ACADEMIC WEEK 2015

Improving the Health of our Community through Education and Research

Baystate Medical Center

The Western Campus of Tufts University

Together we deliver a higher state of caring.
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Dear Colleagues,

Welcome to Baystate Health’s Academic Week 2015! This year’s theme is Improving the Health of our Community through Education and Research.

The week begins with a keynote panel that will discuss health disparities facing our patients, current Baystate initiatives, and strategies for research and collaboration between providers, community programs and patients. Other scheduled events include a poster reception, abstract presentations and a panel discussion on research collaboration initiated by community partners.

New this year is a special community event at the Dunbar Y Family and Community Center. The evening event will highlight several collaborative programs designed to reduce health disparities, promote community wellness and improve access to care in the Greater Springfield area.

Also new is the Academic Affairs Gala Reception, an evening event that will highlight recognition Baystate clinicians have received for their contributions to improving care through education and research.

Back by popular demand, As Baystate Matches Wits returns, and as always, Academic Week concludes with the highly anticipated Awards Luncheon where our finest teachers and researchers are publicly recognized.

Academic Week is successful because of the generous contributions of time, energy and expertise by so many people. Among them, I want to thank the Awards Committee for reviewing abstracts and the Academic Week Steering Committee for putting together a wonderful program.

Please review the Academic Week daily schedule and join us in recognizing the breadth of scholarly contributions made by your Baystate colleagues to the practice, improvement, study and teaching of high quality of patient care.

Thank you for attending Academic Week 2015.

Regards,

Kevin T. Hinchey, MD, FACP
Chief Education Officer
Baystate Health
2015 Excellence in Teaching Award

This award recognizes an employee who has helped advance the mission of Baystate by making significant contributions towards engaging and motivating learners.

**Robert M. Hayden, R.EEG/EP.T**

Director, Neuroscience and Rehabilitation Services
Neurodiagnostics & Sleep Center

“I nominate Robert for his excellence in sharing knowledge and inspiring others to advance their knowledge and improving patient care services…he has been instrumental with obtaining the equipment and training service providers at both ends of the Telemedicine model…with his knowledge of Telemedicine, he inspired Nadia to learn more about the clinical potential of Telespeech. Together, they have provided many patients with much needed Speech Therapy services in a remote hospital.”

**Honorable Mention:**

Lauren Novick, RN
Baystate Wing

“Not only is Laurie a knowledgeable nurse, she is amazing in the way that she takes care of her patients, their families, any nursing student that has her patient and even co-workers…she has a way of making you feel comfortable and welcome on the floor…it is amazing to watch her teach”

**Nominees:**

Cara Chandler, RN, MS, CNL
Frederick Conlin, MD
Donna Hawk, RRT, AE-C
Evan Lau, MD
Lisa Shea, Associate Application Analyst
2015 Award for Outstanding Achievements in Clinical Research

This award recognizes the outstanding contribution of a research staff member to either the conduct of clinical research within Baystate Health (systems contribution) or to the field (regional or national recognition).

Ruth Barham, MPH, CCRP
Clinical Research Coordinator II
Baystate Regional Cancer Program

“Ruth has been an integral part of our investigator initiated studies…she takes great pride in her work and in accomplishments of the research team…she is frequently included as a contributing author on presentations and publications. Ruth is creative not only when it comes to problem solving, but also to communications. She was key in helping develop a brochure to recruit women to the ROH Breast Research Registry. She participates in outreach events to educate women about research at Baystate. All in all, I am fortunate to have Ruth Barham as part of our research team…”

Honorable Mention:

Kye E. Poronsky, MA
Clinical Research Coordinator I
Department of Emergency Medicine Room

“Kye has coordinated dozens of studies, recruited subjects, and watched her job description change as new aspects have been added - all while being upbeat, flexible, responsible, and forward thinking…she is fabulously communicative about all issues, and we are incredibly lucky to have her.”
**Monday, June 1  12:00 – 1:00**  
**Keynote Panel: A Conversation on Community Health for Providers**
Hampden County ranks lowest among Massachusetts’ counties in both health factors and health outcomes. This panel will discuss the health disparities facing our patients, current Baystate initiatives, and strategies for collaboration between providers, community programs and patients.

*Peter Lindenauer, MD, MSc*
Director of the Center for Quality of Care Research  
Medical Director, Clinical and Quality Informatics  
Baystate Medical Center

*Frank Robinson, PhD*
Vice President, Community Relations & Public Health  
Baystate Health

*Kathleen Szegda, PhD, MPH, MS*
Director of Community-Based Research & Evaluation  
Partners for a Healthier Community

**4:00 – 5:30**  
**Poster Reception**
Come view Baystate research on digital ePosterboards.

**Tuesday, June 2  12:00 – 1:00**  
**A Research Collaboration Initiated by Community Partners: Group Peer Support for Postpartum Depression (GPS4PPD)**
Hear from Baystate investigators and their academic and community partners who will discuss the benefits, challenges, process and approach to community-engaged research.

*Sarah Goff, MD, Assistant Professor*
Department of Medicine  
Center for Quality of Care Research

*Liz Friedman, BA, MFA*
Director of Perinatal Support Initiatives  
MotherWoman

*Peggy O’Neill, PhD*
Assistant Professor,  
Smith College School for Social Work

*Peter Lindenauer, MD, MSc*
Director of the Center for Quality of Care Research  
Medical Director, Clinical and Quality Informatics, Baystate Medical Center
**Tuesday, June 2  5:30 – 7:00**  
**Community Café at the Dunbar Y Family & Community Center**

This evening event at Dunbar Y Family & Community Center will highlight Baystate and local community programs designed to reduce health disparities, promote community wellness and improve access to care in Greater Springfield.

Modeled after the World Café format, participants, including, medical directors, community program directors and staff, Baystate practitioners, healthcare professionals, and community members will have the opportunity to learn about programming and potential opportunities for collaboration with:

- Baystate/Springfield Educational Partnership (BSEP)
- Dunbar Y Family & Community Center
- Mason Square Health Task Force
- MIGHTY Program
- North End Organizing Network (NEON)
- Partners for a Healthier Community/Live Well Springfield
- Pioneer Valley Riverfront Club
- Project Coach

**Wednesday, June 3  12:00 – 1:00**  
**Abstract Presentations**

- **Are Families of Children with Type 1 DM Ready for Televisits?**  
  Sena Cantas Orsdemir, MD

- **Frequency of Follow-up Imaging Recommended by Radiologists and the Impact on Clinical Course**  
  Owen Hanley, DO, MPH

- **Intravenous versus Oral Fluoroquinolones for the Initial Treatment of Community Acquired Pneumonia in Hospitalized Patients**  
  Raquel Belforti, DO

- **Modifying Patient Blood Management Strategies in Orthopedic Surgery: One Tertiary Care Hospital’s Experience**  
  Mihaela Stefan, MD

- **Resident physicians’ knowledge and beliefs about emergency contraception**  
  Rakhsita Satyarthi, DO, MPH

- **Using the Theory of Planned Behavior to influence resident physician emergency contraception prescribing patterns**  
  Ashley Brant, DO, MPH

**Thursday, June 4  12:00 – 1:00**  
**As Baystate Matches Wits: Community Edition**  
Hosted by Paul Visintainer, PhD and Annie McNeill

Test your wits about the community and patient population we serve while learning about Baystate programs using the audience response system!

