



Practical Considerations for Aria and Epic EMR Integration

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Introduction



- Radiation Therapy (RT)-specific aspects of a patient's care are commonly documented and scheduled using an RT-specific electronic medical record (EMR)
 - ARIA Version 11 (Varian Medical Systems, Palo Alto, Ca)
- However, patients receiving RT also receive multidisciplinary care from providers using the hospital EMR
 - EPIC (Epic Systems, Madison, Wi)
- We implemented an electronic interface integrating our departmental and hospital EMR to improve communication of the RT aspects of care between our department and the rest of the hospital
- Objective of this talk to share our experience



Current Challenges



- Radiation oncology EMR (Mosaik/Aria) is not usually accessible to the rest of the caregivers in the hospital
 - Patient scheduling conflicts
 - MD directives regarding radiation dose/fractionation is not visible to outside
 - Radiotherapy start and end dates are not known
 - Medical issues that may arise on treatment may not be readily visible to providers outside of the radiation oncology department
 - Challenging to schedule surgery/chemo/dietitian visits if it needs to be intertwined with radiation care
- Radiation EMR record is not a part of the patient's permanent record in a single database
 - Hospital chart and Radiation chart



Brute force integration



- Double work
- Not in real time
- Loss of efficiency
- Copy/paste errors
- Confusion
- Frustration...



Available Interfaces



- Demographics using ADT – we already had it
- Charges interface – we already had it
- Documents interface
- Scheduling interface
- Daily dose interface
 - Russo et al. pointed out that dose did not transfer over clearly or accurately in patients receiving multiple phases of treatment (i.e. initial plan then boost), or getting treatment to multiple sites



Russo GA. *Int J Radiat Oncol Biol Phys.* 2016;94(1):206-207.

Survey Says...



- Survey designed asking participants to rate
 - how important and how accessible several commonly scheduled RT encounters and documents were communicated
 - using a Likert scale ranging from
 - “Not at all important” to “Extremely important”
 - “Not at all accessible” to “Exceptionally accessible.”
- The results of the survey was used to design the interfaces
- A follow-up survey was sent 3 months after integration



Survey

- Survey was sent to 175 staff members outside our department



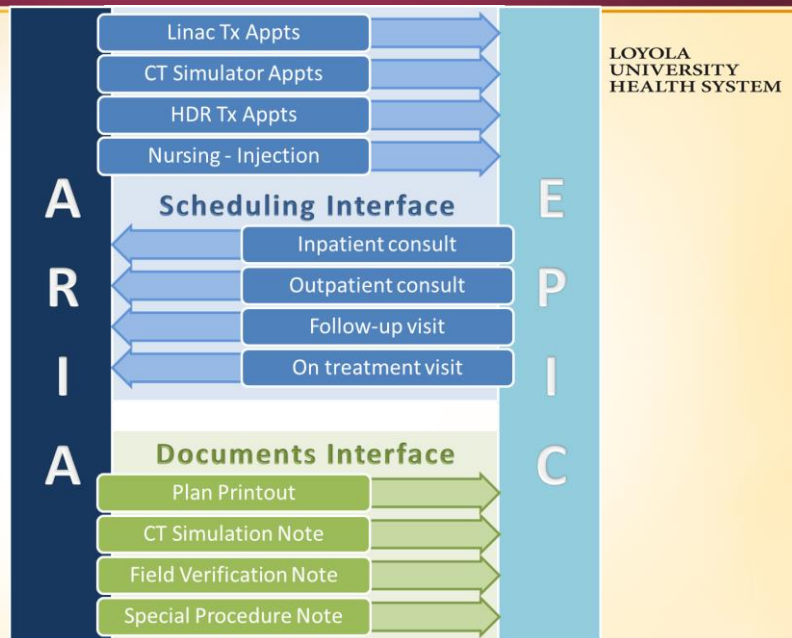
Role	Pre-integration Survey (n=32)	Post-integration Survey (n=19)
Physician	18 (56%)	13 (68%)
Nurse	8 (25%)	4 (22%)
APN	2 (6%)	0 (0%)
Service Rep.	1 (3%)	0 (0%)
Social Worker	1 (3%)	0 (0%)
Psychologist	0 (0%)	1 (5%)
Dietician	2 (6%)	1 (5%)

