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Review of TG-262 internal survey of practices in electronic charting for external beam radiotherapy

July 13, 2015
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Chair, TG-262

TG-262: Electronic Charting of Radiation Therapy Planning and Treatment

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- Sue Merkel (U. Michigan)
- Susan L. Richardson (Swedish Medical Center)
- Steven G. Sutlief (UCSD)
- Sridhar Yaddanapuddi (Wash U)

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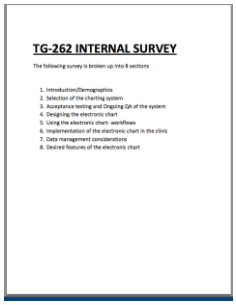
The survey

- Starting point for TG work
- Questions
  - Where are we now?
  - What do we suggest based on experience?
  - How satisfied are we?
- 150 questions: design, implementation, training, workflow, communication, QA, IT infrastructure, satisfaction
- Today's review:
  - Design/Implementation
  - Training/Rollout
  - Elements of the chart (Rx)
  - Workflow/Communication


TG-262 INTERNAL SURVEY

The following survey is broken up into 8 sections

1. Introduction/Demographics
2. Selection of the charting system
3. Acceptance testing and Ongoing QA of the system
4. Designing the electronic chart
5. Using the electronic chart- workflows
6. Implementation of the electronic chart in the clinic
7. Data management considerations
8. Desired features of the electronic chart

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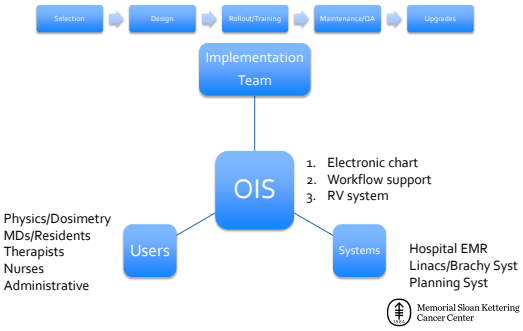
Design and Implementation

The E-cosystem



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	21% Therapy	11% Dosimetry	7% Nursing	20% Physics	13% MD	8% Administrator	16% IT	4% Vendor
General workflow	x				x	x		x
Nursing (patient assessment, education)					x			
Forms and templates	x	x	x	x	x	x	x	x
Diagnosis					x			
Scheduling	x				x	x		x
Orders			x		x	x		
Simulation workflow	x	x	x	x	x			
Radiation Prescription		x		x	x			
Treatment planning workflow		x		x	x			
Dosimetry tracking	x	x		x	x			
QA and physics workflow				x				
Image review	x			x				
Billing	x	x	x	x	x	x	x	
Connectivity, Technical support				x		x	x	x
Testing & Training	x	x	x	x	x	x	x	x

Implementation Team

Thanks to Sonja Dieterich

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Implementation/Design Recommendations

- Understand and set goals early- use action items to keep the group moving
- Provide protected time if possible (20% was typical)
- Consult other groups that have gone through the process- site visits, colleagues, vendor demos
- Do not sacrifice essential elements of the chart.
- Dual monitors!

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Training and dealing with change

- Training
  - Time for training underestimated
  - Think carefully about what degree of training is needed by each clinical group- nursing, administrative staff
  - Only ~30% assessed competency after training
- Acceptance of change- is brute force necessary?
  - Communication is vital. Present the change as bringing value to the practice.
  - Very dependent on continuous education; we went from "don't send me tasks" to "send me a task"
  - A physician champion is important-start with those least resistant to change
  - Take all concerns seriously.

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Maintenance/QA recommendations

- Most consider staffing for support of OIS inadequate
  - IT, physics, vendor, RTT supervisor or combination thereof
  - Hospital IT not familiar with RO practices and needs- physics input is crucial
- OIS ongoing QA program-
  - Acceptance test (0-6 months) followed by periodic (quarterly to yearly, major review before ACR audit) checks that electronic documents and workflow is still being used and meets clinical needs- minor adjustments on the fly with major adjustments by committee.
  - Tracking of OIS related events in the error reporting system with feedback loop for changes.

