



UCSF Medical Center

Impact of IT on Collaboration Between Physicians and Nurses

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A Reality Check

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UCSF Medical Center

- **Two site, 600 bed academic medical center**
 - Children's Hospital-within-a-Hospital
- **102 clinics with 700,000 ambulatory visits annually**
- **Complete inpatient physician electronic documentation**
- **Nursing electronic documentation everywhere except ICUs, and not including medications**
- **Planning**
 - Staged ambulatory rollout ongoing
 - Integrated ICU charting in Fall 2008
 - CPOE and eMAR in Spring 2009

Nursing enhancements in collaborating with MDs via IT

Pros – Enhanced Communication

- **Non-EMR IT initiatives**
 - *Text pagers*
 - Richer channel of communication
 - Result: More appropriate and timely responses from MDs
 - *Spectralink phones*
 - Benefit: Direct access to the nurse
 - Disadvantage: Increased interruptions at critical moments (dispensing a med, patient care, etc.)
 - *aMAR - Direct output from Pharmacy system*
 - Legible, organized and standardized communication of patient medications

Nursing enhancements in collaborating with MDs via IT

Pros – Enhanced Communication

- **EMR IT initiatives**

- *Synopsis – Provider sign-off tool*
- *MD note documentation*
 - Progress / Consult notes & H&Ps - legible & signed
 - Also, Ancillary consult documentation - legible & signed
- *Specialty views tailored by service*
- *Dinamap Tablet Integration*
 - Provided real time data
 - Decreased transcription time
 - Increased data accuracy



Nursing enhancements in collaborating with MDs via IT

Cons – Nursing Impressions

- **Increased interruptions by Spectralink calls at critical moments**
- **MDs don't read the RN documentation**
- **Decreased hardware availability**
 - *MDs / Ancillary staff “hog” the COWs*
- **MDs availability decreased**
 - *No longer on the floor as much*
 - *Able to sequester themselves in a room remote from the patient to chart*

Nursing enhancements in collaborating with MDs via IT

Limitations of any IT systems

- **Human interaction**
 - *Doesn't replace face to face communication*
- **System development in Silos**
 - *MD-oriented development can omit RN input in the design stage*
- **System navigation challenges**
 - *Finding RN documentation difficult for MDs*

Nursing enhancements in collaborating with MDs via IT

Potential improvements for future

- **Increased Communication**
 - *Nursing Hand off tool*
 - *eMAR & Barcoding*
- **Education**
 - *Increased online Web module development*
 - *Decision making tools built into application, while accounting for standards of practice, policies and procedures*
- **Collaboration continuance**
 - *Eliminate silo development of applications*

Physician Perceptions

Non-EMR IT initiatives

- **Love the two-way text pagers**
 - *RNs can update without call-back, when not needed*
 - *IM-like noninterruptive communication channel*
- **Looking in to dual-mode phones, ‘Spectralink+’**
 - *The benefits and drawbacks of Spectralink, multiplied*
 - *Reduce the number of devices*

Physician Perceptions

aMAR – the good and the bad

- **Good – on the acute care units**
 - *More legible and reliable than handwriting*
- **Bad – in the ICUs**
 - *Replaced a highly functional time-oriented (albeit handwritten) unified flowsheet*
 - ... in response to a regulatory mandate
 - *Active physician campaign to redesign or reverse*
 - *Understanding of the MAR as a “nursing document” may have led to delayed collaboration in the development of the new aMAR*

Physician Perceptions

Electronic nursing documentation

– its (almost) all good

- **Vital signs and other numeric data are much more available**
- **Better access to nursing assessment data than previously**
 - *physicians are probably more attentive to these documents now than on paper*
- **Nursing assessment is very computational and non-expressive (“Present”, “Yes”), and overly inclusive of normal values**

Physician Perceptions

Our too-successful signout system ...

