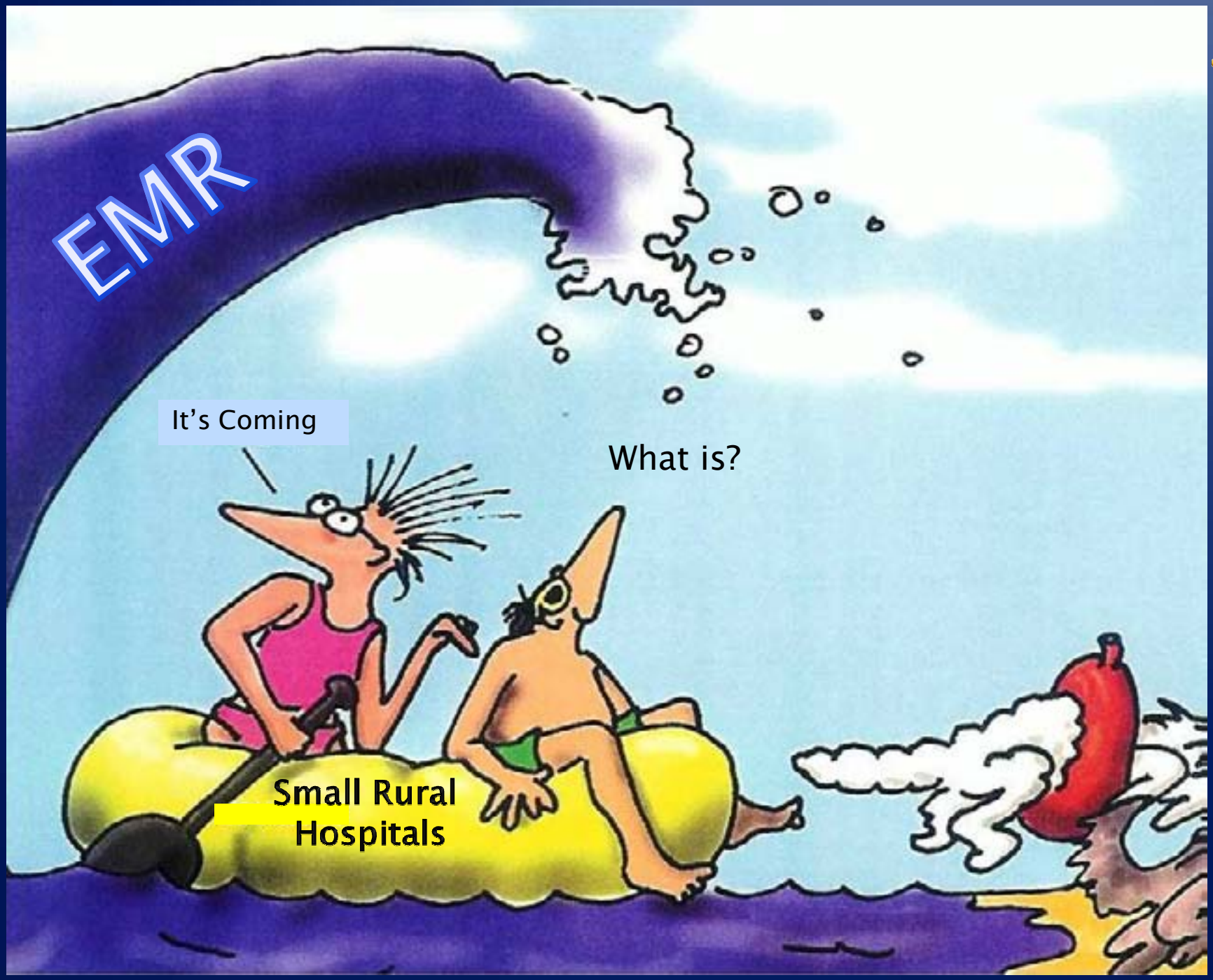

EMR
It's Coming
What is?
Small Rural Hospitals

EMC: A Small Rural Hospital's Journey to an EMR

Evergreen Medical Center
Evergreen, Alabama

Keys to Keys to Successful Implementation

- Administrative Support
- Have a strategic plan.
- Communication! Communication! Communication!
- Clinical Buy-In
- Be Flexible
- Teamwork
- Gather ideas from other facilities.

- CEO/Administrator
- CNO/DON
- CFO
- Chief of Staff
- Lab Director
- OR Manager
- Radiology Director
- HIM Director
- UR Director
- Education Director
- Pharmacy Director
- Business Office Director
- Collections Specialist
- Network Specialist
- Materials /IT Director

Evergreen Medical Center's IT Steering Committee

IT Steering Committee Meeting

- Held at least once a quarter and not more than once a month. Depends on the projects.
- Pre-defined agenda – Solicited topics from all members
- 1 hour meeting completion is the goal
- Published task lists for all projects. Committee determines task assignment.
- Published project costs
- Minutes are distributed to all members after meeting and directors at Monthly Director's Meeting.