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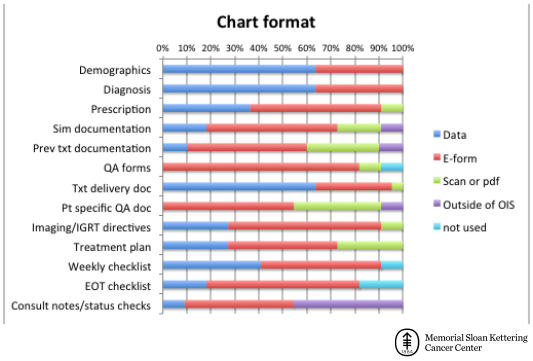
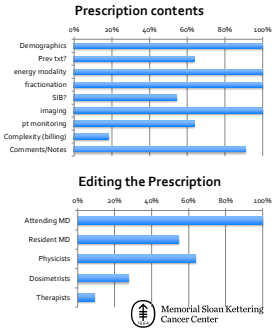
Elements of the Electronic Chart

Paper→ Electronic



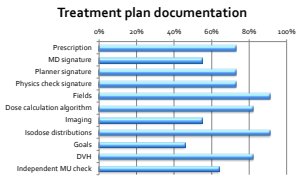
Prescription

- Design-How much to include?
- Tyranny of electronic approval
  - Correction of typographical errors cumbersome
  - How much can be transferred to a separate document to reduce the need to reapprove?
- Only attendings approve Rx but who can edit? Think through very carefully!



Treatment Plan and Treatment History

- What is included in treatment plan documentation?
- Some are moving towards no pdf or printout.



- Capturing history: Use RV history or therapist document? Or both?
  - Protect against errors in saving treatment to OIS
  - How to document partial treatments?

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Other considerations in design

- The system must be flexible enough to support all of the different types of documents and data that the practice maintains in its chart. Otherwise you come up with inefficient workarounds such as
  - Dumping into the setup notes
  - Overusing free text notes, they are not minable
  - Overusing electronic workflow tools (creating tasks just to record something)
- Leverage the ability to mine data and create custom reports- some examples
  - Staff workload monitoring
  - Treatment statistics/patient volume
  - Timeliness and workflow
  - Justification for capital requests

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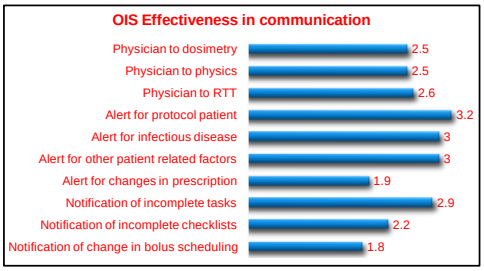
Workflow and Communication

How effective is the OIS for communication?



1: "what is communication?"→ 5: great

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Communication and handoff

- Well defined communication channels are important -Multiple options for communication and workflow cause confusion
  - External email, internal email, task- preferences vary wildly
- Simple handoff of a paper chart is now managed by QCLs and care paths. Development of and adaptation to these electronic workflow tools was difficult and often not followed by physicians.
  - Design these wisely and review compliance
- "Taking the chart from the machine" is now done virtually
  - Discontinued bolus (MD→physics→RTT)
  - Close the jaw (chart rounds→physics)
  - Refilm patient (physics→RTT)

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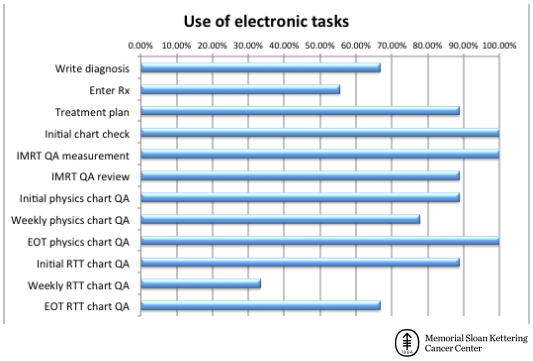
Not everything needs a task



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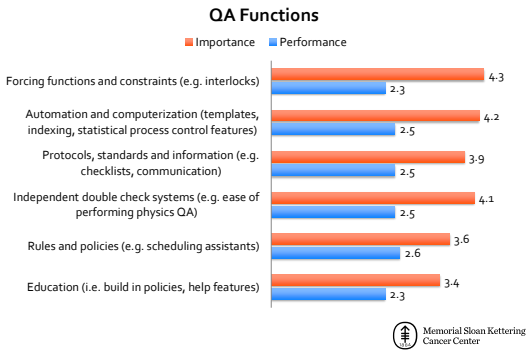
How effective is the OIS for QA?



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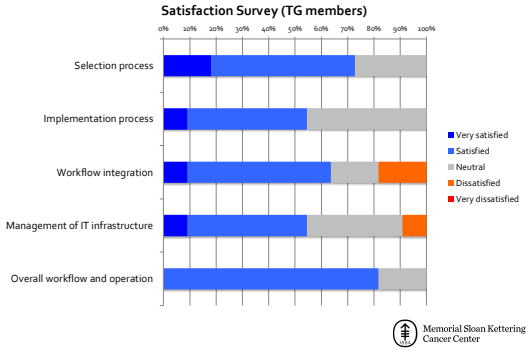
Overall satisfaction of TG members with chart



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Thank you!

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