Mission Statement
The Department of Radiology, in concert with the entire medical, academic and research staff of Dartmouth-Hitchcock, seeks to lead the transformation of health care in our region, setting the standard for our nation in achieving the healthiest population possible. Through research, education, clinical practice and community partnerships, we are committed to the mission of advancing health, providing each person the best care, in the right place, at the right time, every time.

Message from our Interim Chair

I want you all to know how much I appreciate your help and hard work. We have had our share of challenges, but we make progress every day. I try to remind myself that every change is an opportunity to make things better, and that is something I really believe. We need to tell each other about the problems we see, and the solutions we hope will work, but we can’t forget to celebrate our successes. Every candidate that interviews here is struck by the friendliness and warmth of the department. I’m very proud that all of you have created a department that feels so welcoming, does such good work and tries so hard to improve. I hope you all enjoy the holiday season!

Thank you all for your support,

Jocelyn

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Alone we can do so little; Together we can do so much.

–Helen Keller

Dr. Jocelyn Chertoff
**Radiology E—Newsletter**

**IT Happenings**

**Nuance Powerscribe 360—Voice Recognition**
(Replaces Precision Reporting Voice Recognition system)

*PowerScribe went LIVE on December 9! Thanks to everyone for their efforts!*

**Key Benefits:** Report Quality; Integration; Ease of Use

**Impacts:** RAD IT; Transcription; Radiologists; Mid-Level Providers; Residents and Fellows

*“Train the trainer” occurred in Lebanon on December 2, 2014. This was led by Nuance PowerScribe Trainers in tandem with our own IT staff and was an all-day training for D-H North & South. Radiologist training sessions also occurred concurrently at D-H Lebanon, D-H Manchester and D-H Nashua on December 9th and 10th with an additional day on December 11 in Lebanon due to the number of Radiologists.*

**What Next?**

Additional support will occur-30-days post go-live. A one-hour follow-up training session will be provided to answer questions.

**The PACS replacement project** has received an extensive evaluation process of the leading PACS vendors during the past six months which included RFPs to 6 leading vendors. On-site demos were conducted with customer site visits resulting in distilling the choice to the final 2 vendors. The project team has given a high level of attention to a product that will help the department manage and optimize the Radiologist’s workflow and provide the greatest flexibility for the future to accommodate internal and external growth, new service offerings and the need to produce more with less. Currently, project timelines are being reviewed to avoid multiple “Go-Lives” on the same day, especially with ESI & Radiant. A final decision on the chosen vendor is anticipated in early 2015.

**The Radiology Department will be replacing the current GE Radiology Information System (RIS).** The replacement is an EPIC module called Radiant. The Radiant project kickoff occurred in September. This replacement is being implemented in conjunction with the EPIC business systems project named ESI. Pre-planning activities and validation sessions involving key Radiology staff, leadership and IT occurred throughout September and October 2014. As of November 3, 2014, the Build 1 Phase began for the Radiant system. These sessions, referred to as Clinical Content Build Sessions (CCBO), will assist the Radiant team in identifying the clinical content necessary for inclusion in the build for the D-H Radiology system. The Go-live for Radiant is scheduled simultaneously with ESI go-live for October 1, 2015.
National Radiologic Technologist Week November 3-8

Many Views with One Vision (theme 2014)

National Radiologic Technology Week is celebrated annually to recognize the vital work of R.T.s across the nation. The celebration takes place each year during the week that includes Nov. 8 to commemorate the discovery of the x-ray by Wilhelm Conrad Roentgen on Nov. 8, 1895. Remember, D-H is the home of the first clinical x-ray in America in 1896. The week-long celebration calls attention to the important role medical imaging and radiation therapy professionals’ play in patient care and health care safety.

D-H celebrated and recognized the profession of Radiologic Technology as well as embraced our Radiology team—and included ALL Radiology staff - i.e., Technologists, Radiologists, Schedulers, Nurses, Receptionists, Technologist Aids, Image Librarians, Transcriptionists, Business/Radiology Admin-Managers/Researchers, Physicist/RAD Safety Office, Business Analysts, Radiology IT, etc. We took it one step further for our imaging team by presenting them with information about what is happening in the field as well as how to volunteer and to support nationwide efforts i.e. “get involved”. IRIS (image right image safe) along with the Department of Radiology hosted this event for our D-H Technologists.

