

Utilizing an Interprofessional Simulation Platform to Instruct the use of a New Electronic Health Record

Marzano, D. MD, Smith, R. MD, Greenfield, L. MD, Hammoud, J., Beene, E. MPH, Bollinger, M, BSN, RN, Pehl, AM, BSN, MSN, CNM, RN-BC, Hammoud, M. MD



Objective

To determine if a simulated clinical experience will provide a meaningful learning experience for interprofessional care teams prior to the implementation of a new electronic health record

Methods

- Faculty (OB, Fam. Med., CNM), Residents/Fellows (OB, Fam. Med), and Nursing participated in 64 simulation sessions over a 4-week period
- Simulation scenarios were designed to take a patient from admission through labor, delivery, postpartum hemorrhage, and discharge
- Each session utilized either SimMom™ or Noelle™ birthing simulators for clinical context
- Session Schedule (10-minute brief, 80-minute simulation training, 30-minute debrief)
 - Brief
 - Participants performed actual clinical actions and charted all items in the actual electronic health record
 - Nurses, in parallel, completed their charting, notes and order completion
 - Each participant completed a survey regarding their experience
 - Team debrief
- Data
 - Post-survey
 - Debrief – recurrent themes on best practices, workflow optimization, and system specific requirements

Maria is a 30 year old G3P1 @38-9 weeks who just arrived from Triage in active labor.
Her current pregnancy is uncomplicated. Last pregnancy had gestational diabetes and hypertension.
She has asthma uses Albuterol inhaler pm.
She is very uncomfortable and desires an epidural. Cervix 2cm in triage. Membranes intact.
Pertinent labs: GBS negative, blood type O negative.
Her last labor was very fast.

Simulation Scenario

Admission	Nurse	Physician	Hints
Patient arrived in room	Opens patient in MChart	Opens patient in MChart	
Goal: Admission notes and orders	Notifies Physician Reviews pregnancy report Asks patient 3-5 questions and documents patient story under 2 minutes VS & pain assessment Initiate fetal monitoring & launch displays Fetal and labor assessment	Begins charting In sim, would need to manually enter vitals In reality, nurse will need to validate and file any VS from monitor Cannot actually do in sim Watch monitor in room	

PAUSE FOR 20 MINUTES TO DOCUMENT

Patient requesting epidural	Nurse notifies physician-wants morphine	Assesses patient	Create LDR First and link line in MMR
Wants morphine for now	Places IV/draws blood/continues charting	Continues charting/PN	
	Places verbal order for morphine	Doctor gives verbal order	
Goal: IV initiation, verbal order, and Progress note	Initiate Care Plan Learner Assessment Document education done on admission	Begins discharge planning	

PAUSE FOR 20 MINUTES TO DOCUMENT

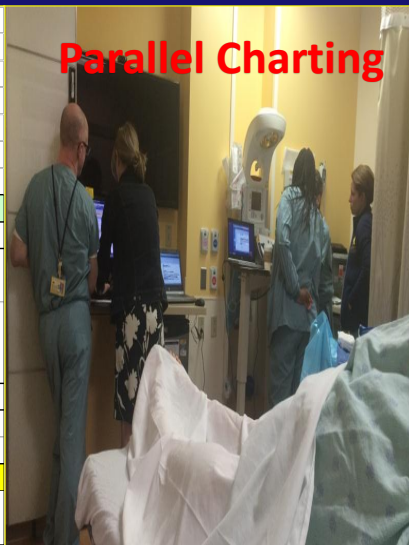
Patient feels pushy	Nurses pages doctor	Assesses patient	
Delivery and PPH	Nurse	Physician	
Goal: Delivery summary and postpartum orders	Creates baby and initiate documentation on Delivery Summary Helps with delivery Complete delivery summary Newborn admission? Continues charting/catches up	Performs delivery Helps with delivery summary Completes delivery note and orders	Use Sex unknown Times for stages of labor have to be documented in Doc Flow sheets

PAUSE FOR 20 MINUTES TO DOCUMENT

Discharge	Nurse	Physician	
Goal: Discharge planning	Begins discharge assessment Resolves care plans Complete education summary Print AVS	Reviews/reconcile/Problem Summary Order reconciliation Discharge Documentation Charge capture-Faculty	

DOCUMENT DISCHARGE UNTIL HALF HOUR LEFT, THEN MOVE TO DEBRIEFING

PLEASE MAKE SURE ALL PARTICIPANTS FILL OUT THE POST-SIMULATION SURVEY PRIOR TO DEBRIEFING.



