



# **Adoption of a Regional Physician Peer Review Program for Radiation Oncology**

**Eleanor Harris, MD**

**Department of Radiation Oncology  
Brody School of Medicine  
Vidant Radiation Oncology**

**Teachers of Quality Academy  
2<sup>nd</sup> Annual QI Symposium**

**March 2, 2016**

# Introduction

- **Physician Peer Review** is a critical component of patient safety and quality programs in Radiation Oncology practices
- American Society for Radiation Oncology (ASTRO) published peer review standards in 2012 (Marks, et al., PRO, 2013: 3, 149-56):
  - Recommends that all departments adopt a robust peer review program, provides guidelines
- Department of Radiation Oncology at BSOM and Vidant Health Radiation Oncology jointly developed and implemented such a peer review program

# Collaborative Team Members

- Eleanor Harris, MD
  - Chair and Regional Director, Project leader
- Physician Team Members:
  - Hyder Arastu, MD - BSOM
  - Clinton Leinweber, DO - BSOM
  - Andrew Ju, MD - BSOM
  - Charles Shelton, MD – OBX
  - Randy Blackburn, DO - Onslow
  - Robert McLaurin, MD – Beaufort
  - Leslie St. Royal, MD – Ahoskie
- Staff Team Members:
  - James Naves, CMD – CQI Co-director
  - Tim Barnes, RTT – VRO Therapy Manager
  - Michael Holloman, RTT – Director, Regional Programs

# AIM Statement

## Aim Statement:

To peer review >95% of eligible radiation treatment patients, prospectively evaluating quality metrics by the peer group with the goal of decreasing minor and major change scores to improve the quality of radiation treatment plans delivered regionally throughout the Vidant Health network and LJCC.

# How Will We Know This Change Is An Improvement?

- Improvement is evaluated twice yearly using the individual physician quality metrics as scored prospectively by the peer group.
- Major changes in a treatment plan are required to be re-presented before the patient begins treatment, thereby reducing the incidence of treatment plans that may not have initially met evidence-based guidelines.
- Aggregate data are compared annually to prior years for the physician group, as well as individual current and new physicians.

# Peer Criteria

- 25 quality metrics tracked:
  - Gross Target Volume (GTV)
  - Clinical Target Volume(CTV)
  - Planning Target Volume(PTV)
  - Nodal Volume(CTV-N)
  - Organ at Risk Volume (OAR)
  - Total Dose
  - Dose/Fraction
  - PTV Dose Constraints
  - OAR Dose Constraints
  - Plan Quality

# Quality Rating Scale: Peer Consensus

Grade 1- No change recommended

Grade 2- Minor change recommended

Grade 3- Major change recommended

Grade 4- Referred to Chair

# Peer Review Baseline Data

- June to December 2014:
  - Minor changes recommended 15.6%
    - N= 44/283
  - Major changes recommended 4.2%
    - N= 12/352