**5:30 – 7:00**  
**Academic Affairs Gala Reception, Tolosky Family Living Room**

Education and research play a valuable role in the development of Baystate Health providers and the care of our patients. Please join the Division of Academic Affairs in celebrating the national recognition Baystate clinicians have received for their contributions to improving care in our community through health promotion, research and education.

**Friday, June 5  12:00 – 1:00**  
**Awards Ceremony**

The Excellence in Teaching Award and Outstanding Achievements in Clinical Research Award recipients will be announced and the Abstracts selected for Academic Week recognition will be acknowledged.
A SIMPLE METHOD FOR POSTOPERATIVE VOIDING ASSESSMENT
FOLLOWING UROGYNECOLOGIC SURGERY
Nihal Dolgun, MD; Keisha Jones, MD; Pamela Behrens, NP;
Aubrey Rauktys, MD; Oz Harmanli, MD

BACKGROUND
Recently, assessment of voiding function solely based on patient's subjective grading of her force of voiding stream technique was found to be equally safe and effective compared to retrograde fill method. In our institution, we use a similar less stringent and non-interventional method based on the first voided amount. We aim to compare the failure rate, accuracy, and safety between this voiding trial approach and the retrograde fill method after inpatient and outpatient pelvic floor surgery.

METHODS
We have been collecting prospective data on all consenting, adult women who are seen at our practice in a research repository since September 2011. This cohort represents all women who underwent procedures for pelvic floor disorders and required postoperative voiding assessment between September 2011 and June 2014. Patients with suprapubic catheter placement or a cystotomy were excluded from the study. Patients underwent either retrograde fill (RF) or spontaneous voiding (SV) trials postoperatively after their surgical procedures. Voiding trials were performed in the recovery room after outpatient cases or on the first postoperative day for patients who were admitted overnight. For the RF method, 300 ml of sterile saline, or less if maximum cystometric capacity was achieved, was instilled. After removal of the foley, a voided volume of 200 ml was considered sufficient to pass the trial. In the SV trial, no retrograde fill was needed and the patient had to void 150 ml at once within 6 hours. Measurement of postvoid residual volume was not standard. All patients were instructed to call if they had any difficulty with voiding. In addition, their voiding pattern was routinely reviewed by a nurse practitioner within the first two postoperative days. The primary outcome of this study was the failure rate, reported as the percentage of women who were required intermittent or indwelling catheterization for voiding dysfunction. We also compared the percentage of women who initially passed the trial but returned for recatheterization due to urinary retention, and the rate of urinary tract infection between the groups within 6 postoperative weeks. We assumed an increase to 40% from 30%, which is the average commonly cited rate for urinary tract infection, may be considered clinically significant. In order to achieve an 80% power with a 0.05 two-sided significance level, a sample size of 324 women was needed. We used student t and Chi-squared tests, and logistic regression method where appropriate for comparisons.

RESULTS
740 women were included in this cohort. The mean age was 57±13 years; mean body mass index was 30.5±7.0 kg/m2. Of all the subjects, 60% were postmenopausal, and median parity was 2 (range 0 to 11). The cohort was divided into 2 groups for comparisons: 430 women had a SV and 310 RF voiding trial. The groups were similar with respect to baseline characteristics. The failure rates were, though statistically different between the groups [87 (20.2%) and 83 (26.8%) for SV and RF methods, p=0.046], were clinically similar. Among women who were discharged without a catheter, 5 (1.2 and 1.6%, p=0.74, not-significant between SV and RF methods, respectively) from each voiding trial group returned with urinary retention for catheter insertion. The rates of urinary tract infection rates were also similar [32 (7.4%) and 24 (7.7%), p=0.80] for SV and RV methods, respectively] between the groups. There were no other complications attributable to voiding trial approach.
CONCLUSION
Spontaneous voiding trial based on a first voided volume of 150 cc or greater seems to be as safe and effective as retrograde fill method for evaluation of voiding function in women after a pelvic floor procedure.

PRESENTATIONS
Society of Gynecologic Surgeons
March 2015- Orlando, FL

### Results: Patient Characteristics

<table>
<thead>
<tr>
<th></th>
<th>RF (n = 318)</th>
<th>SV (n = 431)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Mean ± SD)</td>
<td>56.3 (12.8)</td>
<td>57.4 (12.9)</td>
<td>0.36</td>
</tr>
<tr>
<td>Parity (n)</td>
<td>30.1 (6.4)</td>
<td>30.8 (7.4)</td>
<td>0.22</td>
</tr>
<tr>
<td>BMI (Mean ± SD)</td>
<td>3</td>
<td>3</td>
<td>0.50</td>
</tr>
<tr>
<td>Postmenopausal</td>
<td>180 (58.6)</td>
<td>266 (62.7)</td>
<td>0.30</td>
</tr>
<tr>
<td>POP surgery only</td>
<td>33 (10.4)</td>
<td>44 (10.2)</td>
<td>1.0</td>
</tr>
<tr>
<td>SUI surgery only</td>
<td>139 (43.7)</td>
<td>117 (27.1)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>POP +SUI surgery</td>
<td>146 (45.9)</td>
<td>270 (62.6)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Retropubic</td>
<td>102 (32.1)</td>
<td>52 (12.1)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>TOT</td>
<td>186 (58.5)</td>
<td>336 (78.0)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

### Results: Outcomes

<table>
<thead>
<tr>
<th></th>
<th>RF (n = 318)</th>
<th>SV (n = 431)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure rate [n (%)]</td>
<td>71 (22.8)</td>
<td>86 (20.0)</td>
<td>0.42</td>
</tr>
<tr>
<td>Failed and required sling revision [n (%)]</td>
<td>5 (1.6)</td>
<td>10 (2.3)</td>
<td>0.67</td>
</tr>
<tr>
<td>Falsely passed [n (%)]</td>
<td>5 (1.6)</td>
<td>4 (0.9)</td>
<td>0.65</td>
</tr>
<tr>
<td>UTI [n (%)]</td>
<td>25 (7.9)</td>
<td>32 (7.4)</td>
<td>0.80</td>
</tr>
</tbody>
</table>
ARE FAMILIES OF CHILDREN WITH TYPE 1 DM READY FOR TELEVISITS?
Sena Cantas Orsdemir, MD; Rebecca Feinberg, MPH;
Holley Allen, MD, MPH; Ksenia Tonyushkina, MD

PROBLEM
In children with Type 1 Diabetes Mellitus (T1DM), frequent insulin dose adjustments in response to the changing needs of the growing child are crucial to achieve optimal glycemic control. Therefore, quarterly visits are recommended, but may be a financial and emotional burden for families. Studies have shown that use of telecommunication in the care of patients with T1DM improves compliance with diabetes self-management and glycemic control. To evaluate the interest and preparedness for televisits among T1DM patients and their families at Baystate Children's Hospital located in Springfield, MA provides coverage for western Massachusetts and northern Connecticut.

