

The heart and science of medicine.

UVMHealth.org/MedCenter

Integrating Radiation Oncology into an Academic Medical Center EMR

SROA / October 18, 2015

*Lori Ann Roy, Manager/Director, Radiation Oncology at The University of
Vermont Medical Center*

THE
University of Vermont
MEDICAL CENTER



SROA 32nd Annual Meeting

Disclosure: Lori Ann Roy

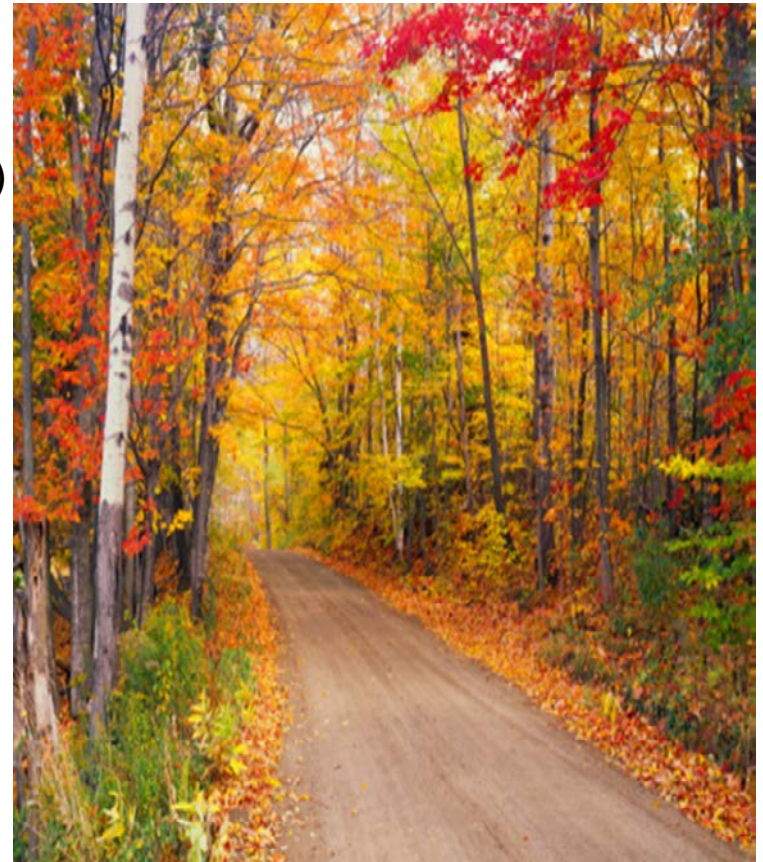
With respect to the following presentation, there has been no relevant (direct or indirect) financial relationship between the party listed above (and/or spouse/partner) and any for-profit company in the past 24 months which could be considered a conflict of interest.

Who are we?

The background features three thick, wavy lines in shades of green. One line is a dark forest green, another is a medium olive green, and the third is a light sage green. They flow from the bottom left towards the top right, creating a sense of movement and depth.

University of Vermont Medical Center

- Located in Burlington Vermont
- Only level I trauma center in the state
- 5.1 Radiation Oncology physician FTE's
- 3 Elekta linear accelerators
- 31 staff FTE's
 - Radiation Therapist: 11 FTE's (14 bodies)
 - Dosimetrists: 5 FTE's
 - Physicists: 4 FTE's
 - Nurses: 4 FTE's
 - Support staff: 6.5 FTE's
 - Manager: 1 FTE
 - Social Worker :1 FTE
- Volumes
 - ~ 15,500 Treatments
 - ~ 850 CT Simulations
 - ~ 200 procedures (SRS, PSI, HDR)





EHR/OHR Transition

- March 2009 transitioned from Aria to Mosaiq
 - June 2009 went live with EPIC (PRISM)
- July 2011 went live with billing interface from Mosaiq to GE
 - April 2012 went live with GE scheduling