The informational "spread" was shared with all Radiology staff in the 3W conference space. A central focus was provided for Technologists to include information about key partners in the Radiologic Technologist profession. They included; The American Society of Radiologic Technologists (ASRT), The American Registry of Radiologic Technologists (ARRT), The Vermont Society of Radiologic Technologists (VSRT) and The New Hampshire Society of Radiologic Technologists (NHSRT). There was an opportunity for all to make a pledge to Image Gently and Image Wisely and to the ASRT “click to commit” campaign, which is to support educating patients about the radiologic technology profession. There was also a how-to send letters to Senators and Congress professionals to support the CARE Bill. Other available information included about volunteering in the profession for the ASRT and ARRT, continuing education information, how to apply to the ASRT leadership academy and IRIS brochure materials about Medical Imaging at D-H.

The event was a success for a first! Fifty letter were sent from the D-H team to senators and congress professionals in support of the CARE bill! We look forward to next year!
**Outreach Activities**

Since the last newsletter, Kim Owens has moved to the Outreach team. She has been instrumental in helping coordinate how we protocol studies from all of the facilities our department serves. She came to the team just before our go-live with Brattleboro Memorial Hospital on October 1st. Kim has helped lead the billing work that we do as part of our agreement.

Stephanie Bogdan is leading the OneView integration effort between Brattleboro and D-H and has set a go-live date of March 23rd, 2015.

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**IRIS Update**

IRIS has been busy working with public affairs vetting and preparing for publication of our CT, Ultrasound, MRI, MRI breast, Nuclear Medicine brochures. CT and US are close and ready for print. We spent a large portion of the fall planning and preparing the IRIS Radiologic Technologists week event as well as figuring out our options for project work within the department. IRIS supported and launch the DX core Shield project September 17th. A new shield was designed to help standardize the shielding process for adult thoracic and lumbar spine. The DX team has embraced the process and data is actively being collected.

Our next large group meeting is Thursday January 8th, 2015 @ 1pm-2pm in the Radiology large conference room. We will be discussing our goal to have electronic options for our materials and discussing plans for future events. We are looking forward to the New Year and new ideas! We are always looking for new members. Please feel free to stop in at our meetings or check our IRIS SharePoint site (under construction).

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**News from Angio… By Dr. Eric Hoffer**

Last week we performed our first Irreversible Electroporation (IRE) procedure with the Angiodynamics Nanoknife. This device allows us to ablate tissue without relying on thermal effects employed with RFA (heating) or cryoablation (freezing). IRE kills cells by opening small (nano-size) pores in the treated cell’s wall, which makes them leak and leads to their death. It provides two advantages that extend our ability to perform ablations:

Because the heating (or cooling) effect of the moving blood will decrease the effect of the thermal ablation on tissue near the blood vessel, IRE permits a more complete treatment for tumors that abut blood vessels. In addition, the IRE procedure selectively kills cells, but does not produce a coagulative necrosis of the tissue—it does not destroy the collagenous framework of the blood vessels and ducts, which remain intact.

These advantages of IRE allow us to treat tumors that are adjacent to blood vessels or ductal systems, which are of particular concern centrally in the liver and in the pancreas.
Academic Accomplishments

CONGRATULATIONS!!
DR. JULIANNA CZUM
2014 Bruce J. Hillman Fellowship
In Scholarly Publishing winner

John Towle, Alan Siegel, Jocelyn Chertoff, Stephanie Bogdan
- Radiology Information Technology Satisfaction Survey (electronic exhibit). Accepted for presentation at the 115th Annual Meeting of the American Roentgen Ray Society, April 19-24, 2015, Toronto, Canada.

Robert Harris
- Nominated to be an RSNA International Visiting Professor in 2015.
- Invited as a visiting professor at University of Iowa, Columbia University, and UVM College of Medicine.