Continue

Task List Deadline:

Project: PACS Conversion (Situations 2845347,5349,5350,5354,2909071) **6/9/2008**

Done?	Task	Due By	Notes	Responsibility
✓	Obtain Updated Quote	1/30/08	Contact Matt Cole - CPSI	Tommy Shehan
✓	Check Contract - MIS	2/1/08	Check Expiration Date (5/27) - Auto Renew (60 Day Window, 180)	Tommy Shehan
✓	Plan Project	2/8/08	Develop Task List	I.T. Steering Committee
✓	Notify MIS of Conversion	2/15/08	Notice of Change of Vendors	Bob Humphrey, Bill King
✓	Place Order for PACS	2/22/08	10% Non Refundable Deposit Required ($25,300) 10 Weeks Notice	Tommy Shehan
✓	Set-up PACS Training	2/22/08	How Long? Where?	Tommy Shehan
✓	PACS Storage Required	3/1/08	Is 1.5 Terabytes Enough for Old Data, New Data and 16 Slice C.T.	Tommy Shehan, Bill King
✓	Secure Financing for Project	4/1/08	Total Quote as of 1/31/08 ($252,298)	Sharon Jones
✓	Data Conversion	4/1/08	Need Quote from CPSI & MIS	Tommy Shehan
✓	Assess Virus Protection	4/4/08	Determine Additional Needed Licenses for NAV	T. Shehan, Shawn Hoomes
✓	Obtain Virus Quote	4/4/08	Need 86 Licenses Plus PACS Requirement	T. Shehan, Shawn Hoomes

Return

Agenda
I.T. Steering Committee
July 7, 2009
2:00 P.M. EMC Class room

Present: Angie Hendrix, Bill King, Randy Seale, Shawn Hoomes, Helen Andrews, Tommy Shehan, Mary Black, Sharon Jones, Ann Nobles, Sandra Williams, Julie Miller, Bob Humphrey

- Task List Review
  - Domain Conversion from Workgroup
  - ChartLink - Update
  - CPOE – August 2009
    - Trial Hardware – Tangent VITA Pro
    - CPSI Task List Update
    - Doctor's Training/2 hr. commitment August 11, 12, or 13
  - Quality Module
  - Imaging Center Wiring and Network Conversion
    - Project Status