INNOVATION
Patients with T1DM and their families completed a quality improvement survey during routine clinic visits in the summer 2014. The questionnaire consisted of yes/no and open-ended questions was developed to assess families' willingness to participate in televisits and ability to transfer glycemic data online. Descriptive statistics and correlates of positive answers were analyzed. We obtained responses from 81 families, about 10% of our T1DM patients. Respondents were aged 3-21 years; mean age (+/-SD) was 14 (+/-4.1) years. The average HbA1C was 7.9 (+/- 1.4) %. Seventy percent of patients expressed interest in televisits. These patients had a lower mean A1C (7.76 vs. 8.55%, p = 0.04) and lived further away from clinic (p=0.0004). Among interested families, 77% were willing to have at least 2 out of 4 visits per year as televisits. Phone calls were preferred by 54% of interested families; while 22% chose video calls and 21% did not express a preference. In addition to physician visits, 67% requested a televisit with either a diabetes educator or nutritionist. Fifty-one patients (89%) were willing to download their insulin pumps and meters; 41 of them (71%) did not need assistance with the download and 10 (18%) were willing to learn. Ninety-six percent of families can transfer the glycemic data online. Half of the patients preferred to have previsit Hba1C done in a lab closer to their home as opposed to clinic and 60% preferred late evenings for televisit appointments.

RESULTS
Two thirds of our families with T1DM children are willing to participate in televisits. The majority of them has Internet access and are capable of transferring glycemic data online or willing to learn. The high level of interest leads us to design a pilot study to evaluate the clinical impact of televisits as part of routine diabetes care in pediatrics.

PRESENTATIONS
ENDO Society 2015
March 2015 - San Diego, CA

AWARDS
2015 Helmsley Charitable Trust Abstract Award in Type 1 Diabetes
CAN SOCIAL MEDIA BE USED AS A HOSPITAL QUALITY IMPROVEMENT TOOL?
Tara Lagu, MD, MPH; Sarah L. Goff, MD; Ben Craft, BA; Stephanie Calcasola, MSN;
Evan M. Benjamin, MD; Aruna Priya; Peter K. Lindenauer, MD, MSc

BACKGROUND
The number of patients reading and writing online reviews about health care is rapidly increasing. To learn whether social media could be used to improve hospital quality, we solicited patient feedback on the Facebook page of a large tertiary academic medical center.

METHODS
Facebook, a social networking website, is used by an estimated 128 million US adults, making it a plausible medium for patients to provide narrative feedback about their health care experiences. We created a press release inviting patients and community members to visit the medical center's Facebook page. The press release, which received attention from several local media outlets, described a three-week period during which patients and community members were invited to leave feedback. At the beginning of each week, we posted, on Facebook, an open-ended statement "Please tell us about your experiences at our medical center, both what we do well and how we can improve your care.' We analyzed all patient comments using directed qualitative content analysis. Two investigators independently coded all comments; discrepancies were resolved through consensus. We used descriptive statistics to assess the frequency of selected codes and themes.

RESULTS
Over a three week study period, comments were submitted by 37 respondents, yielding 148 codable statements (photo). Broad themes identified included: 1.) Positive and negative comments about staff (42/148, 28%); 2.) Positive and negative comments about specific departments (43/148, 29%); 3.) Comments on technical aspects of care, including perceived errors, incorrect diagnoses, and inattention to pain control (13/148, 9%); 4.) Positive and negative comments describing the hospital physical plant, parking, and amenities (12/148, 8%). A small number (n=3) of patients repeatedly made negative comments over the 3-week period, accounting for 45/148 (30%) of the total number of comments. We identified several themes which could be considered as targets for quality improvement efforts, including: training staff to be more responsive and sensitive to patients' needs and concerns; improving patient and visitor parking; and reducing emergency department waiting times.

CONCLUSION
While several important themes emerged, the insight gained from Facebook comments was modest and similar to feedback gained from more traditional approaches to soliciting patient perspectives on care (e.g., patient experience surveys). The total number of respondents was limited, and a few repeat visitors dominated the discourse. Facebook has the potential to engage and even empower patients, and the solicitation of feedback may indicate a hospital's interest in improvement and could help to drive hospital improvement efforts. These potential benefits must be weighed against reputational risks, a lack of representativeness from respondents, and the possibility that improvement efforts would be diverted from areas that would most benefit patients (e.g., pressure to focus on amenities rather than disease management).

continued on next page
Ty BMC I have been hospitalized 3 times and have had some of the kindest nurses and DR take care of me. NO complaints, very grateful to you all!
24 minutes ago · Like

Kidney transplants!!!!!!
21 minutes ago · Like

Visitor parking is not easy.
13 minutes ago · Like · ☺ 1

you are already aware of the ER wait situation. Once in everyone was great. Once admitted, it was also a good experience.
a few seconds ago · Like

Write a comment...
BACKGROUND
Acute appendicitis is the most common emergency surgical disease of childhood. About 25% of adolescent cases present with perforated appendicitis; however, this increases to about 80% in children under 5 years of age. The purpose of this study was to compare outcomes and cost between single incision pediatric endoscopic surgery (SIPES) with a glove access technique and multiport laparoscopy for the treatment of complex appendicitis.

METHODS
Following IRB approval, the medical records of patients 18 years of age and younger who underwent a laparoscopic appendectomy between July 2012 and December 2013 at our institution were evaluated. Only patients with a diagnosis of complex or perforated appendicitis based on surgical findings were included in this study. Patient demographics including age, gender, BMI, and race were extracted. Procedure time (defined as skin to skin time), PACU length of stay (LOS), total hospital LOS, and costs were evaluated. In order to assess for pain levels, the average PACU pain score, average first 24-hour pain score, and total analgesic amount required were determined. Outcomes such as intra-abdominal abscess rate, wound infection, and bowel obstruction were compared.

RESULTS
A total of 48 patients were identified to have complex appendicitis; 17 (35.4%) were in the SIPES group. Age, and gender were comparable between groups (p>0.30). There was no significant difference in the total procedure time (SIPES 78 min vs. MPL 84min, p=0.51) between groups. Average PACU pain scores were significantly lower in the SIPES group compared to MPL group (median 0, vs. 1, p=0.05); average post-operative scores were similar (p=0.40). Pre-operative nerve block use was only used in the SIPES group (29.4% vs. 0.0%, p=0.004). Procedure cost was significantly lower in the SIPES ($1527 vs. $3048, p<0.001). LOS, PACU LOS, and post-operative complications between groups were similar.

CONCLUSION
SIPES with glove access is a feasible and safe approach for the management of children with complex appendicitis. We observed a significantly lower procedure cost for the SIPES approach compared to the MPL, and found no significant difference in LOS or postoperative complication rates. Although not statistically significantly, we observed that the mean procedure time in the SIPES group was 6 minutes shorter. In conclusion, management of complex appendicitis in children has comparable outcomes to the standard MPL; and with increasing concern for healthcare cost this technique may be more financially acceptable for the treatment of complex appendicitis.

PRESENTATIONS
IPEG’s 23rd Annual Congress for Endosurgery in Children
April 2015 - Nashville, TN
BACKGROUND
The increase in overall healthcare expenditure in the U.S. has recently been addressed in the Choosing Wisely campaign among a variety of subspecialties in an effort to improve the value and quality of patient care. There has been little research on the prevalence of radiology follow-up studies recommended by radiologists and the impact these have on clinical decision making and patient outcomes.

Objective: To assess the rate and impact of follow up imaging on final diagnosis and treatment plan.