Nancy McNulty, Petra Lewis

Have a good idea? Heard something amazing?
If there’s something important, wonderful or just kind of cool going on in your neighborhood of radiology, let us know so we care share the news. Email: Heather Wood at heather.r.wood@hitchcock.org
I want to share with you some background and results about the Rapid Process Improvement Workshop (RPIW) that was recently completed on October 28th to 30th for CT. This workshop was triggered by issues around inefficient workflows and the unsustainable resource-levels used to execute those workflows. During those three days, a group of people across various functions and departments came together to analyze the CT process (from ordering to completing the CT scan) and develop an actionable list and timeline of improvements that will be trialed and implemented.

### CT RPIW - By Jocelyn Chertoff

#### RPIW Process
This is a 3-5 day focused improvement workshop that involves multiple employees across an organization who work together to analyze and improve a complex but common process. The operational goals are to create a more reliable, efficient and customer-driven process. When successful, an RPIW leads to a re-designed process that achieves higher quality with less time, energy and resources. The participants are trained to understand system-thinking, identify waste, and strengthen performance.

#### CT RPIW Problem Statement
The workflow distribution across the diagnostic CT scanners is uneven leading to waste and inefficient utilization of resources. The combined average daily (between 7am and 6pm) utilization of the three scanners is 38% with one scanner being as low as 18% on average. Even at low utilizations, patients are waiting on average 17mins for a scan with a standard deviation of 24mins. So there is a lot of variation in the workflow and this drives the staff to feel overwhelmed as they try to manage a chaotic workflow and run the day smoothly. There is therefore an opportunity to understand and minimize the variation in the workflows in order to serve patients in a timely manner, reduce the chaos for staff, and efficiently manage resources to patient demand.

#### CT RPIW Team Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
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<tr>
<td>Brendan Hickey</td>
<td>Radiology Nurse Manager</td>
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<tr>
<td>Christine Kvinlaug</td>
<td>Operations Manager</td>
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<tr>
<td>Daniel Pluta</td>
<td>CT Education Coordinator</td>
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<td>Tabitha Ferranti</td>
<td>Radiology LPN</td>
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<td>Lindsey Jerome</td>
<td>CT/MRI Scheduler</td>
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<td>Matthew Stoltzhus</td>
<td>CT Technologist</td>
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<td>Nancy Black</td>
<td>CT Technologist</td>
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<tr>
<td>Diane Spaulding</td>
<td>CT Receptionist</td>
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<td>Daryl Holthoff</td>
<td>Emergency Department RN</td>
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<tr>
<td>Michael Tsapakos</td>
<td>Radiology Physician</td>
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<td>Trent Shelton</td>
<td>Radiology Resident</td>
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<tr>
<td>Sandra Kirby</td>
<td>IR Technologist</td>
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<td>Christopher Jones</td>
<td>Transportation Tech</td>
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<tr>
<td>Tomi Osunkoya</td>
<td>Performance Improvement Facilitator</td>
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<td>Erin Gooch</td>
<td>Performance Improvement Facilitator</td>
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<tr>
<td>Daniel Herrick</td>
<td>Performance Improvement Facilitator</td>
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Current State Issues
Using process maps & data, the team members analyzed the workflows from ordering a CT scan (outpatient, inpatient and ED patient) to completing the CT scan. The following high level issues were identified:

- Information from ordering clinics were often incomplete, inconsistent and inaccurate leading to workarounds and rework for radiology staff and even the clinic staff themselves e.g. not completing the required safety questions prior to calling to schedule, ordering the wrong exam for patients, not ordering the required labs for patients, etc.
- A lot of obligation has been placed on radiology schedulers to make clinical decisions that they are not trained for. They have had to work around clinical specialists such as ordering providers and radiologists in order to schedule patients correctly. This has led to a lot of rework and inefficient use of our scheduling resources.
- There is a lot of inconsistency in communication to clinics about how Radiology will service their patients e.g. special favors to specific clinics to send down their patients without first completing the necessary documentation on their end. This lack of standardization and consistency has led to delays in patient care and rework to resolve issues.
- The scheduled outpatients only represent 50% of the volume that CT technologists scan each day so add-ons (outpatients, inpatients & ED) are equally a big driver to flow of the day. However, there has not been a pro-active decision or method on how to manage these add-ons and fit them into the day efficiently.
- There is no verified and documented standard work for various functions across the department especially schedulers, residents, attendings, and technologists.

