# The Role of Technology in the Reduction of Medical Errors

# The EMR Experience of a Small Group

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# EMR Case Study

## OB/GYN Associates of Northwest Alabama, P.C.

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AMERICA'S LEADING PRACTICE MANAGEMENT JOURNAL

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# PHYSICIANS PRACTICE

GETTING PAID:
**MEDICALLY UNNECESSARY? SAYS WHO?**/40

YOUR MONEY:
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VENTURES:
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CME INSIDE

## SIMPLY THE BEST

HOW AMERICA'S TOP PRACTICE DELIVERS

# Practice of the Year 2005

# OB/GYN Associates of Northwest Alabama, P.C. – In 1998

- Founded in 1954
- 75,000 active patient files
- 10 Physicians
- 3 Nurse Practitioners
- 2 Locations
- In office Mammography, 4-US, BMD & Lab
- 74 Employees
  - 3 In-House Transcriptionists + 2 Contractors
  - 12 Medical Records Personnel

# What Were We Looking For?

- Lot’s of Paper
  - Increased our risk of missing something
  - Increased our costs
- Lot’s of People moving the Paper
  - Increased our risk of missing something
  - Increased our costs

5/1/70 Ch

Nausea -
cramps - ) 3-4 mo
Headache

on [illegible] -

# 129 110/70 Hg - 12

c 4

[illegible]

Dx G.A. -

Pelvic Normal

Rx ch to [illegible] -

[illegible] T 6 C

6/14/71

[illegible] [illegible] skin [illegible]

on pills 3 yr -

Pelvic [illegible] -

110/70

Dx G-A

Pelv. Normal [illegible] [illegible]

Rx Cont < Skin Care + [illegible]
[illegible] -
[illegible] 2½ [illegible]

C. C.

1. Pelvic pain - 5 mo
(Bank) - constant dull
worse after eating & urination

H. P. I.

2. Diarrhea - 3 mos
3/10/day c mucus
[illegible] - [illegible] & a [illegible] - 1 July
" [illegible]: apparently
[illegible]

R. Q. S.

MENSES 12 7 28 X 0

LEUKORREA [illegible] 15 July

VAG. BLEEDING ✓

PRESENT MED. none

HEAD

EENT

CR

GI

NM

WT. - 10 lb [illegible] 3 mo

GU

NERVOUSNESS [illegible]

P. H.

MEDICAL [illegible] allergic to [illegible]

SURG. - 3 yrs ago - [illegible]

OB.

G. 1

P. 1

A.

COMP.

CHILDREN 1 [illegible]

M. H.

YRS.

DYSP.

CONT.

HUSB. HEALTH

TYPE

FRIG.

PREVIOUS

F. H.

CA.

T.B.

KIDNEY

NERV.

HEART

INSANITY

S. H.

SLEEP

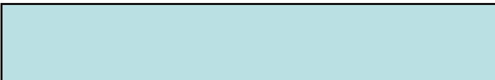
WORK

DIET

ACTV.

SMOKING

# PROGRESS NOTES



N [illegible] 58495

A [illegible] is a 36 year old white female gravida 1 para 1 who presents to [illegible] office needing refill of Ortho-Novum 7/7/7. She is on these for [illegible]rrhea, tolerating these well and would like to continue. She is also needing refill of Prozac. She has recently gone through a divorce and the Prozac is helping her through this stage of life. Last Pap was [illegible]. This was negative. Last mammogram was 3/98. This showed moderately severe fibrocystic breast disease.

PAST MEDICAL HISTORY: She has no known drug allergies. MEDICAL ILLNESSES: She is insulin dependent diabetes. SURGERY: Negative.

FAMILY/SOCIAL HISTORY: One brother, one sister in good health. Maternal grandmother with bladder cancer. Dad has hypertension. She denies tobacco, alcohol or drug use.

REVIEW OF SYSTEMS: Attached.