Location and Importance of Encounters (n=32)	Originating EMR	≥Moderately Important
	Consult Note	Epic
Treatment summary	Epic	31 (97%)
1 st treatment	Aria	29 (91%)
Last Treatment	Aria	29 (91%)
Follow-up Note	Epic	24 (75%)
MD Planning directive	Aria/Epic	24 (75%)
On-treatment visit	Epic	23 (72%)
Brachytherapy (BT) date	Aria	22 (69%)
Radiosurgery (RS) date	Aria	22 (69%)
CT sim Date	Aria	21 (66%)
RS MD note	Aria	20 (63%)
Nursing Note	Aria/Epic	18 (56%)
Daily Treatment	Aria	17 (53%)
BT MD note	Aria	17 (53%)
RT plan printout	Aria	14 (44%)
MD new start verification	Aria	7 (22%)

Integration to do list

- Identify areas of integration
 - demographics, scheduling, billing and documents
- Determine the scope and cost of the integration
- Identify key personnel in both department and hospital EMR groups
- Review the workflow of the clinic and entire documentation policy
- Identify the limitations of both EMRs
- Identify the limitations of interfaces
- Testing and quality assurance of the integration
- Documentation and training of the new workflow

Flow of Encounters and Documents thru interfaces





Our experience: Scheduling



- **Mostly works great**
 - Patient treatment appointments show up in Epic
 - Physician-patient appointments appear in Aria
 - **Patient has to be in Aria first**
 - first initiate demographics message (ADT) then schedule
 - Appointment Scheduling (Time planner) operations are mostly supported
 - Copy/paste, drag/drop, recurring appointments, the appointments that are a part of the Aria care path, canceling
 - **Delete DOES NOT WORK! – ghost appointments in Epic**
- **Status changes (check in, in progress, complete)**
 - from Aria to Epic – works
 - from Epic to Aria – does not work

Our experience: Scheduling

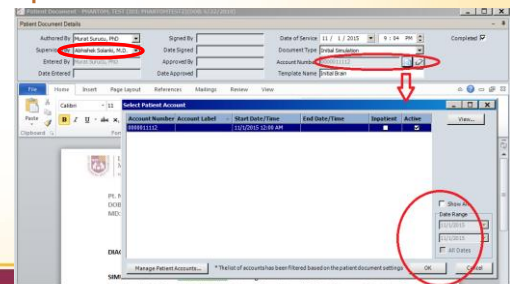


- **Multiple resources problem**
 - Patient appointment with Machine and MD in Aria
 - **Such as: Preport, Sim, Special procedures**
 - Epic does not like multiple resources
- **Double booking**
 - Is a reality in busy clinics
 - Attaching MD to an appointment that is 1 hour long where MD will only be needed for 10 min
 - **Splitting the time actually MD is needed to another appointment**
 - Schedule multiple appointments, not efficient..
 - Allowing double-booking of physicians in Epic may create additional problems

Our experience: Documents

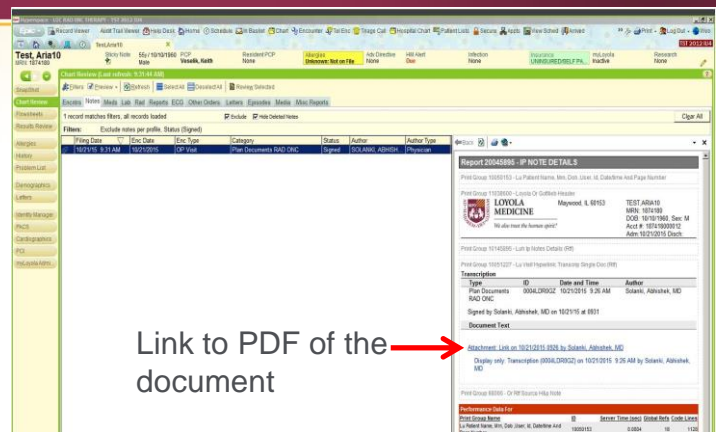


- Works great when you satisfy ALL 4 conditions
 1. Document type should be one of the ones that were identified to be transferred
 - You probably don't want all documents to transfer
 2. Supervised by needs to be an MD
 - Not all Aria users have write rights in Epic
 3. A hospital account number (HAR) has to be attached to the document
 - HAR has to be current
 4. Document has to be approved in order to initiate the interface message