Improvement Ideas
This is a high-level snap-shot of the improvement ideas that will be implemented to address the issues in CT:

- Create order set timeouts in e-DH that require ordering clinics to provide all the relevant information prior to finalizing an order for a CT scan.
- Develop preference lists and manage CT exam codes to increase ordering provider proficiency for ordering the right exam for the right patient and diagnosis.
- Investigate the option for using the Radiology LPN to order labs on behalf of CT ordering provider for “missed” patients.
- Educate and create standard work for residents around scripting of CT exams.
- Trial the use of technologists more independently (versus Radiologists) to give direction to schedulers about prep instructions for outpatient add-ons.
- Trial and implement technologist standard work around roles, responsibilities and assignments for managing daily flow of patients.
- All add-on patients will be given a defined scheduled time versus the “sit and wait” for outpatients or calling the ED or Inpatients to bring patients down “now”. This will help to reduce variation through the day, give patients and staff better predictability and reduce patient wait times.
- The scheduling templates will be revised so that schedulers have more control over scheduling outpatient add-ons.
- All ED and Inpatients will be completed on a single scanner to balance out the utilization of scanners and create a more predictable workflow.
- Communication to all clinics that they must call the scheduling office to get a scheduled time for their patients and get the proper instructions before sending their patients down to CT for add-ons.
- More partnership with the clinics to provide patients with the required oral contrast prep before they arrive in CT.

Next Steps
The CT RPIW team will work with other staff within and outside of Radiology to trial and implement these improvement ideas over an 8-week timeline. This work is very important and has the support of department and senior leadership. We understand that change takes time and so we ask that you are patient and provide your support to the team as we execute on these improvements.
New Faces in Radiology

Luke Hebert  
*Sr. Clinical Secretary/Student Coordinator*  

Lynn Rothemich  
*Sr. Clinical Procedural Secretary/Chaplain Intern*  
Lynn joined the Administrative Staff in the fall and is also a Chaplain Intern in the Clinical Pastoral Education Program. Lynn has a Master’s of Divinity from Andover Newton Theological School and is currently working toward becoming a board certified Chaplain. Lynn lives in South Royalton with her partner Veronica, Daisy the cat, and a new puppy named Bella. Lynn enjoys kayaking and birding in her free time.

Shannon de Marah  
*Sr. Clinical Procedural Secretary*  
Shannon joined D-H in September, first as a Tech Aid in the Core, then moving to the Administrative Team shortly thereafter. Shannon is an 8-year Navy Veteran and is currently in nursing school. Shannon used to play roller derby and resides in Milton, Vermont with her three dogs: Sherman, Ollie, and Mamas.

Kelby Moriarty  
*Ultrasonographer*  
Kelby joined D-H in August as an Ultrasonographer after graduating from Rochester NY Institute of Technology. Originally from Bennington NH, Kelby enjoys working out and helping the students in her area.
**New Faces in Radiology**

**Brittany Copp**  
**GME Fellowship Program Coordinator**  
Brittany has worked at D-H for almost 4 years and joined the GME on September 1st. Prior to that she was an Administrative Assistant for the Section Chiefs in Infectious Disease and Pulmonary. Brittany lives in Canaan with her husband, 2 sons, 2 dogs, and 2 ducks. Brittany’s family enjoys watching football and hockey.

**Dan Couture**  
**IS Project Manager**  
Dan joined D-H in August and has been working in IT healthcare for over a decade and has also been working with Radiant since 2009. He is originally from Syracuse NY but has lived in Alaska, Germany, California and New Hampshire. He is very excited for the best Radiant go-live ever!