PHYSICAL EXAM: BP 116/70. Pulse 72. Respiratory rate 16. WT 172. HT 5'3". General: Pleasant 36 year old in no acute distress, oriented x 3. HEENT: Within normal limits. No thyromegaly. No lymphadenopathy. No masses on neck. Cardiovascular: Regular rate and rhythm without murmur, rub or gallop. Lungs: Clear to auscultation. Breasts: Soft. No skin dimpling, retraction or skin changes noted. No supraclavicular or axillary nodes appreciated. She does have bilateral fibrocystic breast changes. No discrete masses. Abdomen: Nontender. No hepatosplenomegaly. Pelvic Exam: Normal external genitalia. Cervix is midline without lesion or discharge. Pap smear obtained. Uterus is normal size, contour smooth, no mass or tenderness. No adnexal mass. Bladder is nontender. Rectal: Good anal sphincter tone. No mass or fissures noted. Skin: No rash or lesion. Extremities: No edema noted. **LAB**: Pap pending.

DIAGNOSIS: 1) Dysmenorrhea controlled with OCP's. 2) Depression. 3) Fibrocystic breast changes.

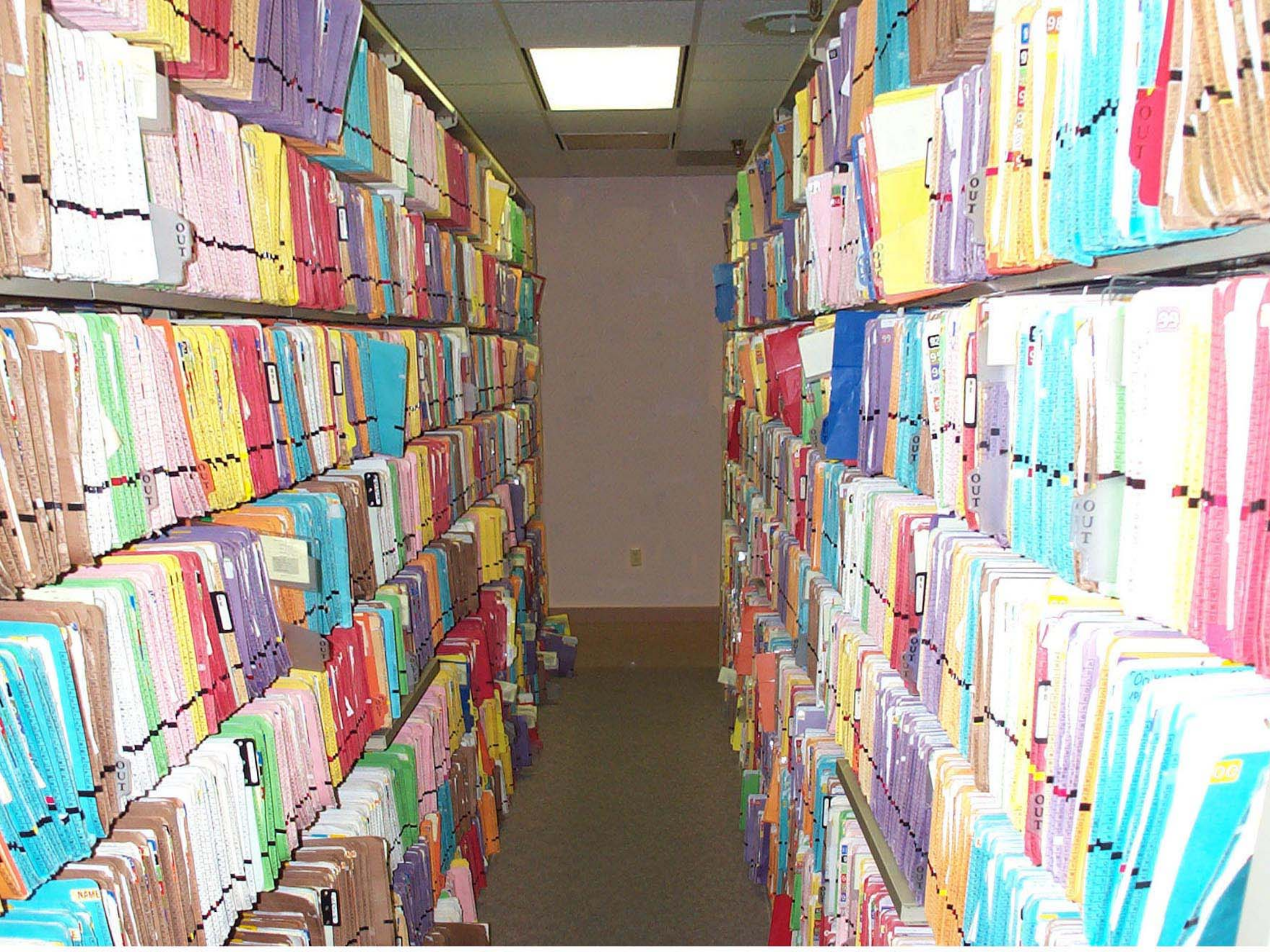
PLAN: 1) Continue Ortho-Novum 7/7/7. 2) Continue Prozac 20mg qday. 3) Continue monthly breast exams. Increase water, decrease caffeine. 4) Return to our office one year, sooner if necessary.