Agenda

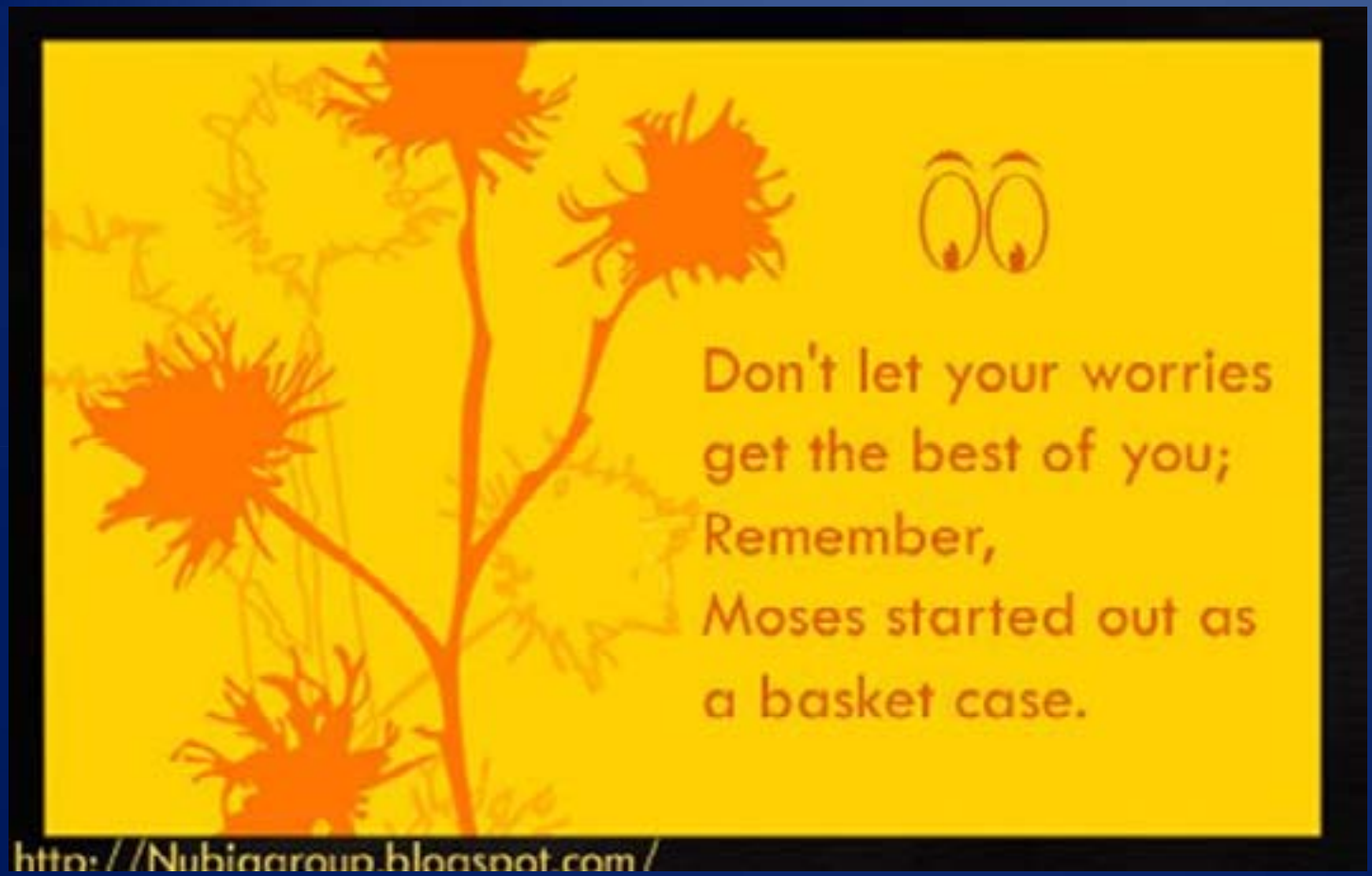
I.T. Steering Committee

February 8, 2010

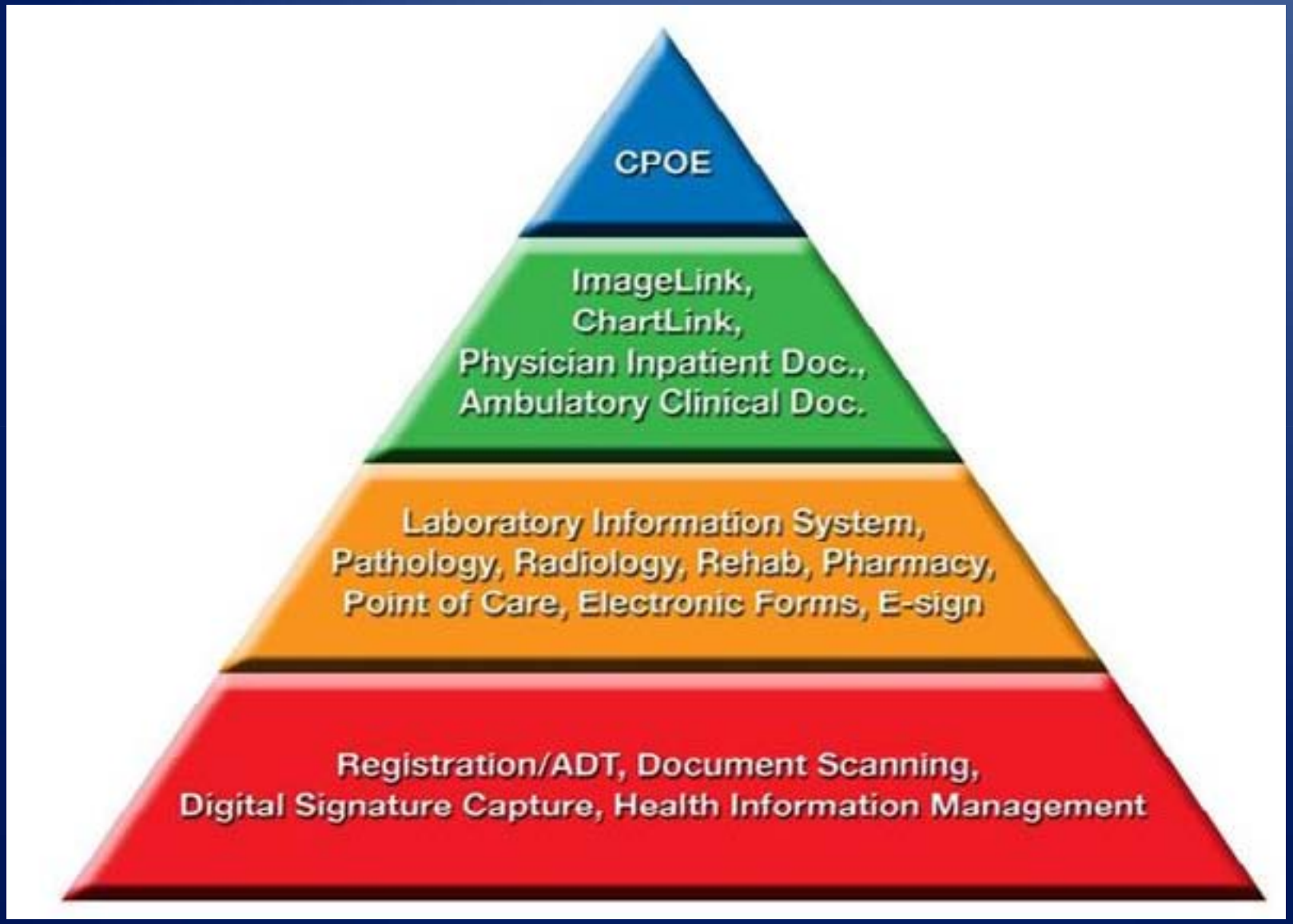
2:00 P.M. EMC Classroom

Present: Tommy Shehan, Mary Black, Shawn Hoomes, Bob Humphrey, Melissa Dunn, Sandra Williams, Helen Andrews, Bill King, Alice Anderson, Jenny Stanford, Angie Hendrix

- For Review
  - ChartLink Licensing Status – Current Licenses, Needed Licenses, Cost
    - Currently 6 Licenses – Barnes, Yearwood, Cumagun, Roberts, West, and Farmer
    - Need 6 Licenses- Brown, Ledoux, Lovelady, Boshell, Peterson, Myrick (New Tri-County Physician)
    - Current cost with site visit discount - $1200.00
  - MPI Update Status and Conversion to Person Profile
    - Tommy will run Person Profile Edit (2 pages run Tuesday, 21 in December)
    - Tommy will run MPI Edit Report (830 pages run Tuesday, 2944 in December)
    - A decision about additional personnel will be made after discussion of reports.
  - Clientware Version 17
    - Upgrade tentatively scheduled for Tuesday, March 16, 10:00 A.M. – Expect up to an hour of downtime on the system.


Don't let your worries
get the best of you;
Remember,
Moses started out as
a basket case.
http://Nubiagroup.blogspot.com/

