The Economic Future of Medical Physics

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AAPM 2017 JUL 30–AUG 3
CONNECTING OUR PATHWAYS. UNIFYING OUR PROFESSION.
59TH ANNUAL MEETING & EXHIBITION | DENVER, CO

…picking up where I left off on Monday…

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The Role and **Value** of the Medical Physicist in Radiation Oncology for the Future

How do medical physicists secure their value in the process of care in radiation oncology?

caveat: just my personal opinions

Academic side

- quality can be improved when problems are identified first and then possible solutions tested
  - yet we so often have solutions searching for a problem
  - and we assume that we can bypass prospective trials

Front-line clinical side

- some operational costs can be reduced with new technology
  - this is where courage and leadership are needed

VALUE = QUALITY*/COST**

*What the heck is quality?
**What the heck is cost?

Najeeb Mohideen
Part 2 of Presidential Symposium
San Diego 2017
"The Art of Quality"

VOLUME 32 · NUMBER 26 · SEPTEMBER 10 2014
JOURNAL OF CLINICAL ONCOLOGY REVIEW ARTICLE

Value: A Framework for Radiation Oncology

Sewit Teckie, Susan A. McCloskey, and Michael L. Steinberg

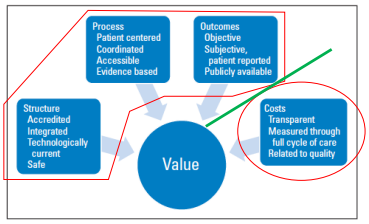
"Nowadays people know the price of everything and the value of nothing."
—Lord Henry Wotton, from *The Picture of Dorian Gray*, Oscar Wilde

Donabedian Model of Quality of Medical Care

http://archive.ahrq.gov/professionals/systems/long-term-care/resources/coordination/atlas/chapter3.html

- Structure
  - Facilities, equipment, qualifications of medical staff, the administrative operations, etc
- Process
  - History and physical, diagnostic tests, procedures, preventive management, etc
  - Acceptability of all of this to the patient
- Outcome
  - Self-explanatory
  - Problem: often hard to link to structure and process

The Teckie-Stelnberg article, continued



The Teckie-Stelnberg article, continued

- Costs of services are hard to know
  - Physicians especially don't usually know them
  - Charges for the same procedure vary widely
- Patients are unable to be "utility maximizers"
  - Too much "information asymmetry"
  - Not incentivized to seek high value care
    - With stable income and high out of pocket costs, patients might skip routine care and only seek attention when seriously ill
    - but the effect of a high deductible is likely to motivate some consumers to seek less costly care to some extent

definition

Alternative Payment Model (APM):

a system in which reimbursement is made for the achievement of a clinical objective rather than on a per-service basis

…what I heard prior to the meeting that was reinforced since I have been at the meeting…

- potential disconnect between concerns of academia and those of clinical practice in the majority of centers
- frustration with the difficulty of establishing the value of a medical physics in the process of patient care
- **uncertainty about the impact of APMs on medical physics**

Initially stated learning objectives

1. Understand examples of alternative payment models that have emerged in several areas of medicine, including oncology
2. Recognize the practical challenges of designing and implementing an APM in the field of radiation oncology
3. Appreciate the possible implications for medical physics in an APM-based system

slightly tweaked talk outline

1. briefly describe some private and federal APMs
2. summarize where ASTRO has been and where it is trying now to go with an APM proposal
3. describe the possible implications for medical physics in an APM-based system and offer a few suggestions
4. allow for lots of Q & A

APMs in oncology now

private payer, case-based

- numerous individual negotiations with non-federal insurers
- usually a bundled episode
- usually not linked to quality metrics
- offer some potential savings on administrative overhead

Oncology Care Model (OCM)

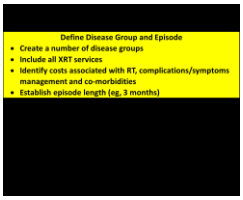
- Center for Medicare and Medicaid Innovation
- 6 month episode based
- quality metrics
- monthly fee paid to medical oncologist
- reconciliation of payments at end of epidose
- target is specified % saving

Recent history of ASTRO APM efforts

- In January 2016, ASTRO had two models:
  - Palliative Care for Bone Mets
    - Hinged on 10 or fewer fractions guideline
  - Early Stage Breast Cancer
    - Established payment based on the aggregate of average use of various RT modalities
- In May 2016, ASTRO took these APMs to CMMI.
  - CMMI believes the models were too small. They asked for a bigger and broader model.
  - ASTRO focused on developing a framework that could be applied to nine curative disease sites and two palliative disease sites.
- In November 2016, we sought outside guidance on the revised model.
  - …..much valuable feedback received…back to the drawing board…

Feedback on prior model, continued

Late 2016 model



Major critiques

- Impact on quality of care not obvious
- The draft reviewed did not provide supporting information about what behaviors to incentivize and why to incentivize them
- Amount of discount seems arbitrary and not based on data that suggests what can really be potentially saved

submitted to CMMI, late April, 2017

Radiation Oncology Alternative Payment Model (RO-APM)

April 27, 2017

Value Statement

The American Society for Radiation Oncology (ASTRO) embraces the spirit and goals of the Medicare Access and CHIP Reauthorization Act (MACRA) and is committed to ensuring that radiation oncology can fully participate in an Advanced Alternative Payment Model that drives greater value in cancer care.