METHODS
We performed a retrospective study of all abdominal, pelvic and chest CT scans performed in patients >18 years of age between December 1, 2010 to December 31, 2010 admitted to the inpatient service at one academic tertiary care hospital with a 750 bed capacity. The radiology report from an index CT scan was appraised by 4 clinical investigators and categorized base on whether the radiological findings pertained to the ordering physicians' clinical question or another incidental finding. If follow-up imaging was recommended, the electronic medical record was reviewed to assess if the additional imaging was performed during that hospital course. If further imaging was pursued, we reviewed clinicians' notes to assess the impact on diagnosis, treatment and clinical decision making. A standardized assessment form and chart review process was piloted with approximately 10% of the total CT scans until there was perfect agreement between the investigators. Statistical methodology included a description of the findings.

RESULTS
The mean age of patients receiving an index CT scan was 61 +/- 20 years with equal distribution based on gender. Of the 441 index CT scans, 58% were of the abdomen/pelvis and 42% of the chest. In 63% of scans a new incidental finding was noted. In this study, radiologists recommended follow-up imaging in 67 cases (15%) - 95% CI 12.2% - 18.9%. Of the 67 cases where follow up imaging was recommended, it was performed by the ordering clinician in 24 cases (36%). Of these 24 scans in which follow-up imaging was performed: 25.0% confirmed the initial diagnosis and did not change the treatment plan 20.8% confirmed a questionable diagnosis and did change the treatment plan 12.5% identified alternative pathology that altered the treatment plan 41.7% imaging was both therapeutic and diagnostic. There were 43 scans (64%) in which the follow-up imaging was not performed as recommend by radiology: 13.6% were not felt to be clinically relevant by primary clinical team 34.1% were deferred for outpatient follow-up 13.6% an alternate clinical decision or intervention was pursued 40.9% there was insufficient information in the medical record to determine why the recommended scan was not performed. There was no statistical difference in how often follow-up imaging was recommended by radiologists based on age, gender or type of index CT scan. However, radiologists were statistically more likely to recommend follow-up imaging if an incidental finding was noted on the index CT scan OR 3.50 (95% CI 1.76-6.83).
CONCLUSION

Compared to findings in prior studies where radiologists recommended further imaging in approximately one third of radiology reports, the radiologists in our institution seemed to recommend further imaging less frequently. This may reflect a change in clinical practice as a result of the Choosing Wisely campaign and increased awareness regarding the value behind imaging modalities. Frequently, documentation by clinicians within the medical record does not accurately describe why follow-up imaging is not performed as recommended by radiologists. Appropriate documentation to clarify clinical reasoning in this regard may prevent miscommunication between clinicians caring for patients in both the inpatient and outpatient settings. The rate of follow-up scans performed in our study does not account for those performed later by outpatient clinicians, therefore is likely an underestimate.

PRESENTATIONS

Regional New England SGIM - oral presentation
March 2015 - Boston, MA

National SGIM- Poster presentation
April 2015 – Toronto, Canada
HAIR STIMULATION WITH PULSED ELECTRIC FIELDS
Saiqa Khan, MD; Alexander Golberg, PhD; Michael McCormack, MBA; Marianna Bei, PhD, DMD; Martin Yarmush, MD, PhD; William G. Austen, Jr., MD

PROBLEM
Alopecia affects more than half of the population worldwide. Current therapeutic options including minoxidil and finasteride are minimally effective, expensive, and require daily use to avoid recurrent alopecia. Hair transplantation is expensive, minimally effective, and leads to donor site morbidity.

INNOVATION
Pulsed Electric Fields (PEF) create transient vasoconstriction followed by vasodilation. We have evidence that PEF stimulate hair follicles and we hypothesize that this stimulation shifts the hair cycle from resting telogen to active anagen. The objective of this study is to prove that PEF stimulate hair growth in a dose-dependent manner, and to optimize treatment parameters. Sprague Dawley rats were shaved and treated with PEF using two 1cm2-contact electrodes. Three treatment and three control sites were tattooed onto the dorsum of each rat. Following the taguchi experimental design, a range of low-dose parameters were investigated: 30, 90, 270-Volts; 100, 300, 900-pulses; and 10, 90, 270us pulse length. Animals were euthanized 1-month after treatment and tissue was harvested for histological analysis. The percent of anagen follicles per treatment site was calculated. Taguchi analysis was performed to rank parameters.

RESULTS
We prove that PEF shift the hair cycle from telogen to anagen, resulting in dense patches of hair. The optimal dose tested was 270V, 300pulses, and 270us pulse length duration, which induced a 5.05-fold increase in anagen follicles at treated sites as compared to controls. Treated sites demonstrated 45.55±18.07% of follicles in anagen, contrasting 9.02±6.00% of follicles in the anagen phase at control sites (p=0.0008). A dose response was demonstrated among the tested parameters. Additionally, the taguchi analysis generated the following rank: voltage, pulse length, and number of pulses, demonstrating that voltage has the greatest effect on anagen stimulation. Digital photography correlated with histological findings, revealing defined patches of hair at treated sites distinctly contrasting untreated skin (Figure).

PRESENTATIONS
56th Annual New England Society of Plastic and Reconstructive Surgeons - Oral presentation
June 2015 - Westbrook, CT

AWARDS
Patent pending
IMPACT OF THE 2008 USPSTF RECOMMENDATIONS ON CLINICIANS PRACTICE FOLLOWING AN ELEVATED PSA TEST IN ELDERLY MEN

Sami Ibrahimi, MD; Fadi Alkhatib, DO; Lee, Shin Yin, MD; Jennifer Friderici; Michael Rothberg, MD; Janice Fitzgerald; Mihaela Stefan, MD

BACKGROUND
Prostate specific antigen (PSA) for prostate cancer screening remains controversial. In 2008, the United States Preventive Services Task Force (USPSTF) published a statement recommending against screening for prostate cancer in men aged 75 years or older. Since then, 2 studies have shown a decrease in PSA testing frequency in this age group. It is unknown however, whether the 2008 recommendations had any impact on clinicians’ approach following an elevated PSA level in elderly men.

METHODS
The primary outcome was PSA retesting frequency within a 12 month follow up period after the first abnormal PSA. Secondary outcomes included (yes vs. no) prostate biopsy, urology referral, prostatectomy and other modalities of therapy including radiation therapy, chemotherapy and hormone treatment. Each outcome was analyzed using multiple logistic regression with an age-group by study period interaction term (criterion p-value for stratification ≤0.20). Two-sided p-values of 0.05 were used to determine statistical significance for remaining comparisons. All analyses were performed in Stata 13.1 (© 2014 StataCorp LP, Union Station, TX).

RESULTS
Three-hundred records were abstracted. The average age was 74.7 years (SD 7.0); most patients (82%) were White; (7%) were Black and (5%) were Hispanic. Patient characteristics were similar between pre- and post study periods. The proportion of patients who underwent confirmatory testing decreased slightly in men aged ≥75 after the guidelines (53% pre vs. 47% post, p=0.34), but increased slightly among men aged <75 (68% vs. 76%, p=0.28). The difference in the intervention effect on this outcome achieved borderline significance (difference of 15 percentage points, p<0.10). Among those with a confirmatory test, the proportion of patients referred to urologist increased dramatically in both age groups (age ≥75: 35% pre vs. 74% post, p=0.001; age 65 to 75: 51% pre vs. 86% post, p<0.001); this increase was similar between both groups (difference of 4 percentage points, p=0.79). Similar large increase in biopsy rates were noted in both age groups (age 75+: 8% pre vs. 42% post, p=0.005; age<75: 23% pre vs. 42% post, p=0.02). (Difference of 8 percentage points, p=0.53). The number of patients receiving prostatectomy, chemotherapy or radiation therapy was small.