Out with the Old



Pre Integration

Mosaiq

- eScribe documentation
- Nursing education documentation
- Telephone call documentation
- Allergies
- Prescription
- Diagnosis
- Prescription
- Treatment fields
- Daily dose
- Simulation set up
- Physics weekly chart checks
- Treatment specific information via navigator

EPIC

- Initial consult, end of treatment summary and follow up notes
- Allergies
- Diagnosis
- All path reports
- All imaging reports
- On treatment flow sheets

- * Medication reconciliation was completed on paper
- * All billing was completed on paper
- * All Social work notes were in paper files



On treatment notes

- Any documentation was done on month long encounters
- Charges could not be entered on the month long encounters; all billing was on paper.
- Medication Reconciliation would only be updated at months end
- Only documentation was in the form of a flow sheet, difficult to read and follow.
 - No continuity of care across services

On treatment notes

Rad Onc Review	10/5/2011	10/11/2011
Cumulative RT Dose	6720	7520
Daily RT Dose	200	200
Total RT Planned Dose	7720	7720
Subjective Note	hot flashes most consistent complaint	hot flashes may be a
Diarrhea	0-None	0-None
Constipation		
Abdominal Pain		
Bladder Spasm	0-None	0-None
Cystitis	0-None	0-None
Incontinence	0-None	0-None
Urinary Frequency	1-Present	1-Present
Urinary Retention	1- Urinary/suprapubic/intermitt catheter not indicated; able to void-some residual	1- Urinary/suprapubic
Proctitis	0-None	0-None
Pain Intensity		0
Pain Treatment		
Performance Status	1-Symptomatic; ambulatory; restricted in physically strenuous activity	1-Symptomatic; amb
Disease State	Stable	Stable
Treatment Status	Continue full dose	Continue full dose
Medication Changes	gave him a Rx. for Effexor	none
Port Film Review	Yes	Yes
Plan	Continue per plan	Complete per plan

Nursing Notes

- Nursing education documentation was in Mosaiq, limited access outside of the department.
- On treatment visits were in the form of a flow sheet, difficult to read and follow.
 - No continuity of care across services

Nursing education notes

Patient Note [REDACTED]

Created: 2/16/2011 JMS Edited: 2/16/2011 JMS Locked:

Type: Observation

Subject: Simulation Education

F Arial 9 **B** *I* U [List Icons] **B**

Pt is a 57 yr old married woman [REDACTED] has 2 grown daughters. She and her husband own a beverage store in the islands. Pt presented in 9/10 with mid back pain. MRI of L-S spine showed multiple levels of involvement including encroachment of canal and LLL mass. FNA revealed AdenoCa. Pt smoked 1ppdx 30 yrs. She quit smoking 13 yrs ago. She received her first cycle of Carbo/Taxol on 2/9/11. Plan now is for palliative XRT to T spine and then resume chemo. Pain right now is mid back, 4/10. She takes rare Tylenol #3 with improvement. The hip pain that she had been having resolved after 1st cycle of chemo. Pt's husband, Bill will transport for daily XCRT. Of note...pt has a hard cold right now with congested head and lungs. Jean Sheehey RN

Billing

- All billing was completed on paper
- No professional charges were entered until after the patient finished treatment
- Running up against timely filing limits

Billing

Place addressograph or label here:												Patient name : _____																							
												Date of Birth: _____																							
												Referring physician: _____																							
												MRN: _____																							
												Current Primary Diagnosis: _____																							
												Current secondary diagnosis: _____																							
Special instructions: _____												Patient type (circle one)				Inpatient				Outpatient															
PHYSICIAN				3 - Dr. Roland				4 - Dr. Rubin				6 - Dr. Wallace				7 - Dr. Heimann				8 - Dr. Gagne															
77427 - Weekly treatment Management												ENTER (Dr. #) IN DAYS ON MONTH BELOW																							
Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
CIRCLE ONE:												76950				Ultrasound Guidance/IGRT				77014				CT Guidance / CBCT				77421				SKV Imaging			
77435 - Stereotactic Ablative Body Radiation												ENTER (Dr. #) IN DAYS ON MONTH BELOW																							
Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				