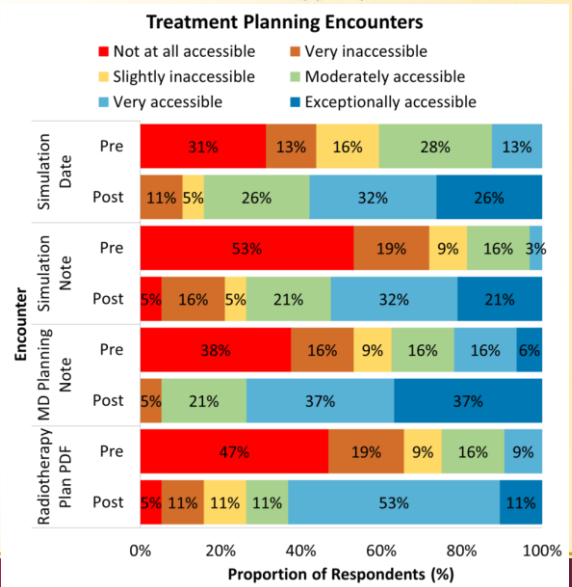
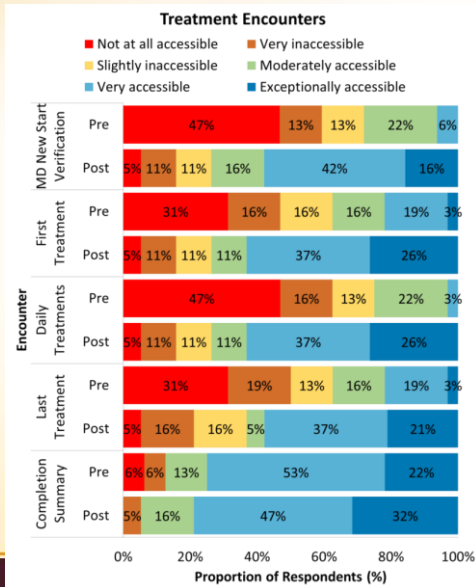


Note transferred to Epic

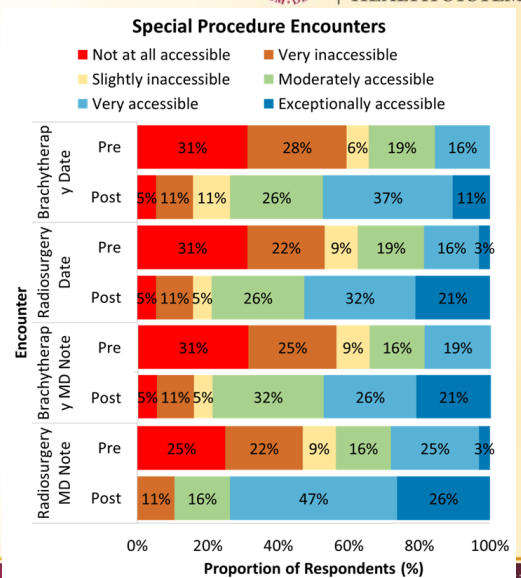
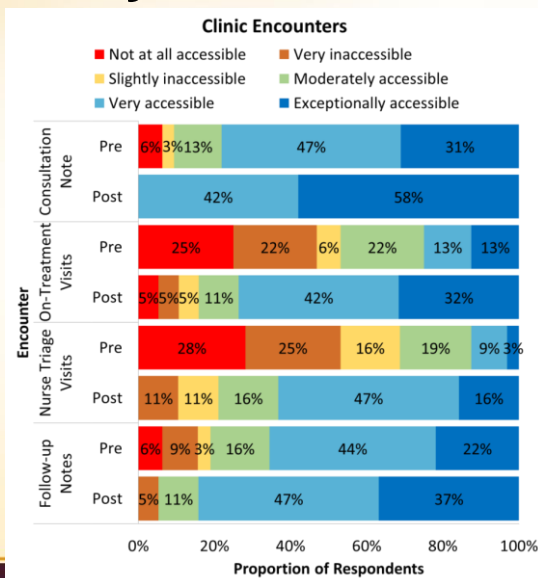
- When a note is amended in Aria, the interface will amend the one in Epic automatically
- When an approved pdf document is deleted in Aria using "Error out", it will update the status to "deleted" in Epic



Survey results before & after



Survey results before & after





Summary



- Support from administration and IT is key
 - Be ready to change some departmental workflow
- Much better communication to the rest of the hospital
 - Is appreciated by the other hospital staff
- Tedious process, multiple long conference calls, testing all possible clinical scenarios
 - Very well worth it!
- Maintenance requires effort
 - Re-run the test scenarios at any Epic or Aria upgrade!
- Continuous reminders/training
- Process and interfaces needs improvement
 - Both EMRs need to work together, better

Thank You!

We also treat the human spirit.®