Radiation Oncology-APM Goals

May 3, 2017
CMMI open forum

1. Reward radiation oncologists for participation and performance in quality initiatives that improve the value of health care for cancer patients.
2. Ensure fair, predictable payment for the radiation oncologist in both hospital and community cancer clinics to protect cancer patients' access to care in all settings.
3. Incentivize the appropriate use of cancer treatments that result in the highest quality of care and best patient outcomes.

work-in-progress Revision to Model Name and Structure: "Guideline-based Cancer Patient Care for Radiation Oncology"

- By featuring the idea of incentivizing guideline adherence, it should immediately resonate as an effort to improve quality and reduce waste
  - Widespread recognition that standardization is associated with quality
- We would use ASTRO guidelines where applicable and NCCN where there are no relevant ASTRO guidelines
  - Shows we care about quality since we do guidelines
  - Everyone respects the NCCN guidelines
  - Also good to have high level clinical evidence to back up the position

Primary Disease Site	ICD-10 Code	ICD-10 Comments
Breast	C50, D05	All invasive and in situ disease
Respiratory	C33-C34	All NSCLC and SCLC
Prostate	C61	-
Lower GI	C18-C21	Colon, rectum and anus
Head & Neck	C01-C14, C30-32, C69 & C76	-
Secondary Disease Site		
Bone Metastases	C79.5	-
Brain Metastases	C79.3	-

ASTRO APM Framework

Define Disease Group and Episode
- **One of the primary or secondary disease sites**
- **Include all RT services**
- **Establish standard regimen options**

Select reference period (2013-2015)

Apply adjustment for geographic & practice variation

Apply a 3% discount

Medicare's Target Price

Condition	Relevant guideline and data	Quality metrics
Early breast cancer, node negative, tangents only	ASTRO breast fractionation guideline; numerous RCTs showing equivalent tumor outcome and lower toxicity with shorter schedules	Compliance with guideline-endorsed schedule of treatment
Uncomplicated bone met	ASTRO guideline and choosing wisely, multiple RCTs showing same pain control and lower toxicity with shorter schedules	Compliance with guideline-endorsed schedule of treatment
Prostate cancer, NCCN low risk or very low risk	ASTRO Choosing Wisely NCCN ProTECT study results	Discussion of active surveillance documented If treated, compliant with NCCN
Lung Cancer, stage III	NCCN Lots of data showing confused RT="chemo better RTOG 0617 showing too much RT is bad	Use of concurrent chemo unless medical contraindication Total dose <70 Gy

CMMI forum on Radiation Oncology APMs, continued—summary statements

May 3, 2017
CMMI open forum

- Guidelines adherence will improve quality and reduce unnecessary care and waste
  - Nationally recognized radiation oncology guidelines
  - Choosing Wisely Statements
- Standard APM payment framework applicable to seven disease sites:
  - Breast, Lung, Prostate, Colorectal & Head and Neck – Primary/Curative
  - Bone and Brain Mets – Secondary/Palliative
- Applicable in Freestanding and Hospital Based Settings
- Quality Measures
  - APEx Accreditation or equivalent standards
  - Measures that determine compliance with guidelines
  - MIPS Radiation Oncology Measures Set

CMMI should support the RO-APM in its report to Congress, as requested by the Patient Access to Medicare Protection Act, and work with the radiation oncology community to implement the model as an Advanced APM in a timely fashion.

key question from this audience:

what does all of this mean for medical physics?

possible pro's and con's for medical physics in an APM-based system

PRO

- regulatory/administrative simplification
- freedom to streamline activities into what is truly necessary and not just what is necessary for billing documentation

CON

- risk of oversimplification and unrealistic expectations of productivity
- possible competition-driven downward salary pressures

More thoughts on the risk of oversimplification and unrealistic expectations of productivity

- AAPM standards of what is safe and not safe for patient care will likely always carry clout in the discussions of what personnel resources are required to accomplish certain tasks
  - consider this carefully in producing white papers

More thoughts on possible competition-driven downward salary pressures

- are there ways to work smarter and faster?
  - autocontouring, automated safety checklists, knowledge-based planning, etc
- does a given new treatment technology truly improve the value of patient care or just add cost?
  - medical physicists well positioned to play a role in these types of discussions
  - Ironically, developing countries might be able to teach us about this

Thanks for your attention!

I am happy to take any questions…