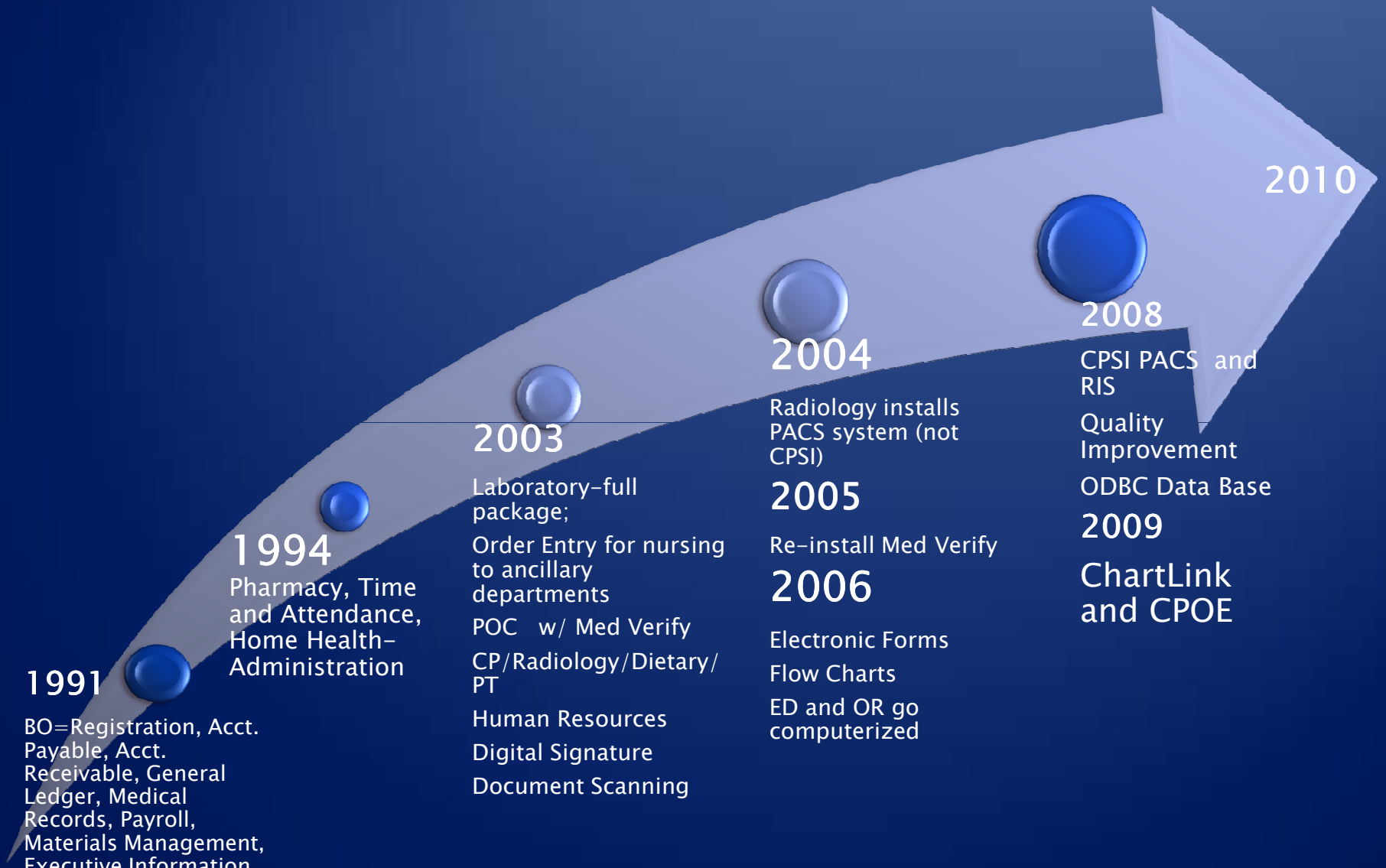
One Road to EMR



New HIMSS Adoption Model

US EMR ADOPTION MODEL			
Stage	Cumulative Capabilities	2009 Q2	2009 Q3
Stage 7	Complete EMR; CCD transactions to share data; Data warehousing; Data continuity with ED, Ambulatory, OP	0.3%	0.5%
Stage 6	Physician Documentation (structured templates), full CDSS (variance & compliance), full R-PACS	1.0%	1.2%
Stage 5	Closed loop medication administration	4.5%	4.8%
Stage 4	CPOE, Clinical Decision Support (clinical protocols)	3.6%	4.1%
Stage 3	Nursing/clinical documentation (flow sheets), CDSS (error checking), PACS available outside radiology	38.4%	40.4%
Stage 2	CDR, Controlled medical Vocabulary, CDS, may have document imaging; HIE capable	31.6%	29.8%
Stage 1	Ancillaries-Lab, Radiology, Pharmacy-all installed	7.2%	7.1%
Stage0	All Three Ancillaries NOT installed	13.4%	12.1%
	Total Hospitals	n=5167	n=5172

Our Road to EMR



1991

BO=Registration, Acct. Payable, Acct. Receivable, General Ledger, Medical Records, Payroll, Materials Management, Executive Information, Ad Hoc

1994

Pharmacy, Time and Attendance, Home Health-Administration

2003

Laboratory-full package;

Order Entry for nursing to ancillary departments

POC w/ Med Verify

CP/Radiology/Dietary/PT

Human Resources

Digital Signature

Document Scanning

2004

Radiology installs PACS system (not CPSI)

2005

Re-install Med Verify

2006

Electronic Forms

Flow Charts

ED and OR go computerized

2008

CPSI PACS and RIS

Quality Improvement

ODBC Data Base

2009

ChartLink and CPOE

2010

Garbage In, Garbage Out

"I tried to warn him -
garbage in, garbage out."

No matter how expensive the computer or powerful the software!