Microsoft Excel
97-2003 Worksheet

Billing

Treatment Planning		Date(s)
77261	Simple	
77262	Intermediate	
77263	Complex	
Treatment Simulation		Date(s)
77280	Simple	
77285	Intermediate	
77290	Complex	
77295	3-D	
77301	IMRT	
Treatment Devices		Date(s)
77332	Simple	
77333	Intermediate	
77334	Complex	
77338	MLC for IMRT	
Dosimetry		Date(s)
77300	Basic Dosimetry	
77305	Isodose plan, simple	
77310	Isodose plan, inter	
77315	Isodose plan, complex	
77321	Special beam plan (Electron)	
77331	Special Dosimetry (Mosfet)	
Other		Date(s)
77470	Special txt (chemo, brachy)	
77431	Treatment - 1 or 2 fx only	
31575	Fiber optic Laryngoscopy	

In with the New

The background features three thick, wavy lines in shades of green. One line is a dark forest green, another is a medium olive green, and the third is a light sage green. They flow from the bottom left towards the top right, creating a sense of movement and transition.

Post integration

Mosaiq

- eScribe documentation
- Allergies
- Prescription
- Diagnosis
- Prescription
- Treatment fields
- Daily dose
- Simulation set up
- Orders
- Physics weekly chart checks
- Treatment specific information via navigator

EPIC

- Progress note documentation
- Initial simulation education documentation
- Telephone call documentation
- Allergies
- Medication Reconciliation
- Diagnosis
- CPT code
- On treatment documentation
- All path reports
- All imaging reports
- Documentation templates

On treatment notes

- Documentation visit is opened for every encounter.
 - Doc flow sheet is utilized by both MD and RN.
- Provides last value entered regardless of who saw the patient.
 - Medication reconciliation is completed for every visit.
 - MD generates a charge upon closing the encounter.

On treatment notes

- Subjective/Objective:

- Radiation Therapy
 - Cum/Daily/Total dose
 - Chemo agent
- Subjective note
- Constitutional Symptoms
- Skin
- Breast
- Head & Neck
- GI
- Pulmonary
- Cardiovascular
- MSK
- Neuro

- Assessment/Plan:


- Pain
- Psychosocial
- Impression
- Plan
- Weekly review
 - Port films reviewed
 - Medications reviewed


EPIC Flow sheet


Charting	
Chief Complaint	↕
Episodes	↕
Vital Signs	↕
Allergies	↕
Medications	↕
Immunizations	↕
Problem List	↕
History	↕
Assessment	
Subjective/Objective	↕
Assessment/Plan	↕
Distress Assessm...	↕
Visit Diagnoses	↕
Progress Notes	↕
Orders	
Pended/Held Orders	↕
Order Sets	↕
Orders	↕
SmartSets	↕
Discharge	
Letter Manager	↕
Pt. Instructions	↕
LOS	↕
Preview AVS	↕
Close Encounter	↕


	Radiation Oncology - Main Campus 08/11/15 0854
OTV	
Assessment Completed By	Sandra Cote, RN
Radiation Therapy	
Cumulative RT Dose	3060/3655 cGy
Daily RT Dose	180/215 cGy
Total RT Planned Dose	6020 cGy
Chemotherapy Agent	none
Subjective Note	
Subjective Note	i had a really good response to ...
Constitutional Symptoms	
Fatigue	1-Fatigue relieved by rest
Fever	
Weight Change	stable
Nutrition	reg diet
Skin	
Edema	1-Mild
Alopecia	0-None
Dermatitis	1-Faint erythema or dry desquamation
Nodes	
Skin Exam	breast soft, skin mild reaction, jus...
Breast	
Breast Pain	0
Seroma	incision area is soft to palpation