CONCLUSION
Among patients with an elevated PSA test, the guidelines had no impact on the frequency of repeat PSA testing to confirm result. More patients were referred to urology and underwent biopsy in both age groups after the guidelines.
BACKGROUND
Fluoroquinolones are widely used in the treatment of community-acquired pneumonia (CAP) and they have equivalent oral (PO) and intravenous (IV) bioavailability, but patients hospitalized with CAP are generally treated intravenously. We compared the outcomes of hospitalized patients with CAP initially receiving intravenous versus oral respiratory fluoroquinolones.

METHODS
We conducted a retrospective cohort study of adult patients hospitalized for CAP at 340 hospitals between 2007 and 2010. We included patients who could tolerate medication by mouth (PO), who were not in a critical care setting, and who received intravenous or PO levofloxacin or moxifloxacin during the hospitalization. The primary outcome was in-hospital mortality; secondary outcomes included admission to intensive care (ICU), invasive mechanical ventilation (IMV), and use of vasopressors initiated on or after the second hospital day (defined as 'late ICU' or 'late IMV'), hospital length of stay (LOS), and hospitalization cost. After limiting to hospitals where at least one person was treated with a PO quinolone (n=178), we developed a propensity model for PO treatment that included patient demographics, co-morbidities and other initial treatments (c-statistic=0.82). We then created Stabilized Inverse Probability of Treatment Weighting (SIPTW) models for each of the outcomes.

RESULTS
Of the 36,405 patients who met inclusion criteria, 34,200 (94%) were initially treated with an IV respiratory quinolone and 2205 (6%) received PO treatment. Compared with those who received IV quinolone, those who received PO quinolones had lower unadjusted mortality 2.5% versus 1.4% (p=0.001), hospital length of stay (Mean, SD) 5.3 (4.8) versus 5.0 (4.1) (p<0.001) and total hospital cost (Median, IQR) $5,585 ($3,833 - 8,697) versus $5,456 (3,741 - 8,358) (p=0.07). There were no differences found in late ICU 4.2% versus 3.9% (p= 0.53), late IMV 3.0% versus 3.1% (p=0.76), or late vasopressors use 2.7% versus 2.6% (p=0.78). Multivariable models revealed no statistically significant differences in hospital mortality (OR 0.82; 95% CI 0.58-1.15), hospital length of stay (RR 1.01; 95% CI 0.98-1.03), hospital costs (RR 1.00; 95% CI 0.98-1.02), late ICU admission (OR 1.04; 95% CI 0.80-1.36), late use of IMV (OR 1.17; 95% CI 0.87-1.56), or late use of vasopressors (OR 0.94; 95% CI 0.68-1.30) between the 2 groups.

CONCLUSION
Our results suggest that among patients hospitalized for CAP who tolerate oral medications, respiratory quinolones administered orally on admission are associated with similar outcomes when compared to intravenous administration.

PRESENTATIONS
SHM National Meeting
March 2015 - Washington DC
BACKGROUND
Despite limited evidence of efficacy, antipsychotics (AP) are commonly used to treat delirium. APs are associated with increased mortality in elders, particularly those with dementia. The authors have reported that 48% of hospitalized elders who were newly started on antipsychotic (AP) medications had the drugs continued at discharge. This follow-up study analyzes the duration of AP use in this population for 1 year after the index admissions.

METHODS
We previously described a retrospective cohort of 300 elders (> 65 years) admitted to a tertiary care hospital between 10/1/2012 and 9/31/2013 who were newly prescribed APs while hospitalized. Of these, 148 patients were discharged on APs. We now report on patients from this cohort who were readmitted within 1 year. We examined the number of readmissions and whether the patients were still on APs at the time of readmission or receiving sedating medications such as anxiolytics, hypnotics and antihistamines. Two investigators extracted the charts independently to see if APs were resumed or discontinued and to examine the circumstances around the time of drug changes. We used descriptive statistics and performed cross-tabulations on the selected variables.

RESULTS
Of the 148 elders discharged on APs, 60 (41%) were readmitted at least once (111 total readmissions). The mean age was 81.3, 60% were male and 45% were admitted from post-acute facilities. Median time to readmission was 43.5 days; and 80% were admitted to the medical service with the remainder admitted to surgery. Inpatient mortality was 8% (5/60). When readmitted, 39/60 (67%) of patients were still receiving the same APs on which they had been discharged. The APs were continued after readmission in 80% of patients (61% quetiapine, 19% olanzapine and 13% risperidone). One patient was started on quetiapine in the outpatient setting. No patients had new orders for benzodiazepines, non-benzodiazepine hypnotics or antihistamines on their admission medication lists. Eighteen patients (9 on existing APs) received new APs during the readmission hospitalizations. These included haloperidol (89%) and quetiapine (39%). Delirium was the main reported indication for starting APs (77%), but in 17% of cases no indication was documented. An EKG was performed in 94% prior to APs administration and for 22% after APs administration. QTc prolongation >500msec was present in 17% and 11% respectively. Of patients who survived, 58% were discharged to post-acute facilities. Patients who were not on APs on readmission were more likely to receive new APs (9/20; 45% versus 9/39; 23%) during their hospital stays but were less likely to be discharged on new APs than those still receiving the drugs at the time of readmission. [6/11; 55% versus 27/37 (2 patients expired); 73%].

CONCLUSION
Many elders discharged on APs were readmitted within a year. APs were started in the hospital due to lack of behavioral modification options, and patients were subsequently discharged on these medications with majority of them still receiving the same APs on subsequent admissions. Additional, those whom APs had been discontinued had them resumed during subsequent hospital stays.
LOW-INCOME PREGNANT WOMEN RANDOMIZED TO AN INTENSIVE PATIENT NAVIGATOR INTERVENTION TO OVERCOME BARRIERS TO USING PUBLICLY REPORTED PEDIATRIC QUALITY DATA CHOOSE PRACTICES WITH ONLY MODESTLY HIGHER QUALITY SCORES

Kathleen M. Mazor, EdD; Katharine O. White, MPH; Penny S. Pekow, Ph.D; Haley Guhn-Knight, BA; Lorna Murphy, BA; Yara Youssef, BA; Tara Lagu, MD, MPH; Aruna Priya, MA, MSc; Peter K. Lindenauer, MD

BACKGROUND
Research Objective: To determine whether an intensive intervention to overcome barriers to using publicly reported quality data (e.g., lack of awareness data exist, limited internet access, poor website usability) causes low-SES pregnant women to select higher quality pediatric practices for their newborns. Population Studied: English-speaking women between 20-34 weeks gestation attending an obstetric clinic that serves a low-income/minority population.

METHODS
Participants were enrolled in this randomized controlled trial between May, 2013 and August, 2014; women received either an information pamphlet (control) or two interactive sessions with a patient navigator and an information pamphlet (intervention). The navigator discussed quality measures and reviewed local pediatric practices' clinical quality (CQ) and patient experience (PE) scores (1-4 stars) reported on the Massachusetts Health Quality Partners website. If a practice had insufficient data, it had no score on the website. Randomization was stratified by parity and we assessed whether women had a preference for a particular practice at enrollment. The primary outcomes were mean summary CQ and PE scores of the pediatric practices selected.