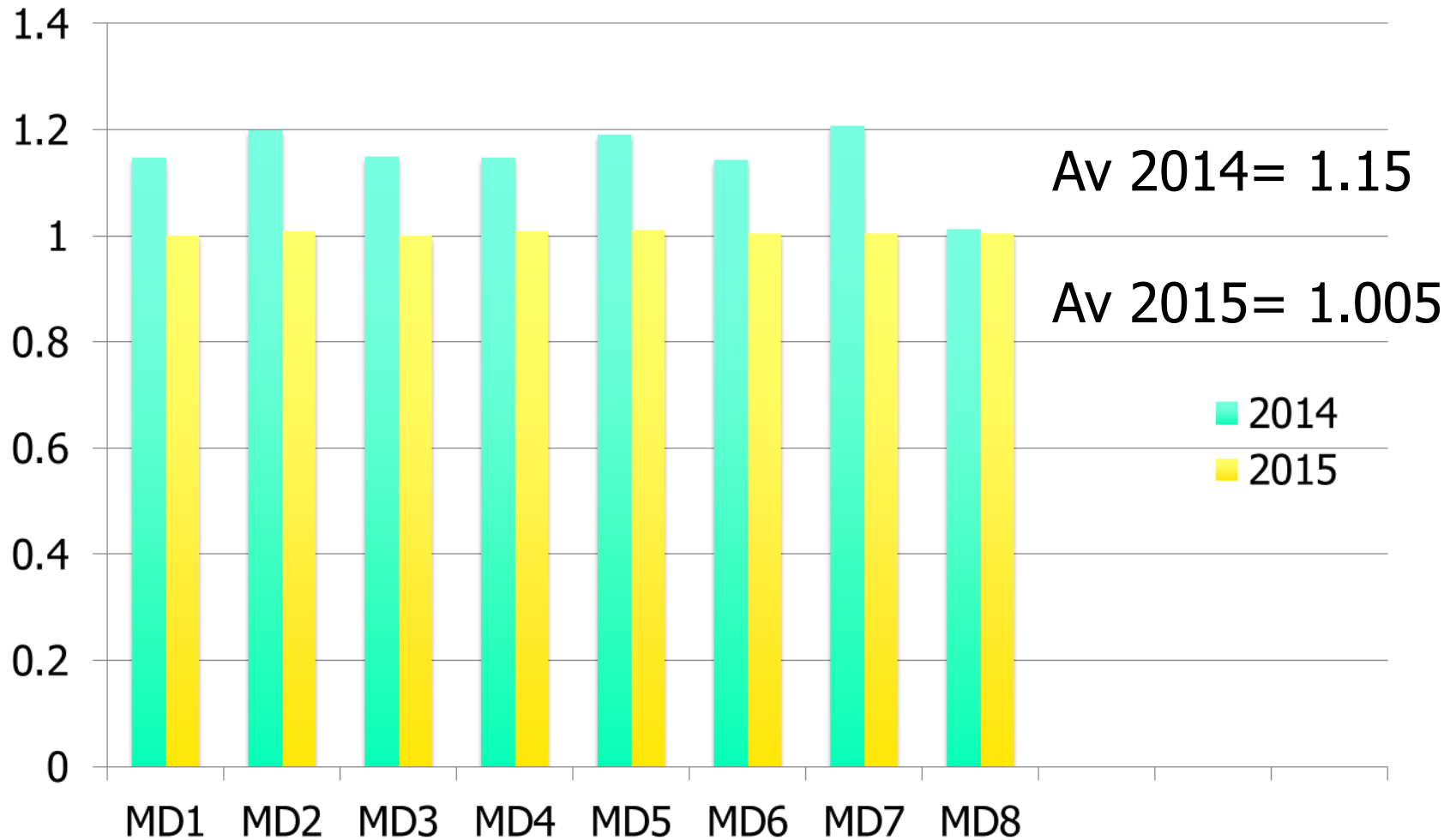
# Improvement Strategies Employed

- Step 1: Collaborative development of peer review policy by team, referencing ASTRO white paper
- Step 2: Implement peer review program and collect baseline data for 6 months
- Step 3: Feedback on program, adjusted eligible patient definition
- Step 4: Ongoing prospective data collection and feedback to physicians
- Step 5: Comparison of aggregate and physician specific data over 2 comparable time periods, with individual feedback

# Data Comparison

	<u>June- Dec 2014</u>			<u>June-Dec 2015</u>		
	n= 283			n=352		
	<u>Level 2</u>	<u>Level 3</u>	<u>Level 4</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Level4</u>
<i><u>Peer Criteria</u></i>						
Target Volume (GTV)	4	1		2	2	
Nodal Volume	6	3		5	2	
Image Fusion						
CTV/PTV Volume	7	1		2	1	
OAR Volume				2		
RX- Total Dose	10	2		6		
RX- Dose/Fraction	2					
PTV Dose Constraints	5	1		2		
OAR Dose Constraints	7	3		4	1	
Plan Quality	3	1		2	1	
<b>Total</b>	<b>44</b>	<b>12</b>	<b>0</b>	<b>25</b>	<b>7</b>	<b>0</b>
<b>% of Total</b>	<b>15.55%</b>	<b>4.24%</b>		<b>7.10%</b>	<b>1.99%</b>	

# MD Average Comparison



# Results

- Compared June-December 2014 to June-December 2015:
  - Aggregated average physician scores improved from 1.15 to 1.001
  - Total variances decreased from 56 in 2014 to 32 in 2015 despite more cases reviewed
  - Minor (level 2) changes decreased from 15.5% to 7.2% ( $p=0.001$ )
  - Major (level 3) changes decreased from 4.2% to 1.9%

# Challenges Encountered in QI Process

- Resistors: Some physicians were initially reluctant to participate in peer review:
  - No time/ Inconvenient
    - Solutions: Offered multiple times, before clinics; Pre-scheduled with each individual physician; Provided staff support for setting up webex access
  - Loss of independence/"Ivory Tower" interference:
    - Solutions: Invited full participation in giving and receiving peer review feedback, collegiality, offline discussions
  - "I don't need to be peer reviewed"/Experienced:
    - Solutions: Distributed guidelines; Made participation mandatory within practice

# Challenges Encountered in QI Process

- Infrastructure needs:
  - Initially all centers using different systems
  - Solutions:
    - Invested in and implemented one cloud-based system
    - Used custom webex and telemedicine approaches
    - Required physician time, staff and capital investment

# Lessons Learned Through QI Efforts

- What were your greatest lessons during this year with respect to your QI project?
- **Program is a great success!**
- What we did right:
  - Engaged all stakeholders from the start
  - Identified champions in the region
  - Invoked improved quality and patient care
  - Provided support whenever needed, especially to regional physicians
  - Provided feedback demonstrating real improvement metrics

# Next Steps

- Improve adherence to and documentation of specific guidelines used for individual cases
- Increase % review of functional image scans and target volume delineation
- Add new case types: SRS, brachytherapy
- Assess utilization of standardized prescriptions
- Continue to integrate systems for greater ease of use
- Continue to collect prospective metrics