▼ Radiation Therapy


Cumulative RT Dose 
⌘ 1200 cGy taken 2 weeks ago

Daily RT Dose 
⌘ 400 cGy taken 2 weeks ago


Total RT Planned Dose 
⌘ 2000 cGy taken 2 weeks ago

Chemotherapy Agent 
⌘ none taken 2 weeks ago

▼ Subjective Note

Subjective Note 
⌘ Pain now almost ocmpletely resolved, but tired, rarely confused, shakey, mouth dry taken 2 weeks ago

▼ Constitutional Symptoms

Fatigue 

0-None	1-Fatigue relieved by rest
2-Fatigue not relieved by rest, limiting instrumental ADL	3-Fatigue not relieved by rest, limiting self-care ADL

⌘ 2-Fatigue not relieved by rest, limiting instrumental ADL taken 2 weeks ago

On treatment notes

Rad Onc Review	10/5/2011	10/11/2011
Cumulative RT Dose	6720	7520
Daily RT Dose	200	200
Total RT Planned Dose	7720	7720
Subjective Note	hot flashes most consistent complaint	hot flashes may be a
Diarrhea	0-None	0-None
Constipation		
Abdominal Pain		
Bladder Spasm	0-None	0-None
Cystitis	0-None	0-None
Incontinence	0-None	0-None
Urinary Frequency	1-Present	1-Present
Urinary Retention	1- Urinary/suprapubic/intermitt catheter not indicated; able to void-some residual	1- Urinary/suprapubic
Proctitis	0-None	0-None
Pain Intensity		0
Pain Treatment		
Performance Status	1-Symptomatic; ambulatory; restricted in physically strenuous activity	1-Symptomatic; amb
Disease State	Stable	Stable
Treatment Status	Continue full dose	Continue full dose
Medication Changes	gave him a Rx. for Effexor	none
Port Film Review	Yes	Yes
Plan	Continue per plan	Complete per plan

On Treatment Notes

██████████ is currently receiving radiation therapy treatment and is being s neoplasm of tongue, unspecified site.

Assessment:

Assessment Completed By: Carl Nelson, MD (09/30/15 1034)

Radiation Therapy:

Cumulative RT Dose	600	cGy
Daily RT Dose	200	cGy
Total RT Planned Dose	6600	cGy
Chemotherapy Agent	Weekly cisplatin	

The patient is a 64 y.o. male with T4N2 oral cavity cancer. He presents to us tod

Subjective

The patient started chemoradiation this week and currently reports he is feeling w four cans of Nutren 1.5 po daily, eating soft potatoes, cottage cheese, soup and l chemotherapy. He was seen by SLP this week and given exercises for tongue an

Pain: 0/10
Fatigue: Mild
Nausea: None

Objective:

Vitals: Weight 164 lb
HEENT: Grade 0 oral mucositis, moist mucus membranes.
LYMPHATICS: No palpable cervical, supraclavicular adenopathy
SKIN: Grade 0 erythema in the radiation treatment field

Weekly Review

Medication Changes: None
Port Film Review: Yes

Impression:

Performance Status: 1
Disease State: Stable
Toxicity Status: None

Plan:

Plan: Continue per plan
Plan Comment:

Patient tolerating treatment with expected radiation reaction

Nursing education notes

9/30/2015 10:27 Documentation Visit
MRN: [REDACTED]

Description: Male DOB: [REDACTED]
Provider: Sheehey, Jean M, RN
Department: Radiation Oncology

Progress Notes Info

Author	Note Status	Last Update User	Last Update Date/Time
Sheehey, Jean M, RN	Signed	Sheehey, Jean M, RN	9/30/2015 11:08

Progress Notes

The encounter diagnosis was Neoplasm of uncertain behavior of plasma cells.