RESULTS
Data were available for 742/746 (99.5%) of participants; no differences between groups were detected at baseline. CQ scores of pediatric practices chosen by the intervention group were modestly higher than controls (3.2 vs. 3.0; p=0.001). In sub-group analyses, women in the intervention group having their first child chose higher scoring practices (3.2 vs. 3.1; p=0.003) than controls. A similar pattern was observed among women who had no baseline preference for a practice (3.3 vs. 3.0; p<0.001). There were no differences between groups in PE scores (3.0 vs. 2.9; p=0.07), but women in the intervention group having their first child (3.0 vs. 2.9; p=0.04) and those with no baseline preference (3.0 vs. 2.8; p=0.006) chose slightly higher scoring practices. In a survey conducted at the time of delivery, women in the intervention group were more likely to report that CQ (54.5% vs.11.4%; p<0.001) and PE (37.4% vs. 7.7%; p<0.001) data were important when they ultimately chose a pediatric practice. There were no differences between intervention and control groups in the proportion of women selecting unscored practices (CQ: 9.6% vs. 8.7%; PE 58% vs. 64%).

CONCLUSION
Although substantially more women in the intervention group reported that online information about both clinical quality and patient experience were important when they chose a practice, the differences in the quality of the practices chosen was small for most comparisons. The website used did not have patient experience scores for more than half of the practices women chose, which may have impacted the findings for these measures. Competing priorities may also have played a role in women’s decision-making.

Implications for Policy or Practice: Increasing transparency about health care quality is intended to improve quality by influencing patient decision-making, but few patients use these data. This intervention eliminated many of the barriers believed to impede use of publicly reported quality data by low-income patients, yet we observed a limited effect on the quality of pediatric practices chosen. This raises questions as to whether publicly reported quality data can influence consumer decision-making for this population.

PUBLICATIONS
Goff et al. IDEAS for a healthy baby - reducing disparities in use of publicly reported quality data: study protocol for a randomized controlled trial. Trials 2013 14:244.
PROBLEM
Blood loss associated with lower-extremity joint replacement arthroplasty (TJR) often results in postoperative anemia and the need for hemotherapy (HT). We report a quality improvement initiative (QI) to enhance HT use in TJR patients.

INNOVATION
Baystate Medical Center (BMC) is a 650 bed hospital in western MA where one private practice orthopedic group performs all TJRs. In 1/2014 the orthopedic group and the hospital began participation in the CMMI Bundled Payment for Care Improvement program. A review of the present state of care of TJR patients was conducted by the surgeons, nursing leaders, blood bank, anesthesia, hospital medicine, Division of Healthcare Quality, and post-acute care givers and opportunities to improve and standardize HT were identified. All team-members reviewed the pertinent medical literature regarding best practices for HT in stable peri-operative patients. The physician lead visited other facilities to observe and assess their practices. Several strategies to reduce blood loss and the need for HT were implemented including: use of tranexaemic acid intravenous or intraarticular, implementation of enhanced operative technologies to seal off bleeding vessel, institution of more restrictive allogeneic RBCT protocols, discouragement of autologous pre-operative blood collection to mitigate peri-operative anemia. Unblinded physician-specific transfusion rates were reviewed by the group monthly.

RESULTS
Data were stratified into 3 periods: Pre-Intervention (01/01/2013 -09/30/2013); Implementation period (10/01/2013 -04/30/2014); Post-Intervention (05/01/2014 -10/31/2014). During the study period 2397 patients underwent surgery. Mean ages (~ 66 years) and gender were similar across the 3 periods. Compared with the pre-intervention period, the total number of RBC units transfused decreased from a total of 620 to 96 in the post-intervention period (~ 85% decrease). The number of patients receiving ≥1 RBCT decreased from 357 (37.2%) to 62 (9.2%). Mean LOS (days) and 30-day readmission rates (%) remained stable during the study periods (I= 3.51; II= 3.39; and III= 3.33) and (I= 3.64; II= 3.37; and III= 3.27) respectively. Depending upon the costing methodology used, annualized savings between time period I and III ranged from a low of $146,050 using acquisition cost (~$230/unit) to $393,000 when using activity based costing (~$1000/unit).

CONCLUSIONS: A multidisciplinary approach with proactive involvement of all the interested parties can be successful in reducing RBCT in TJR patients and may improve outcomes. Important strategies in this project included: a) implementation of best practices b) physician buy-in through group discussion, transparency, and financial gainsharing incentive c) need for institutional leadership support to facilitate operational changes d) periodic review of the data to maintain team engagement e) ensure that any proposed changes are not adversely affecting patient outcomes.

PRESENTATIONS
Perioperative Summit, February 2015 - Scotsdalle, AZ

AWARDS
Best poster award in the innovation category
PREOPERATIVE LEUKOPENIA IS NOT ASSOCIATED WITH POSTOPERATIVE OUTCOMES IN CANCER PATIENTS UNDERGOING ABDOMINAL SURGERY: A RETROSPECTIVE COHORT STUDY
Lindy L. Davis, MD; Mihaela S. Stefan, MD; Jane Garb, MS;
Richard B. Arenas, MD; Jay N. Kuhn, MD

BACKGROUND
The purpose of this study is to compare preoperative characteristics and operative outcomes in leukopenic cancer patients undergoing emergent or elective abdominal surgery with similar non-leukopenic patients and determine if preoperative leukopenia is associated with surgical morbidity and mortality.

METHODS
We included adult patients who received chemotherapy for malignancy within 30 days prior to surgery and underwent emergent or elective abdominal surgery between 2008-2011. Leukopenia was defined as preoperative WBC<4000/ml within 2 days prior to surgery. Primary outcomes included 30-day mortality and 30-day composite morbidity, which combined several major complications. The association of leukopenia and outcomes was examined using multiple logistic regression controlling for confounding factors identified on univariate analysis.

RESULTS
A total of 4,369 patients were included, and 20.2% had preoperative leukopenia. Mean age was 60.7 years, 48.6% had disseminated cancer, 18.5% received radiotherapy within prior 90 days, and 9.7% were pancytopenic. Emergency cases comprised 36.2%. Compared with non-leukopenic patients, those with leukopenia were more likely to undergo emergency procedures (43% vs 34%, p<0.001), to be in a higher ASA class (p<0.001), to have a higher operative wound classification (p<0.001) and were less likely to be functionally independent at baseline (p<0.001). Overall 30-day mortality was 12.2% and 30-day composite postoperative morbidity was 29.8%. Leukopenia was not significantly associated with either postoperative mortality (p=0.14) or morbidity (p=0.17) after adjusting for significant confounders including emergency status. Leukopenia was not significantly associated with surgical site infection or postoperative infection in the emergent or elective setting (p > 0.3).

CONCLUSION
In cancer patients undergoing chemotherapy treatment, leukopenia was not associated with morbidity and mortality after adjusting for other confounders, including emergent status, and should not be a major consideration in operative planning.

PRESENTATIONS
Society of Surgical Oncology – poster presentation
March 2015 - Houston, TX

Multivariable Logistic Regression on Mortality:

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<td>1.46</td>
<td>1.15 – 1.84</td>
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RESIDENT PHYSICIANS’ KNOWLEDGE AND BELIEFS ABOUT EMERGENCY CONTRACEPTION
Rakhsita Satyarthi DO, MPH; Katharine White, MD, MPH; Peter St. Marie, MA

BACKGROUND
Education around emergency contraception (EC) across medical specialties is inconsistent. We assessed the impact of an educational intervention on residents’ knowledge and attitudes about emergency contraception.