MRN: [redacted] Gender: M
 DOB: [redacted] Age: 71 Years
 Visit: [redacted]

Resident MD Signout

Admission Diagnosis / Course

70 yo male with DM II, CAD s/p CABG, PVD, and CRI s/p right TMA now with open wound and likely infection of the right foot. He is being admitted for hydration prior to angiogram and possible foot debridement.

Past Medical History:

1. DM type II
2. CAD s/p CABG in 1997
3. PVD (bilateral) with known pop/tib disease
4. R toe/foot osteomyelitis
5. HTN
6. mild pulmonary HTN
7. CRT with baseline Cr 1.6

Lab Findings Vital Signs

Assessment	Value
WBC Count	9.6
RBC Count	3.44
Hemoglobin	9.8
Hematocrit	29.8
MCV	87
MCH	28.4
MCHC	32.8
Platelets	476
BUN	25
Creatinine	1.24
Albumin	1.6
Total Protein	
Glucose, lab	127
Sodium	141

Problem List

3/27: WV changed; awaiting plan from plastics; awaiting SNF placement
 3/26: Renal consult today; low K+ diet ordered.
 3/25: K 6.2, renal c/s recs-> more kayexalate. dc IVFs, PT rec. PT/OT
 3/24: Kayexalate, woundVAC changed.
 3/23: No events; bcx/ucx NGTD
 3/22: plastic recs: wet-to-moist dressing to heel wounds TID, plan to change woundvac on Monday

Code Status

Full

Medications

Inpatient Medications:

Metoprolol 25 mg po q12h
 Amlodipine 10 mg po qd
 Glargine 13 units sc at dinner
 SSI (avg)
 Multivitamin 1 tab po qd
 Vanc 500 mg IV q12 (3/19-)
 Flagyl 500 mg po q8 (3/28-)
 Clonidine 0.1 mg po bid
 Crestor 20 mg po qd
 Norco 10/325, 1-2 tabs, po q4 prn pain

Anticipated Problems/ToDo List

[] f/u Renal consult recs
 [] f/u K
 [] PT c/s req

 *Plan- PT c/s then SNF; PRS-> cont WV b/c exposed bone
 *call sister [redacted] if changes/updates

 micro:
 3/22: BCx NGTD

Allergies

NKDA
 +
 +
 OR: 3/20 s/p R LE wound debridement
 IVF: 1/2 NS at 75
 Baseline Cr: 1.6
 Foley: no
 Beta blockade: Metop
 Anticoagulation: ASA/plavix
 Diet: PO
 Activity: ad lib/Leg elevation
 Pain: vics/dilaudid
 Abx: vanco/zosyn 3/19-

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Physician Perceptions

*Our too-successful signout system
- and the neglect of the daily progress note*

- **Nurses and other non-physician providers reading the MD signout and not the daily note**
- **MD signout is not written for this purpose**
- **May have degraded RN access to MD's thinking and plan, as a practical matter**

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Physician Perceptions

Social Consequences

- **Physicians tuck in to their work spaces for the afternoon to write notes and use the phone**
 - *limitations of our physical plant prevent co-location of RN and MD work spaces*
- **This will get worse with CPOE**
- **Implications for hospital architectural design**
- **Challenges and tradeoffs in system design**

Final Thoughts

Structure of Clinical IT Project Leadership

Chair – Executive Director of Clinical Services

- **Director of Adult Nursing**
 - **Director of Pediatric Nursing**
 - **Director of Laboratory Services**
 - **Director of Quality Improvement**
 - **CMIO**
 - **Director of Clinical Information Systems**
- *Executive Director of Clinical Services also responsible for representing pharmacy and medical records*

Final Thoughts

Collaboration among professional groups

Physician and Nursing collaboration

.... bring on the Pharmacists

- **Rapidly growing clinical responsibility**
 - *medication management*
 - *medication reconciliation*
 - *medication safety*
 - *vaccination compliance*

.... and the RTs, and the care coordinators, and the ...



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