Treatment Information

Plan for Treatment: Right rib palliative radiation therapy to decrease pain for Right 6th rib Plasmacytoma.
Start Date/Time: 10/01/15
Radiation Plan: Right Rib 400cGy x 5=2000cGy
Chemotherapy Plan: Plan is for chemo with Dr Atweh after XRT complete.
Transport Plan: Wife, Tina.

Education Session

Established contact and assessed patient readiness to learn: Yes
Reviewed treatment plan, goals and possible acute side effects: Yes
Reviewed site specific skin care, anticipated acute side effects and care management of the acute side effects: Yes
Physician specific care management reviewed: Yes
Learning objective met and will reinforce as needed: Yes
Comments:
Written patient and family education material provided: Yes



Patient Information

Advance directives completed: No
Advance directives on file at FAHC: No
Advance directives information provided: Yes
Advance directives information refused: No
Alerts reviewed: Yes
Allergies reviewed: Yes
Cardiac pacemaker: No
Implantable defibrillator: No
Medication reconciliation completed: Yes
Patient Intake form reviewed: Yes
Pharmacy confirmed: Yes

Smoking Information

Current smoker: Yes
 If yes, was smoking cessation discussed? No
 Was patient referral initiated? No
Past smoker: Yes
 Comments: Cigarettes=1 ppd currently and 1 ppd x 35 yrs. Pt does smoke Marijuana.

Referrals

Social worker: Yes
 Services: Pt and wife met with Michelle Pierce SW to review Distress Tool and talk about CPSP resources available.
Healing Touch: No
Hope Lodge: No
Other:

Subjective Note:

Subjective Note: "I am in terrible pain right now. I have an appt with my primary doctor in 2 hours to discuss increasing the pain meds."

Constitutional Symptoms:

Fatigue: 1-Fatigue relieved by rest

Nutrition: Diabetic.

Pain Assessment:

Location: Right axilla (6th rib)

Pain Intensity: 10

Pain Description/Quality: Dull-Constant-dull type of ache which is constant, Throbbing-Pulsating pain, heart beat type of rhythm

Pain Treatment: 3-Opioids

Pain Treatment Comment: Taking Dilaudid 4mg qid now. Ordered by PCP. Will meet with PCP today to discuss increasing Dilaudid.

Pain Relief: 1-Pain relieved 25%

Psychosocial:

Anxiety: 1-Mild symptoms, intervention not indicated

Depression: 1-Mild depressive symptoms

Psychosocial: 1-Asymptomatic or mild symptoms, clinical or dx observ. only, intervention no indicated

Psychosocial Exam: Stressed with financial worries. Pt and his wife met with Michelle Pierce SW to review Distress Tool and review CPSP resources available. Pt and wife are considering CPSP counseling.

Skin:

Skin Exam: No issues with skin in the field of XRT.

Physical Exam

Nausea: 0-None

Vomiting: 0-None

Confusion: 0-None

Arthritis: 3-Severe pain, S/S of inflamm/erythema/joint swell, irreversible joint damage, disabling

Range of Motion: 2- >25-50% decrease in ROM, limiting instrumental ADL

Musculoskeletal Exam: Pt with 10/10 pain in right axilla area from Right 6th rib plasmacytoma (Multiple Myeloma).

Lung Exam: Pt is a current cigarette and Marijuana smoker.

Weekly Review

Medication Changes: None. Pt is hoping to get his Dilaudid dose increased when he visits his PCP later today.

Impression:

Performance Status: 1-Symptomatic, ambulatory, restricted in physically strenuous activity

Toxicity Status: Discussed XRT side effects

Plan:

Plan: Continue per plan

Plan Comment: Palliative Radiation Therapy to Right rib

Pt is a 58 yr old married man from St Albans. Multiple medical issues including DM, HTN, GERD, Emphysema. Presented in 7/15 after taking a fall. CT was done showing a mass at the right sixth rib. Biopsy showed Plasmacytoma. Further w/u revealed multiple skeletal lytic lesions. Diagnosis of Multiple Myeloma was made. Plan is for Palliative radiation to this area for pain control. Pt is currently having 10/10 pain in Right axillary area from this met. I met with Richard and Tina briefly this morning. Richard asked that our visit be short as he was in a lot of pain after the simulation (due to positioning issues). He also states that he has an appt with his PCP today at which time he wants to get his narcotic increased. Jean Sheehey RN