METHODS
We administered a 30 minute interactive educational intervention to resident physicians in internal medicine, emergency medicine, pediatrics, obstetrics and gynecology, and medicine-pediatrics at a single academic medical center. Participants completed questionnaires immediately before and after the intervention; items were scored from -3 to +3. Our primary outcome was improvement in resident knowledge and intent to prescribe EC.

RESULTS
Knowledge of the approved duration of use increased for both ulipristal (13% to 84% answering correctly) and levonorgestrel (52% to 81%) EC. Even after the intervention, most participants believed that EC’s primary mechanism of action was prevention of implantation (76% to 62%), not ovulation (10% to 17%). While 16 participants (21.9%) were unsure or thought EC caused abortion, no one believed this true post-intervention. Post-intervention, residents became surer that EC doesn’t discourage consistent contraceptive use (decrease in participants answering +2 or +3 from 10.9% to 1.5%), but some still agreed that increased EC access leads to frequent use (20.6% to 18%). After the intervention, low numbers of residents reported low confidence in their understanding of EC (1.5%) or that prescribing takes too much time (0%). Confidence increased in their ability to counsel patients on the use of EC (30.6% increase).

CONCLUSION
Some misperceptions about emergency contraception continue despite an educational intervention. Resident beliefs, time to prescribe, and ability to counsel do not appear to be obstacles to prescribing.
BACKGROUND
Recent studies have evaluated multiple once daily aminoglycoside dosing (ODAD) protocols for cystic fibrosis (CF) and non-CF pediatric patients based on identified dosing determinants, such as age and gender. We evaluated the incidence of therapeutic peak levels and associated patient characteristics among pediatric patients with and without CF using ODAD.

METHODS
A retrospective cohort study was conducted to evaluate the current ODAD protocol among patients aged 31 days to 22 years admitted from September 2011 to August 2014 at Baystate Children's Hospital. The empiric ODAD were 7 mg/kg/day and 10 mg/kg/day with target peak levels of 15-20 mg/L and 25-35 mg/L for non-CF and CF patients, respectively. Exclusion criteria were renal dysfunction, inappropriately drawn levels and non-protocol dosing. The primary objective was to identify the incidence of initial subtherapeutic, therapeutic and supratherapeutic peak levels for CF and non-CF groups as well as characteristics associated with therapeutic levels. Secondary endpoints included incidence of ever-therapeutic levels, associated characteristics, and mean therapeutic dose. We planned an exploratory, descriptive analysis.

RESULTS
A total of 52 subjects were eligible. Among the non-CF group (n=29; 56%), 4 patients achieved empiric therapeutic levels (14% [95% CI = 5-33%]) while 23 were subtherapeutic (79% [95% CI = 60-91%]) and 2 were supratherapeutic (7% [95% CI = 2-25%]). Subtherapeutic patients had a wider age range (0.2-19 years) and larger mean volume of distribution (Vd = 0.89 L/kg) compared to the combined therapeutic and supratherapeutic group (12-18 years and 0.32 L/kg). Among the CF group (n=23, 44%), 4 achieved empiric therapeutic levels (17% [95% CI = 6-40%]) and 19 were subtherapeutic (83% [95% CI = 60-94%]). Similar to the non-CF group, those who were subtherapeutic had a wider age range (4-22 years) and larger mean Vd (0.77 L/kg) compared to the therapeutic group (18-21 years and 0.33 L/kg). Only 28% (95% CI = 14-48%) of the non-CF cohort and 30% (95% CI = 14-53%) of the CF cohort ever achieved therapeutic levels. Among ever therapeutic patients, the median ages were higher in both non-CF (13 vs 8 years) and CF (20 vs 13 years) cohorts. The mean Vd of these ever-therapeutic patients (0.33 L/kg for non-CF and 0.37 L/kg for CF) was similar to their initially-therapeutic counterparts. The mean ODAD needed to reach therapeutic levels was 8 mg/kg/day for non-CF patients and 12 mg/kg/day for CF patients.

CONCLUSION
A majority of pediatric CF and non-CF patient levels are subtherapeutic with the current ODAD protocol. Due to the small sample, we are unable to clearly determine factors associated with therapeutic dosing. Future analysis is needed before protocol adjustment.

PRESENTATIONS
University Health System Consortium Pharmacy Council Meeting, December 2014 - Anaheim, CA
Eastern States Residency Conference, May 2015 - Hershey, PA
SAFETY AND EFFICACY OF CHEST PAIN CLINIC IN THE MANAGEMENT OF LOW RISK CHEST PAIN PATIENTS PRESENTING TO EMERGENCY ROOM
Mohammad Amin Kashef, MD; Amir Lotfi, MD; Jane Garb, MS; Aaron Kugelmass, MD

BACKGROUND
Chest pain is one of the most common causes of admission to the hospital. ACC/AHA guidelines suggest that patients with negative cardiac biomarkers and no ischemic EKG change can undergo further evaluation as an outpatient, in a timely fashion, i.e. within 72 hours. We aimed to retrospectively study the effect of a dedicated chest pain clinic (CPC) on the management and outcomes of low risk chest pain patients.

METHODS
All patients, 30 years and older, presenting to the emergency room (ER) with admitting diagnosis of chest pain between January 2009 and January 2012 were included. Patients with elevated cardiac enzymes or ischemic EKG change were excluded. A guideline document was created to assist providers in decision-making on early discharge of low risk patients. Outpatient follow up had to be within 72 hours of discharge and could be with CPC or with primary cardiologist/primary care provider (OP). CPC was started in Baystate Medical Center in January 2011. Clinical and non-clinical data were obtained from multiple sources including clinical chart review (paper charts, CIS, Power Insight), billing database (McKesson) and CPC dataset.

RESULTS
A total of 13035 patients were identified; mean age was 56.1 years, 46 % were male and 61.4% were white. 342 patients were referred to CPC. Patients managed as inpatient (IP, N=1596) were more likely to have cardiac risk factors than those managed under observation status (OB, N=5043), OP (N=6054) or CPC (P<0.0001). Stress testing was performed in 61.9% of OB, 26.3% of IP, 11.7% of CPC and 0.0% of OP patients. Cardiac catheterization was performed in 31.3% of IP, 2.1 % of OB, 0.3 % of CPC and 0.0% of OP patients (P<0.0001); rate of major adverse cardiac events (death, myocardial infarction and revascularization) at 30 days was 4%, 0.8%, 0.3% and 0.1%, respectively (P<0.001).

CONCLUSION
Outpatient management of low risk chest pain patients in a dedicated CPC can be safe and effective. Implantation of a guideline document to assist providers in identifying low risk patients suitable for early discharge can be associated with lower rates of stress test acquisition without a significant change in major adverse cardiac events.
BACKGROUND
Physician knowledge, attitudes, and values regarding emergency contraception (EC) correlate with willingness to prescribe it. We performed a prospective single arm cohort study to determine if an educational intervention would influence EC attitudes, intent to prescribe, and prescribing patterns among resident physicians.