D. L. Elliott, C.R.N.P.

S.D. Keith, Jr., M.D.

/DJ[illegible]

[illegible] | [illegible] given to [illegible] @ 1295 [illegible]


OUT

# Our Worries

- Pap smears
- Lab results
- Mammograms
- How to Track (CDT)

# Pre-EMR CDT – Mammography

Mammogram Performed

Films to Radiologist

Report Back to Radiology

Abnormal

Abnormal sent to MD

MD Attempts to Contact

Refer Abnormal to Surgeon

Back to CDT to be Entered

Coordinate Referral

Back to CDT to track Bx

Normal

Techs Bring Normal Reports to CDT

CDT Entered and Reminders Queued

# Post-EMR CDT – Mammography

- Mammogram performed
- Films to radiologist
- Reports emailed
- Reports automatically uploaded in patient chart and put on MD’s desktop
- BIRADs tracked automatically based on rules

# Medications

- Medispan database
- Formulary updates
- Automatic contraindication screening
- E-Prescribing

# Labs

- Pre-EMR
  - Hand written or verbal orders
  - Often no accompanying ICD
  - Results back on paper – waiting on MD review
  - Contact patients
  - Had to be filed

# Labs

- Post – EMR
  - In the process of documenting, the order is placed and ICD automatically assigned
  - Results populate patient's chart automatically
  - Tracking performed via pre-built rule structure

# National Move to EMR

- CMS currently exploring how to define EMR/EHR
- Exploring whether or not to mandate utilization
- Bush Administration 10 year window for mandating utilization of EMR/EHR/CPOE……..
- Every American has access to EMR by 1014
- Deciding whether to provide incentive with the carrot or force with the stick
- If regulated, we will be told exactly what to do and how to do it, right?

# CAUTION

THIS SIGN HAS

SHARP EDGES

DO NOT TOUCH THE EDGES OF THIS SIGN

ALSO, THE BRIDGE IS OUT AHEAD

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"Nurse, get on the internet, go to SURGERY.COM, scroll down and click on the 'Are you totally lost?' icon."