Nursing education notes

Patient Note [REDACTED]

Created: 2/16/2011 JMS Edited: 2/16/2011 JMS Locked:

Type: Observation

Subject: Simulation Education

F Arial 9 **B** *I* U [List Icons] **B**

Pt is a 57 yr old married woman [REDACTED] has 2 grown daughters. She and her husband own a beverage store in the islands. Pt presented in 9/10 with mid back pain. MRI of L-S spine showed multiple levels of involvement including encroachment of canal and LLL mass. FNA revealed AdenoCa. Pt smoked 1ppdx 30 yrs. She quit smoking 13 yrs ago. She received her first cycle of Carbo/Taxol on 2/9/11. Plan now is for palliative XRT to T spine and then resume chemo. Pain right now is mid back, 4/10. She takes rare Tylenol #3 with improvement. The hip pain that she had been having resolved after 1st cycle of chemo. Pt's husband, Bill will transport for daily XCRT. Of note...pt has a hard cold right now with congested head and lungs. Jean Sheehey RN

New EHR Templates

- 24 new templates
 - On treatment visits
 - Consults
 - Procedures (SABR, SRS, PSI, HDR)
 - Follow up

Information transfer for past medical history, diagnosis, referring provider, social history, medications, allergies

Consult template

CONSULT NOTE

DATE OF SERVICE: 1/6/2015

This patient is being seen as a consultation from Dr. **No ref. provider found.**

Primary Site: ***

Histopathology and Stage: ***

There were no encounter diagnoses.

HPI:

Past Medical History		Past Surgical History	
Diagnosis	Date	Procedure	Date
• Diabetes mellitus		• Cholecystectomy	
• Abnormal glandular Papanicolaou smear of cervix		• Gastric bypass surgery	2009
• 5 yr history		• Tubal ligation	
• Anemia		• FAHC	
• Allergy cats	2000	• Ventriculoperitoneal shunt	
• HIV infection			
• Chronic kidney disease			
• Due to HIV			
• Hepatitis C	2000		
• Treated - failed therapy			
• STD (sexually transmitted disease)			
• Personal history of unspecified infectious and parasitic disease			
• Glaucoma			
• HTN, goal below 140/90			
• Arthritis			

History		Family History	
Substance Use Topics		Problem	Relation
• Smoking status:	Current Every Day Smoker - 1.00 packs/day for 20 years	• Cancer	Mother
		• Endometrial	

SABR template

SABR Daily Treatment Note

Radiation Oncology

Patient Name: Ambfone Zzprismtest
Date of Birth: 9/17/1969
MR#: 0015044217
MD: H James Wallace III, MD
Diagnosis: ***
Date/Time: 1/6/2015

Preparation for SBRT Treatment

Treatment planning was performed in advance of this SBRT treatment delivery. The isodose plan consists of beam arrangements consisting of {NUMBERS; 1-15:21293} {Fields - Arcs:28018} that are arranged close to the target with steep dose gradients to surrounding normal tissue.

Prior to this treatment, the physicist and I analyzed the set-up for potential collisions of the apparatus, treatment couch, or other devices and the appropriate modifications were made. QA was performed {Onc:28232}.

Pre-Treatment Assessment

Today is {Fraction 1-5:28330} of {Fraction 1-5:28330} prescribed fractions.

The dose to date is {Fraction 1-5:28330} cGy. The planned total dose is {Fraction 1-5:28330} cGy.

The patient's baseline performance status was ***.

Upon exam prior to treatment, the patient's current performance status is ***.