METHODS
We administered a 30 minute interactive presentation based on the Theory of Planned Behavior to resident physicians in medicine, medicine-pediatrics, pediatrics, emergency medicine, and obstetrics-gynecology at a single academic medical center. Participants completed questionnaires immediately before and after the intervention; items were scored from -3 to +3. From the electronic medical record we obtained the number of EC prescriptions written by participants for the six months surrounding the intervention.

RESULTS
Most residents (n=79) had positive attitudes regarding EC (baseline median score +3) and reported high intention to prescribe EC in multiple clinical scenarios (median score +3 both pre- and post-intervention). Only 13% of residents reported prescribing EC in the 3 months prior to the intervention, though 21% had actually prescribed it. The number of residents who prescribed EC increased by 28% during the follow-up period, from 14 to 18. The total number of EC prescriptions increased by 94%, from 18 in the three months pre-intervention to 35 in the three months post-intervention.

CONCLUSION
Despite positive attitudes and intent to prescribe EC, few residents had prescribed EC during the study period. A behavioral theory-based intervention can result in an increase in EC prescriptions provided for patients. Future efforts should focus on helping residents identify patients who would benefit from EC prescriptions.
VALUE OF LIVER FUNCTION TESTS (LFT) FOR STAGING IN ASYMPTOMATIC EARLY STAGE (STAGE I AND II) BREAST CANCER PATIENTS: THE BAYSTATE REGIONAL CANCER PROGRAM EXPERIENCE.

Naushaen Ahmed, MD; Jane Garb, MS; Wilson Mertens, MD; Sophia Zagarins, PhD; Grace Makari Judson, MD

BACKGROUND
Patients with Stage I and II breast cancer have had extensive staging workup in the past which has fallen out of fashion over the last several years based on lack of evidence to support the value of additional tests. Staging blood tests like Liver Function Tests (LFTs) are still done to look for a suggestion of liver or bone metastasis. The rate of detection of liver and bone metastasis in asymptomatic patients with Stage I and II breast cancer is low. Literature suggests that the rate of distant metastasis is 4.6%, and generally seen in patients with Stage III disease. Bone is the most common location for distant metastases (between 1.4 and 6.8%) followed by liver (0.6 and 2.6%), and lung (0.4 and 3.7%). Despite the low rates in Stage I and II disease, LFT testing to look for metastatic disease to bone and liver in this population are recommended in guidelines by the National Comprehensive Cancer Network (NCCN) without much evidence to back the recommendation. Abnormal LFT in any combination may indicate liver metastasis and obligate workup to look for liver metastasis. Abnormal Alk Phos alone would obligate further investigation for bone metastasis. Abnormal tests thus usually leads to further investigation with imaging studies and biopsies, adds to the cost of the diagnosis and may have low yield in detecting positive findings, so may be of low value. The aim of this study is to determine the value of staging lab tests- Liver Function Tests (LFTs), including aspartate aminotransferase (AST), total bilirubin (T. Bil) and alkaline phosphatase (Alk Phos) in early stage breast cancer (Stage I and II) in the population treated by Baystate Regional Cancer Program. For the purpose of this study, two population groups were studied. Group A was the population of all patients with Stage I and II breast cancer and Group B was the population with Stage IV breast cancer. Primary Aim: GROUP A: POPULATION OF STAGE I AND II BREAST CANCER

I- FOR LIVER METASTASIS: In patients with any abnormal LFT, without abdominal symptoms, determine: a. Number of cases where further imaging studies were performed with no upstaging of the cancer diagnosis b. Number of cases with upstaging of the cancer diagnosis c. Number of cases where no further action was taken with the abnormal results II- FOR BONE METASTASIS: In the subgroup of patients with Abnormal Alk Phos and no bone symptoms, determine: a. Number of cases where further imaging studies were performed with no upstaging of the cancer diagnosis (i.e. false positives; bone metastases were not confirmed) b. Number of cases with upstaging of the cancer diagnosis (i.e. true positives; bone metastases were confirmed) c. Number of cases where no further action was taken with the abnormal results Secondary Aim: GROUP B: PATIENTS WITH STAGE IV DISEASE Identify patients with Stage IV breast cancer who were upstaged from Stage I or Stage II and determine if use of LFTs in asymptomatic patients helped to detect bone or liver metastasis.

METHODS
This is a retrospective study reviewing data from patients diagnosed from January 2009 to December 2013 - Exclusion criteria: If medical records were not available on CIS computer systems or if not treated by Baystate Regional Cancer Program - Tumor reg

continued on next page
RESULTS
• Total 804 patients were identified as having Stage I and Stage II breast cancer (Group A) • Of them, 388 (48%) had LFTs done within 6 months of diagnosis. • 297 of these 388 (76% of all pts who had labs) had all normal labs closest to first encounter with medical oncology. • 91 pts had any abnormality in any combination detected for AST, T Bil or Alk Phos (closest to medical oncology visit). • Of them, 90 had no abdominal symptoms. 17 of these patients with no symptoms had further imaging looking for liver metastasis, and none were found to have liver metastasis. • The subset with abnormal Alk Phos was 45 patients and 41 of them had no reported bone symptoms. 12 of these had bone imaging done and only 1 asymptomatic patient with abnormal Alk Phos was found to have disease spread to bones • 416 patients (49%) from Group A had no LFT done within 6 months of diagnosis. • 73 patients (81% of asymptomatic patients with abnormal LFTs) underwent no additional testing to look for liver metastasis. • In the subset of 45 patients with abnormal Alk Phos, 29 of the 41 patients with no bone symptoms (70%) had no further workup. • All patients with abnormal labs and abdominal symptoms had further workup and all patients with bone symptoms had further workup to look for bone pain. None of them were found to have liver or bone metastasis • 29 patients were identified as having Stage IV disease (Group B). On reviewing the charts, only 1 patient was determined to have presented as early stage disease and was upgraded based on abnormal LFTs in the absence of symptoms.

CONCLUSION
Based on the results, of the 388 patients with early stage breast cancer who had LFT done, only 1 asymptomatic patient with abnormal LFT was found to have bone metastasis and none were found to have liver metastasis. We incorporated all Stage IV patients as well to see if anyone was captured as Stage IV but actually presented with early stage breast cancer and upstaged due to abnormal LFT alone in the absence of symptoms. This group (Group B) also had only 1 patient who was asymptomatic and upstaged based on abnormal LFT alone. Hence, in a 5 year period, only a total 2 out of 417 (0.47%) patients who had LFTs were upstaged based on LFT alone in the absence of symptoms. Most physicians tend to take action on symptoms rather than the blood test alone as evidenced by the fact that over 70% of patients with abnormal LFTs had no additional testing if they were asymptomatic. It is interesting to note the low rate of getting additional investigations on patients with abnormal blood tests. This suggests that the physicians of this single institution are more likely to investigate based on symptoms rather than on abnormal LFTs alone. This practice reflects the reflects the vision of American Society of Oncology (ASCO) drive towards value based care rather than keeping with current NCCN guidelines which has not much evidence to support the recommended use of staging LFTs for all early stage patients. We conclude that this population study which captures all patients with early stage breast cancer getting medical oncology care through the Baystate Regional Cancer Program providers does not show much value for use of LFT at diagnosis for purpose of staging. Given the findings of this study in this particular population being cared for by our institution, the purpose of staging LFT is debatable in the asymptomatic patient with early stage breast cancer. Similar studies are needed in different populations and may lead to change in practice.