The Very Beginning

FINANCIAL PACKAGE:

- *Registration/ADT*
- *Business Office*
  - *Acct. Receivable*
  - *Acct. Payable*
- *General Ledger*
- *Payroll*
- *Materials Management*
- *Executive Information*
- *Ad Hoc*

LESSONS LEARNED:

- **Registration data runs the whole system**
  - Registration personnel are not required to have specific education, they get yelled at by patients, families, staff, etc, and are very low paid.
  - Can have ↑ turnover rate
- MPI (Master Patient Index)
- Use system to fullest capacity—keep abreast of changes
- AR-no real training manual: area is constantly changing w/outside influences (CMS, Insurance, etc)
- Ad Hoc-able to run reports easily by pulling info from system

PHARMACY

LESSONS LEARNED:

- Use the system to the fullest from the start
- Keep NDC numbers current in system
- Pre-define as much as possible prior to POC and CPOE
- Need Unit Dose for scanning
- May have to package your own for unit dose
- Therapeutic Substitutions
  - Problems crossing to Pyxis
  - Non-pharmacy putting in the wrong meds
  - Lots of teaching for staff
- NDC need to be updated by both CPSI and drug source so you have most current numbers in system to match drugs
- Pay attention to computer for CLORD

Getting Serious… LIS-LABORATORY

LESSONS LEARNED:

- ✔ bundling/unbundling while interfacing w/machines
- Define all tests and procedures before going live
- Prioritize in order of frequency performed
- Program at least the first 150 test first, and work down list
- Make sure all formatting is correct for interfacing between lab machines and CPSI system.
- We were 80% define/programmed prior to installation but we are still programming in new tests
- Make sure you have enough printers—will print more paper than ever before at first
- Be patient with yourself and pray that everyone has patience with you as you work through the first week or two!

- Dietary[1]
- Cardiopulmonary
- Radiology
- Physical Therapy[1]

Order Entry

LESSONS LEARNED:

- Define all tests and have them in your system prior to install
- Some programs were purchased in their totality[1], some were not
- Educate, educate, educate
- Radiology program basically 'dead-ended'. B/C we were looking at a PACS system that was not our current vendor, and didn't want to pay thousands for the interface, that is what we had
- Generic Orders: 'Respiratory Order' 'Diet Order'
- Try to anticipate the long term consequences of decisions

The Big Jump…getting the nurses involved!

MEDICAL SURGICAL NURSES

POINT OF CARE MODULE

LESSONS LEARNED:

- Hardware:
  - Get their input
  - Make sure it fits in rooms
  - Make sure it can hold all their stuff…because they will make it fit, somehow
- Battery Life
- Touch screen
- Number of licenses
  - Who decides
  - How many are enough?
  - Cost—a deciding factor
- Choices:
  - Traditional vs. flow charts
  - Flow charts vs. E-forms
- Normal statements
  - Try to make it as easy as possible
  - Easy sometimes can be misused
- Too many clicks
  - In and out of sections
  - Must be able to self populate other sections
  - Don't duplicate work
- Revolt IS possible

Training

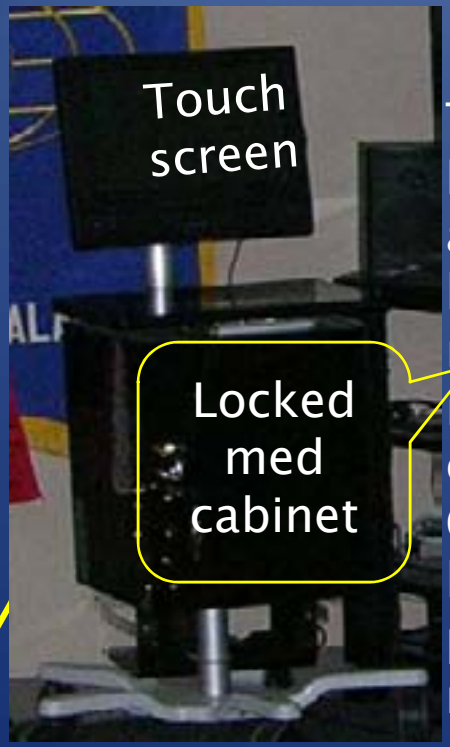
MORE TRAINING

Hardware Selection…

It's harder than it looks.

Lessons learned:

- Don't ever tell the nurses you know better when selecting hardware for them to use. (It is a no win situation).
- Get buy in from the nursing administration and the staff nurses! (Probably most important is input and buy-in from the front line nurses.)



This was try #2. Notice the large box area, complete with locking device, for medication storage. To make it durable, it was constructed out of Complaints: too large, hurt knees, heavy to push, we don't need that much space for meds.

Our first computer It ran the chart carts

We scored points for adding handheld scanners!

Medication Verification

We initially tried to install this with POC. Big mistake, pharmacy was not ready on their end and it created so much havoc that we ended it about 3 days into the install.

Four years later, pharmacy was installing a new Pyxis® Profile, so we decided to roll out Med Verify again. This time our preparation for the event far exceed our other efforts and it was successful.

Keyboard w/nightlight

LESSONS LEARNED:

- Get input of a dream computer
- Narrow it down by price, options, and necessity
- Give the nurses the final say of what you have narrow it down to.
- Give equal consideration to the mobile cart!
- Walk a mile in their shoes—go with them to see what they use the computer for and how it could be made better for them.
- Always try one out first!