Pre-treatment observations: ***

Distress Tool

MRN

Name

DOB

Radiation Oncology Department

Distress Assessment and Plan

****Please return this form to a member of the check-in/check-out staff**** Today's Date:

Distress: Unpleasant feelings or emotions that may interfere with your ability to cope with cancer, its physical symptoms, and its treatment.

Please check the number (0-10) that best describes how much distress you have been experiencing in the past week, including today

- 0 No distress 1 2 3 4 5 6 7 8 9 10 Extreme distress

Practical Problems

- Yes No Child care
- Yes No Housing
- Yes No Insurance/financial
- Yes No Transportation
- Yes No Work/school
- Yes No Treatment decisions
- Yes No Advance directives
- Yes No Disability
- Yes No Help with daily activities

Family Problems

Physical Problems

- Yes No Appearance
- Yes No Bathing/dressing
- Yes No Breathing
- Yes No Changes in urination
- Yes No Constipation
- Yes No Diarrhea
- Yes No Eating
- Yes No Fatigue
- Yes No Feeling swollen
- Yes No Fevers



Adobe Acrobat
Document

Social work note

Author: Pierce, Michelle E.

Filed: 10/2/2015 7:53

Editor: Pierce, Michelle E. (Case Manager/Social Worker)

Amount of Distress: 2

Practical Problems: Insurance/Financial, Help with Daily Activities

Family Problems: Family Health Issues

Emotional Problems: Anger/Agitation/Irritability

Physical Problems: Bathing/Dressing, Getting Around, Skin Dry/Itchy

Spiritual/Religious Concerns: No

Other Problems:

Service: Radiation Oncology

Note Time: 10/2/2015 7:42

Author Type: Case Manager/Social Worker

Status: Signed

Social Work Assessment: I met with patient and her husband, Lee, today to explain role of MSW. Patient scored a 2 on the distress tool. She has worked with Kathy MacBeth, Psychologist in the best and contacts her as needed for emotional support. Patients spouse admits that he is more distressed than the patient. He is worried about her and their finances. He too has met with Kathy and will reach out to her as needed. They report they have great support from family, friends and their faith community. Patient is interested in starting some advocacy work for Melanoma patients.

Working Diagnosis/Presenting Problem: stage IIIB T4b4N1M0 acrolentiginous melanoma arising in an area of ulceraton on her right heel, now with her sixth recurrence of her right heal.

Living Arrangements: They live in Essex JCT. No accessibility issues at present. Spouse assists as needed. They are trying to sell their current home so they can downsize but it has been on the market for awhile.

Functional Status (psychosocial and physical): Patient receives assistance from her husband for help with bathing, dressing and other adl's as needed. She uses crutches to get around at home and a wheelchair for longer distances.

Social Supports: 3 sons who live in California offer great support from a distance. Several grandkids. Many friends and a strong faith community.

Real time billing

- Consults/follow ups
 - On treatment visits
 - Simulation charges
 - Planning charges
- All Dosimetry and Physics charges

Mosaiq

10/06/2015	Clinical Tx Plan: C	77263 P		1	C18.9,
10/06/2015	Simulation: C	77290		1	C18.9
10/06/2015	Complex Sim	77290 P	26	1	C18.9
10/07/2015	Isodose plan complex	77307		1	C18.9, 197.0*, 153.9*
10/07/2015	Isodose plan complex	77307 P		1	C18.9
10/06/2015	Treatment Device: C	77334	76	2	C18.9
10/07/2015	Treatment Device: C	77334		2	C18.9, 197.0*, 153.9*
10/06/2015	Complex Device	77334 P	26 76	2	C18.9
10/07/2015	Complex Device	77334 P		1	C18.9
2/16/2015	Consult Appt	CONSULT A		1	153.9*
10/06/2015	CT DATA AQUISITIO	CTDATAQ		1	C18.9
10/06/2015	Simulation Appt	INIT SIM A		1	C18.9
10/06/2015	MA Review	MA REVIEW		1	153.9*
10/06/2015	Re-eval Appointment	RE-EVALAF		1	C18.9
10/06/2015	VAC LOC	VAC LOC		1	C18.9