Team Debriefing



Results

100% Survey Completion (N=188)

Level of agreement with the feasibility of MChart implementation by position type (n=188)

Statement* (%)	Total (n=188)	OB Faculty** (n=46)	Certified Nurse Midwife (n=24)	OB/GYN Resident/Fellow (n=34)	Nurse (n=84)
The MChart simulation is useful to learn MChart					
Agree	184 (97.9)	46 (100.0)	23 (95.8)	33 (97.1)	82 (97.6)
Neutral	3 (1.6)	0 (0.0)	1 (4.2)	1 (2.9)	2 (2.4)
Disagree	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
The MChart simulation is useful to understand the complexities of workflow					
Agree	181 (96.3)	46 (100.0)	24 (100.0)	32 (94.1)	79 (95.2)
Neutral	4 (2.1)	0 (0.0)	0 (0.0)	1 (2.9)	3 (3.6)
Disagree	2 (1.1)	0 (0.0)	0 (0.0)	1 (2.9)	1 (1.2)
Participating in this MChart simulation session reduced my anxiety about the Go Live on June 7.					
Agree	146 (77.7)	34 (73.9)	19 (79.2)	27 (79.4)	66 (78.6)
Neutral	28 (14.9)	9 (19.6)	2 (8.3)	5 (14.7)	12 (14.3)
Disagree	14 (7.3)	3 (6.5)	3 (12.5)	2 (5.9)	6 (7.1)
Learning MChart together will improve the way doctors and nurses work together					
Agree	166 (88.3)	39 (84.8)	23 (95.8)	31 (91.2)	73 (88.9)
Neutral	20 (10.6)	7 (15.2)	1 (4.2)	1 (2.9)	11 (13.1)
Disagree	2 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

* Participants were asked to rate their agreement with each statement on a 5-point scale from "Disagree Strongly" (1) to "Agree Strongly" (5) after completion of the MChart Simulation. Responses of 1 and 2 were included in the "Disagree" group, responses of 3 were included in the "Neutral" group, and responses of 4 and 5 were included in the "Agree" group.

** "OB Faculty" category includes participants responding "Family Medicine Faculty" or "OB/GYN Faculty" for their position.

Workflow Issues Identified for Optimization

Order Entry Workflow

- Completion of orders prior to admissions notes
- Rhogam order and administration
- IV orders, how to order heparin lock vs. running IV
- Ordering cord blood gases
- Lab order timing (stat vs. routine collect)
- Verbal order entry

Documentation Workflow

- Creation of infant chart
- C/section documentation workflow
- Documentation of patient phone calls (triage)
- Documentation of labor onset
- Timing of charge capture for delivery
- Nursing changes in problem list
- MD and RN documenting simultaneously in chart

Discharge Workflow

- E-prescribe for discharge meds
- Identification of patient's desired pharmacy
- Need for order reconciliation prior to discharge order
- Timing of vaccine administration
- Requirement for discharge order prior to patient discharge sheet being printed
- Scheduling of postpartum appointment
- Delivery of patient discharged education and instructors

Conclusion

Simulation is a useful tool to prepare a large, interprofessional healthcare team for the implementation of a new EHR

❖ Participants found this exercise useful

- Improved understanding of workflow
- Reduced anxiety prior to implementation

❖ Workflow issues could be identified prior to implementation

- May not be evident from standard EHR training
- Identification allows for optimization prior to implementation
- Practical input from actual users

Future Applications & Next Steps

- On Unit, interprofessional premise central to perceived usefulness and desire to participate in additional simulation training
- Planning underway for an Interprofessional Clinical Simulation Training in OB series
 - Teach OB care scenarios & promote effective care team communication