Complete closed loop meds

Scan Patient

Scan Medication

We tried many things…

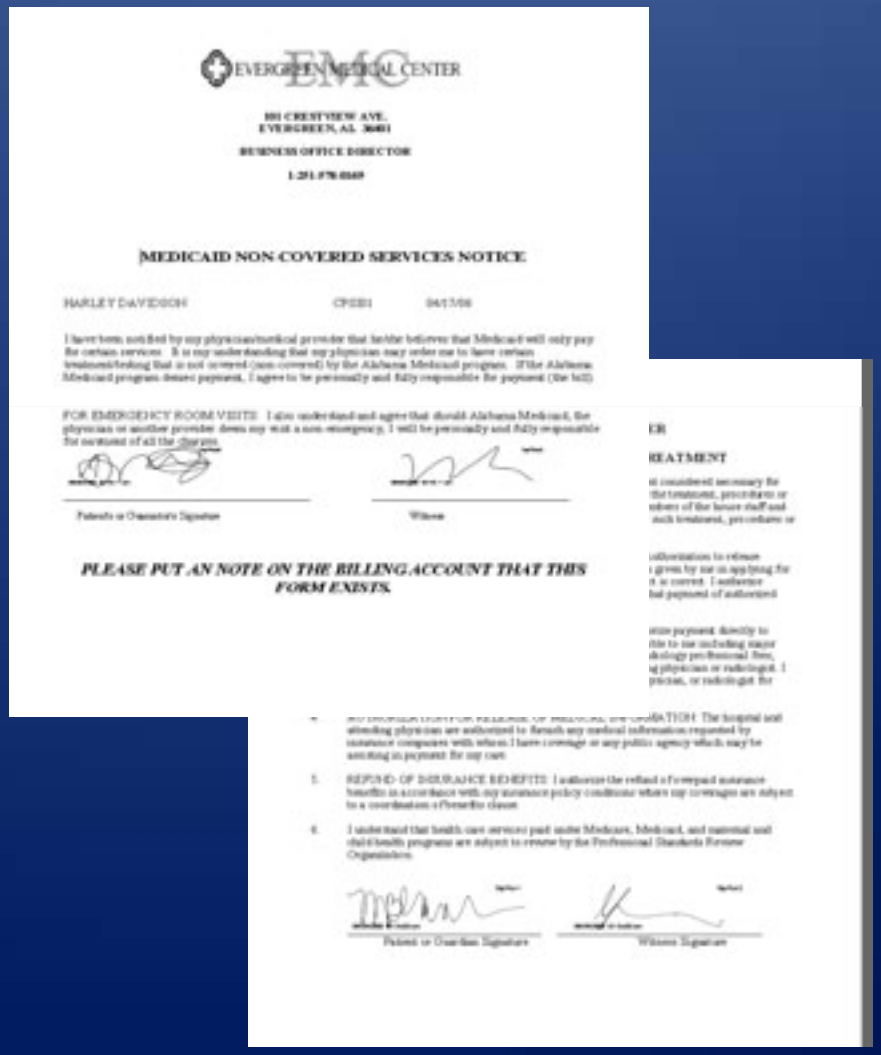
Our first inductees into Club Med, had to have at least 93%.

- Notes of thanks
- Cute sayings on candy or nuts
- Keeping track of stats
- Initiation into Club Med….jacket and theme party every quarter!

HR/Dig Sig/Doc Scanning

LESSONS LEARNED:

- Doc scanning:
  - Define responsibility
  - Equipment
    - Not fancy for POC areas
- Dig Sig:
  - Allowed CMS and consent forms to be digitalized
  - Doesn't allow for 2nd signature; E-forms do
  - Can be used w/E-forms
  - Potential for paperless admit except for labels/ bracelets



EVERGREEN MEDICAL CENTER

101 CRESTVIEW AVE.
EVERGREEN, AL 36401

BUSINESS OFFICE DIRECTOR

1-251-578-0169

MEDICAID NON-COVERED SERVICES NOTICE

HARLEY DAVIDSON CPEB1 04/17/08

I have been notified by my physician/medical provider that he/she believes that Medicaid will only pay for certain services. It is my understanding that my physician may order me to have certain treatment/testing that is not covered (non-covered) by the Alabama Medicaid program. If the Alabama Medicaid program denies payment, I agree to be personally and fully responsible for payment (the bill).

FOR EMERGENCY ROOM VISITS: I also understand and agree that, should Alabama Medicaid, the physician or another provider deem my visit a non-emergency, I will be personally and fully responsible for payment of all the charges.

Patient's or Guardian's Signature Witness

PLEASE PUT AN NOTE ON THE BILLING ACCOUNT THAT THIS FORM EXISTS.

OR

REATMENT

REFUND OF INSURANCE BENEFITS: I authorize the refund of prepaid insurance benefits in accordance with my insurance policy conditions when my coverages are subject to a coordination of benefits clause.

I understand that health care services paid under Medicare, Medicaid, and maternal and child health programs are subject to review by the Professional Standards Review Organization.

Patient or Guardian Signature Witness Signature

Electronic Forms and Flow Charts

Lessons Learned:

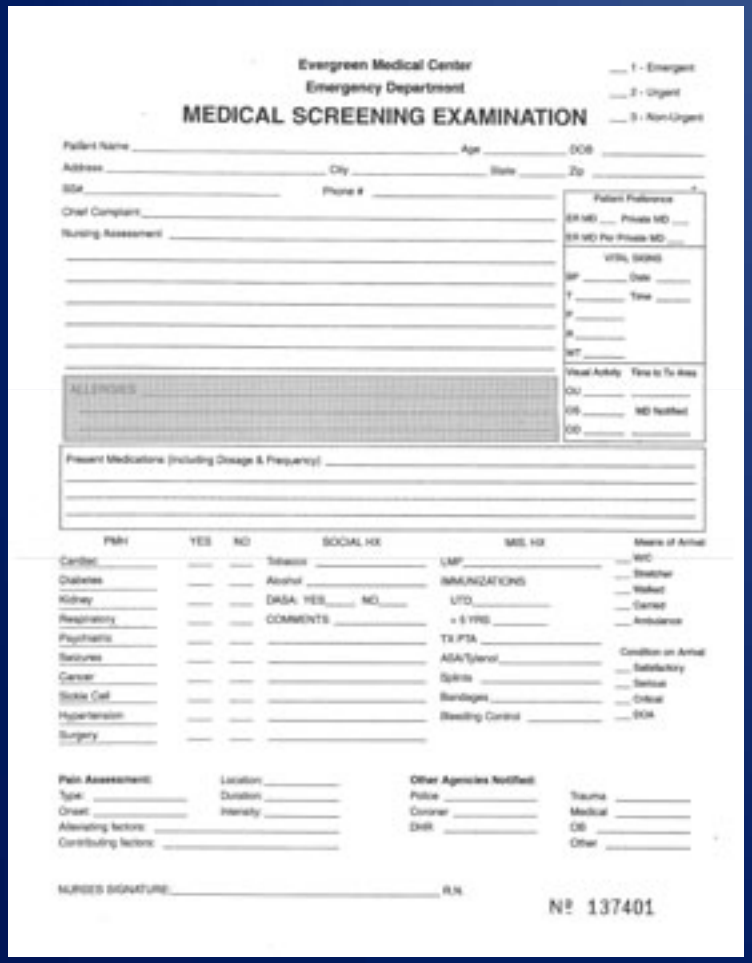
E-Forms:

- Can copy existing forms so the staff is familiar w/flow of documentation
- Increased functionality over traditional charting
- Able to reflex-orders, charges, etc
- Colorful ☺
- Check boxes, drop down boxes, fill in the blank, or narrative areas available
- Staff love them, I love them!
- Even some doctors use them in the OR

Flow Charts:

- Can see previous data when charting
- Looks good when charting but prints in chronological order in paragraphs
- Functionality better than traditional about the same as e-forms
- Flows from question to question
- Flow keeps going w/o exiting but tends to get long when doing systems review
- To edit/amend, is box by box

Paper versus E-Form



Evergreen Medical Center
Emergency Department

MEDICAL SCREENING EXAMINATION

___ 1 - Emergent
___ 2 - Urgent
___ 3 - Non-Urgent

Patient Name _____ Age _____ DOB _____
Address _____ City _____ State _____ Zip _____
SS# _____ Phone # _____
Chief Complaint: _____
Nursing Assessment: _____

Patient Preference
ER MD ___ Private MD ___
ER MD Pre-Private MD ___

VITAL SIGNS
BP _____ Date _____
T _____ Time _____
P _____
R _____
WT _____

ALLERGIES

Visual Activity | Time to Tx Area
OU _____ _____
OS _____ MD Notified
OD _____ _____

Present Medications: (including Dosage & Frequency) _____

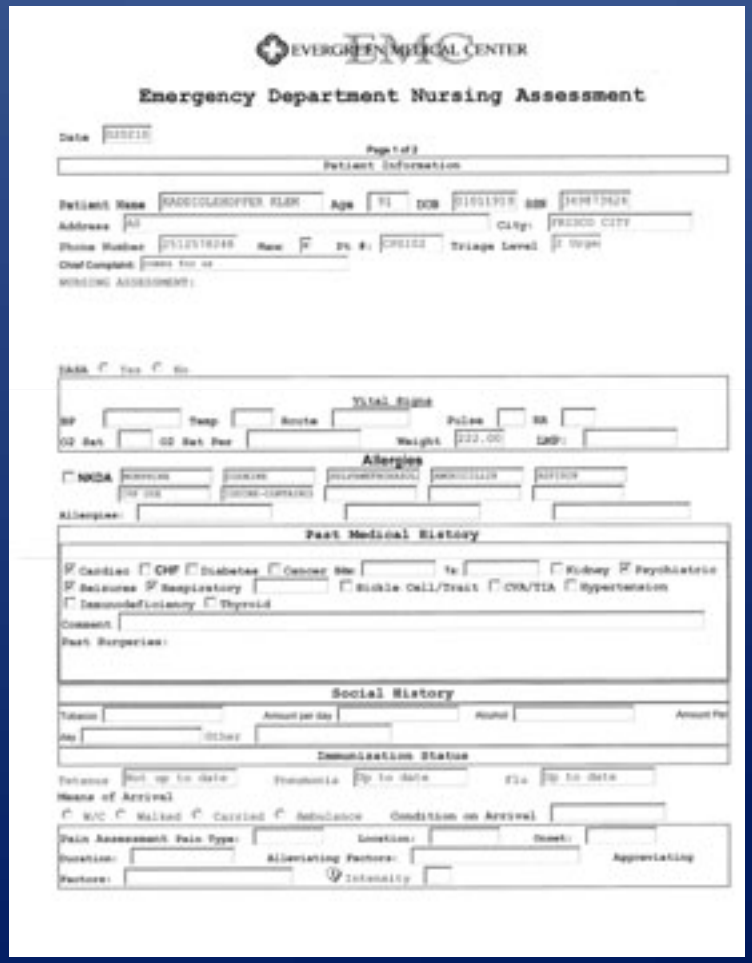
PMH	YES	NO	SOCIAL HX	MISC HX	Means of Arrival
Cardiac	___	___	Tobacco _____	LMP _____	___ W/C
Diabetes	___	___	Alcohol _____	IMMUNIZATIONS	___ Stretcher
Kidney	___	___	DASA: YES___ NO___	UTD _____	___ Walked
Respiratory	___	___	COMMENTS _____	< 5 YRS _____	___ Carried
Psychiatric	___	___	_____	TX PTA _____	___ Ambulance
Seizures	___	___	_____	ASA/Tylenol _____	Condition on Arrival
Cancer	___	___	_____	Splints _____	___ Satisfactory
Sickle Cell	___	___	_____	Bandages _____	___ Serious
Hypertension	___	___	_____	Bleeding Control _____	___ Critical
Surgery	___	___	_____		___ DOA

Pain Assessment:
Type: _____ Location: _____
Onset: _____ Duration: _____
Alleviating factors: _____ Intensity: _____
Contributing factors: _____

Other Agencies Notified:
Police _____ Trauma _____
Coroner _____ Medical _____
DHR _____ OB _____
Other _____

NURSES SIGNATURE: _____ R.N.