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**Department Movement**

Kim Owens— from Support Services Manager to Outreach Program Coordinator  
Heidi Nystrom— from Education Coordinator-DX to Support Services Supervisor  
Heather LaPorte— from Medical Imager II to Interim Education Coordinator-DX  
Suzanne Smith— from IR Staff Nurse to Interim Unit Supervisor-IR

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*The achievements of an organization are the results of the combined effort of each individual.*  

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~Vince Lombardi
Radiology's Chad Gibbs, and his band **Turner Round**, performed again this year at the annual Holiday Party held December 6th at the Hanover Inn.

Though the weather outside was frightful, those in attendance enjoyed a great meal, great entertainment, and great friends!
As this year draws to a close, we will be saying goodbye to two longstanding members of our department. After years of exceptional service to us and to our patients, Dr. Helene Nagy is retiring, and Dr. Steve Poplack is leaving for a very exciting opportunity.

On Wednesday, December 10th, friends and colleagues gathered in the Large Conference Room to celebrate Steve and Helene.
Thank you for your generosity in giving to the Radiology sponsored Food Drive this Holiday Season. We had a great amount of goods collected and all donations were given to the Upper Valley Haven, located in White River, VT. Thank you to Heather Wood and Pam Mazurek for organizing our drive this year.

The Upper Valley Haven has been providing temporary shelter and educational programming for homeless families and adults as well as food and clothing to anyone in need for more than 30 years.

Thank you again for supporting this worthwhile cause and giving so generously.

Best wishes of the Season and Happy New Year.

Jocelyn and Karen
Joining us January 2015:

Timothy Rooney, MD

Dr. Rooney begins this week and will work in breast imaging, as well as body imaging and general radiology.

Dr. Rooney was born in Salinas, CA, and grew up on both the east and west coasts. He attended The Phillips Exeter Academy, graduating in 1982. Subsequently he spent a postgraduate year in England as an English Speaking Union scholarship recipient. Dr. Rooney then attended Dartmouth College, graduating in 1987, and entered the US Navy. He earned his Naval Aviator wings in 1989 and flew the F-14A Tomcat and F/A-18 Hornet as a fleet fighter pilot and adversary instructor from 1989 until 1996.

After serving as an ROTC instructor at Texas A&M University, he entered Dartmouth Medical School in 1997, graduating in 2001. Following a transitional intern year at the Naval Medical Center, San Diego, he served as a general medical officer at Marine Corps Base Camp Pendleton. He then completed his Radiology residency training at Naval Medical Center, San Diego from 2003-7. As a staff diagnostic radiologist, he completed tours at a number of Naval Hospitals, including Naval Medical Center, San Diego as the department head of the Breast Health Center. He deployed to Landstuhl, Germany in support of US operations in Afghanistan, at Landstuhl Regional Medical Center.

After approximately 21 years in the US Navy, Dr. Rooney retired in 2011. He then returned to Landstuhl Regional Medical Center, as a civilian provider, diagnostic radiologist, and breast imaging section head where he spearheaded section expansion to include mobile mammography, HEDIS, and Breast MRI initiatives. In June 2011, Dr. Rooney earned the Army Commendation Medal for superior performance of duties. He and his family resided in Germany until May 2013, when he returned to complete a breast imaging fellowship at the Ellen Shaw de Paredes Institute for Women’s Imaging in Richmond, VA. Following his graduation from fellowship, he worked as a diagnostic radiologist in private practice in California, and returned to DHMC in January 2015.

Dr. Rooney is experienced in all aspects of breast imaging and intervention including Tomosynthesis and Tomosynthesis guided biopsy, MRI and breast MRI guided biopsy, US and US guided biopsy, digital mammography and stereotactic biopsy. He is interested in and has written about patient-physician communication, including a number of articles in Dartmouth Medicine.

Dr. Rooney is married to Elizabeth “Lissy” Rooney (Dartmouth ’91), and has two teenage daughters, both of whom were born at DHMC.

He is a member of the American College of Radiology, the Radiologic Society of North America, and the Society of Breast Imaging.