# 1998, Decided to Implement EMR

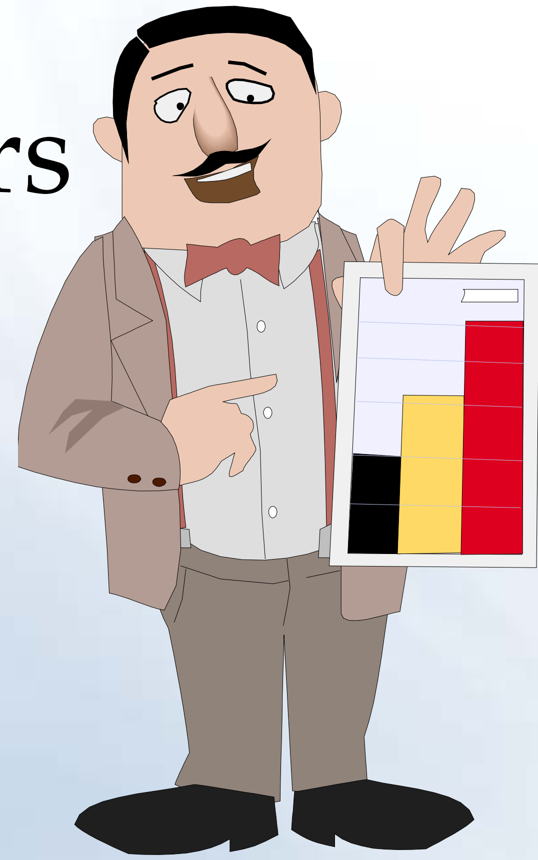
# OB/GYN Associates

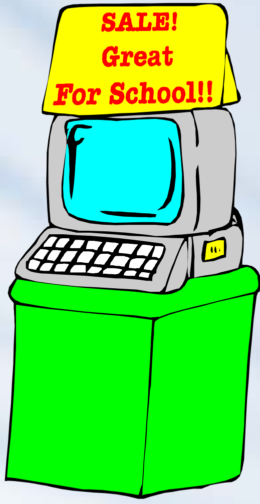
- Began search in 1998
- Reviewed 17 potential vendors
- Narrowed the field to two
- Visited practices utilizing both systems (with physicians)

# Considerations (Hurdles)

- System (s) Review
- Vendor Considerations
- Initial Capital Investment
- Time Investment
  - Customization
  - Training
- Learning Curve
  - Staff
  - Physicians
- Security

# Vendors





# Investment

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# Learning Curve

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# Security

# Implementation Process

- Began implementation in 1999
- Implementation in two phases
  - Practice management system
  - Electronic Medical Records
  - Six months between
- Initiated training for physicians and staff
  - Implemented a "Standard Form"
  - Built that form into the EMR

# EMR Training

- Built custom templates
  - Met w/ physicians in the evening and weekends and built templates real-time
  - Met w/ nurses and asked them what they actually heard in the rooms w/ the patients and what they heard most often
  - Built the templates around that so that it was easy for the nurses to use

# EMR Implementation Process

- Brought two physicians up at a time
- Utilize EMR on several patients per day to get used to the system, the remainder of the patients they continued to dictate
- Instead of transcription printing out the dictations, they populated the EMR database

# EMR Implementation Process

- Did not scan existing charts
- Began giving new patients a different chart number in order to know whether or not they had a paper chart
- Reviewed charts the night prior to the visit and input historical data then, thereby getting a small head start

# Seven Years Later

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# SevenYears Later

- Eliminated the need for 15 total staff members
  - Have 1 transcription staff
- Increased physician productivity by 12 – 22%
- Increased number of patients seen by 17%
- Decreased staff overtime by 45%
- Able to utilize staff differently and more productively

# Seven Years Later - Financially

- Reduced payroll by $150,000 p/year
- Correctly coding – what does that mean?
  - 3,000 gyn p/ month
    - 35% increase in level IV
    - $18 increase in reimbursements
    - = $18,900 increase in revenue p/month for the SAME amount of work!
- Reduced related overhead by 25%

# Clinical Factors

- Obvious – Mammography, Pap's, Meds
- Less Obvious
  - Drug recalls
  - WHI & HRT
  - Labs
  - Clinician communication and information accessibility
  - Patient communication, email

# Realizations

- Tremendous operational gains by utilizing staff in different ways
- 90% of the headaches come from 10% of the work
- You have to understand your current workflow prior to implementing any technology

# Recommendations

- Plan ahead
- Map out your templates
- Utilize a "Standard Form"
- Build that form into a template
- Get physicians involved
  - Champion physician(s)
- Pre-Train staff

# Lessons Learned

- Know there is no such thing as an out of the box solution
- Realize that Cheaper may equal Cheaper
- Know that you are going to spend a lot of time at first and then a lot more as time goes by, but the investment is well worth the effort

# Questions??

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