Charge Lag

- On treatment visits
 - Imaging
- On treatment visits are completed at the end of treatment to ensure appropriate fractionation billing.
- Imaging is billed at the end of treatment based off the Mosaik imaging report for proper billing provider

EPIC Billing

- All consult or follow up charges are entered into EPIC, fed to a charge queue and manually entered into GE

Service Date	Closed Enco...	Sched #	Billing Provider	Performing Provider	Referring P...	Charg...	Charge C...
09/30/2015	Yes		GAGNE, HAFALEH M	GAGNE, HAFALEH M			77427
10/01/2015	Yes		ANKER, CHRISTOP...	ANKER, CHRISTOPH...			77427
10/01/2015	Yes		RUBIN, DEBORAH	RUBIN, DEBORAH			77427
10/01/2015	Yes		RUBIN, DEBORAH	RUBIN, DEBORAH			77427
10/01/2015	Yes		RUBIN, DEBORAH	RUBIN, DEBORAH			77427
10/01/2015	Yes		ANKER, CHRISTOP...	ANKER, CHRISTOPH...			77427
10/01/2015	Yes		ANKER, CHRISTOP...	ANKER, CHRISTOPH...			77427
10/02/2015	Yes		ANKER, CHRISTOP...	ANKER, CHRISTOPH...			77427
10/05/2015	Yes		WALLACE III, H JA...	WALLACE III, H JAMES			77427
10/05/2015	Yes		WALLACE III, H JA...	WALLACE III, H JAMES			77427
10/05/2015	Yes		WALLACE III, H JA...	WALLACE III, H JAMES			77431

Imaging

9/ 1/15 15:18		HJW	,	NotRequired	CT
9/24/15 12:35	prostate bed	HJW	Wallace, Harold	Approved 9/24/15 14:45	CBCT
9/30/15 7:28	prostate bed	HJW	Wallace, Harold	Approved 9/30/15 15:59	CBCT
10/ 1/15 7:37	prostate bed	HJW	Wallace, Harold	Approved 10/ 1/15 9:53	CBCT
9/24/15 12:21	Clarity Position	HJW	Wallace, Harold	Approved 9/24/15 14:45	PORTAL
9/25/15 14:33	Clarity Position	HJW	Wallace, Harold	Approved 9/25/15 15:31	PORTAL
9/28/15 14:47	Clarity Position	HJW	Wallace, Harold	Approved 9/28/15 16:14	PORTAL
9/29/15 7:06	Clarity Position	HJW	Wallace, Harold	Approved 9/29/15 10:11	PORTAL
10/ 1/15 7:23	Clarity Position	HJW	Wallace, Harold	Approved 10/ 1/15 9:53	PORTAL
10/ 2/15 7:03	Clarity Position	HJW	Nelson, Carl	Approved 10/ 2/15 16:24	PORTAL
10/ 5/15 7:09	Clarity Position	HJW	Wallace, Harold	Approved 10/ 5/15 14:24	PORTAL
10/ 5/15 7:12	Clarity Position	HJW	Wallace, Harold	Approved 10/ 5/15 14:24	PORTAL

Hurdles and Roadblocks

- Physician buy in
- Adapting multiple process changes
- Delays with IS around the billing interface

Patience and persistence paid off!

Tangible Outcomes

- Documentation
 - All notes are able to be viewed in the organization wide EHR
 - Continuity of care
 - Inclusive decision making
- Billing
 - Prior to July 2011, our average charge lag was 45 business days
 - Post billing integration, charge lag is now 10 days
 - Imaging and treatment management codes are what are impacting the numbers.
- Medication Reconciliation
 - Prior to individual encounters for weekly treatment management, med rec compliance was 4%.
 - Post implementation of individual encounters, medication reconciliation is now 93% compliant.

Thank You!