№ 137401



EVERGREEN MEDICAL CENTER

Emergency Department Nursing Assessment

Date [illegible]

Page 1 of 3

Patient Information

Patient Name [illegible] Age [illegible] DOB [illegible] SSN [illegible]
Address [illegible] City: [illegible]
Phone Number [illegible] Race [illegible] Pt #: [illegible] Triage Level [illegible]
Chief Complaint: [illegible]
NURSING ASSESSMENT:

DASA ☐ Yes ☐ No

Vital Signs

BP [illegible] Temp [illegible] Route [illegible] Pulse [illegible] RR [illegible]
O2 Sat [illegible] O2 Sat Fac [illegible] Weight 222.00 LMP: [illegible]

Allergies

☐ NKDA [illegible]
Allergies: [illegible]

Past Medical History

☑ Cardiac ☐ CHF ☐ Diabetes ☐ Cancer Site: [illegible] to [illegible] ☐ Kidney ☑ Psychiatric
☑ Seizures ☑ Respiratory [illegible] ☐ Sickle Cell/Trait ☐ CVA/TIA ☐ Hypertension
☐ Immunodeficiency ☐ Thyroid
Comment: [illegible]
Past Surgeries:

Social History

Tobacco [illegible] Amount per day [illegible] Alcohol [illegible] Amount Per
Any [illegible] Other [illegible]

Immunization Status

Tetanus [illegible] Pneumonia [illegible] Flu [illegible]
Means of Arrival
☐ W/C ☐ Walked ☐ Carried ☐ Ambulance Condition on Arrival [illegible]
Pain Assessment Pain Type: [illegible] Location: [illegible] Onset: [illegible]
Duration: [illegible] Alleviating Factors: [illegible] Aggravating Factors: [illegible]
Intensity [illegible]

CPSI PACS and full RIS system

LESSONS LEARNED:

- Must define all tests
- If using CPT codes, add alternate names the nurses and doctors will know
- Allow time and monies for conversion of previous PACS system exams to be moved to new system.
- Lots of training!
- Cannot do test w/o account number from registration—made trauma cases difficult at first
- Viewing for physicians available in office, on CPOE/ChartLink or a secure connection on our website
- Nurses are able to order test w/comments and see if they are schedule or done already (b/c we have RIS)

PACS Accessibility

What you spend
Years building,
Someone may try
To destroy overnight

Build anyway.

Our next Challenge…

THE DOCTORS!

ChartLink™

CHARTLINK™:

- Installed in every physician office (w/training)
- Able to look up everything they called HIM for previously
- Easily accessible at home, office, hospital or anywhere via the internet
- Set up like our paper chart-tab colors, info under each, etc.
- Able to print face sheets, get MR reports, etc.
- Can be used with IP or OP

CPOE

LESSONS LEARNED:

Preparation is key:

- Learn as much as possible about the physician habits and needs
- Learn as much as possible about the program and it's capabilities
- Make sure you have all the time in the world for the pre-install visit
- Keep in constant communication with the hardware personnel and work cooperatively with them to figure out problem areas
- Complete the prep work…and I mean it is a lot of work.
- Be a cheerleading… prepare for the coming of CPOE
- Pick your super-users
- Schedule you training sessions
- Hope you have a wonderful rep like we had for the go live!

CPOE

LESSONS LEARNED:

Hardware:

- Think of what would be the closest set-up to ‘the paper chart’
- Big screens
- 2 screens-one is touch screen computer
- Place to set things
- Mouse and comfortable keyboard
- Adjustable height

CPOE–Installation

LESSONS LEARNED:

- Stick to your go live date!
- If the doctors don't come for training, go to them!
- Have adequate people trained to assist the doctors—day or night!
- BE PATIENT
- Don't kill any doctors! ☺
- Make sure that a vendor rep is there with you when you go live
- Make sure there is a direct line to the vendor for unusual questions
- Have IT Steering Committee and meet if needed
- Don't let any docs get to you; they will blow off but don't take it personal!

Physician Documentation

This is yet to come.

Hoping to have input into it!

Mary's Wish list:

- Similar to E-Forms
- Very simple
- Very few clicks
- Customizable
- Able to expand for narrative if needed
- SPELL CHECK!!!

E-Prescribe

When discharging from Inpatient or Outpatient units, the ability to have any prescription given in the system without first copying the paper script, then scanning that in to the computer would be welcome. They use this in the office and like it.

A Global Overview

Golden Rules to EMR

- Get to know the interconnectivity of the system. Everything affects something else
- Know as much of the system as possible so you can anticipate problems and offer solutions
- There will be times you know more than the vendor reps—their seems to be turnover and promotions
- Get people involved in the system who actually like and embrace technology
- It's not just the youngsters who like could be your champion!
- Expect the unexpected…all the time

More Golden Rules

- Take advantage of the vendor services:
  - Follow up sooner than later and why not both
  - System utilization reviews—are you getting as much out of the system as possible
- Make your system fit your hospital and not the other way around. (Yes, it can be done!)
- Plan on extra monies being needed somewhere
- Interfaces are always ‘not included’ and you will need many if you go electronic. Like: telemetry monitor, EKG machine, VS monitors and perhaps even SMART Beds®

Some Life Lessons

#22 Over prepare, then go with the flow

31 No matter how good or bad a situation is, it will change

#33 Believe in miracles

#42 The BEST is yet to come!

Of course, my favorite:

#10 When it comes to chocolate, resistance is futile.

QUESTIONS?

YOU, make it a great day!

Lord, please keep Your arm around my shoulders and
Your hand over my mouth. Amen

EMC EMR ADOPTION	
Stage	Cumulative Capabilities
Stage 7	Complete EMR; CCD transactions to share data; Data warehousing; Data continuity with ED, Ambulatory, OP
Stage 6	Physician Documentation (structured templates), full CDSS (variance & compliance), full R-PACS
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