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SGIM 38th Annual Meeting

April 22 - 26, 2015

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Wednesday, April 22, 2015

Time	Session or Event Info
5:30 PM-6:30 PM, Sheraton Hall, Lower Concourse, **PSA1. Scientific Abstract Poster Session 1**, Poster Session, **All Tracks**	
5:30 PM-6:30 PM	**Predicting Low Testosterone in the Aging Male: A Systematic Review** A.C. Millar; A. Lau; G.A. Tomlinson; A.P. Kraguljac; D. Simel; A.S. Detsky; L. Lipscombe

Thursday, April 23, 2015

Time	Session or Event Info
11:30 AM-12:30 PM, Sheraton Hall, Lower Concourse, **PSA2. Scientific Abstract Poster Session 2**, Poster Session	
11:30 AM-12:30 PM	**How Nurse Care Managers Work with Chronic Pain Patients on Chronic Opioid Therapy to Facilitate Adherence to Clinical Guidelines by the Primary Care Team** A. Lange; O. Heymann; J.M. Liebschutz; K.E. Lasser; C.W. Shanahan; H.S. Kopinski; J.M. Husain; P.A. Cushman; V.A. Parker
11:30 AM-12:30 PM	**Declining Pass Rates of the American Board of Internal Medicine Certification Examination: Program Directors' Perspectives** L.L. Willett; A.J. Halvorsen; M. Adams; V.M. Arora; K. Chacko; F.S. McDonald; A. Oxentenko; S.L. Swenson; A.K. Zaas; S. Chaudhry
1:30 PM-3:00 PM, Lobby Concourse Level, **WD04. Improving Communication of Evidence-Based, High-Value Care**, Workshop, **Track 05: Healthcare Delivery and Redesign**, Coordinator: Heather Sateia, hsateia1@jhmi.edu, Johns Hopkins University	
1:30 PM-3:00 PM	**Conflicting or Complementary Priorities? Balancing evidence-based medicine, high-value care, and patient-centered communication in the clinical encounter** H. Sateia; D.J. Elliott; D.A. Zipkin; M.E. Bowen; B. Smith; R. Beyth
3:15 PM-4:45 PM, Civic Ballroom North, 2nd Floor, **ABE1. Abstract Session E1: Hamolsky Finalists**, Oral Abstract Session, Session Moderator: Eugene Rich, erich@mathematica-mpr.com, Mathematica Policy Research; Session Moderator: William Tierney, wtierney@iupui.edu, Regenstrief Institute, Inc.	
3:15 PM-4:45 PM	**Incorporation of Guideline Data into Ordering Systems Reduces Transthoracic Echocardiography Order Frequency** J.C. Boggan; R.D. Schulteis; M. Donahue; D.L. Simel

3:15 PM-4:45 PM, Kenora Room, 2nd Floor, **VAE1. Integrating Mental Health into Patient-Centered Medical Homes (PCMH): Recommendations from a VA expert panel**, VA Session, Coordinator: Evelyn Chang, evelyn.chang@va.gov, VA- Greater Los Angeles	
3:15 PM-4:45 PM	**Integrating Mental Health into Patient-Centered Medical Homes: Recommendations From a VA Expert Panel** E.T. Chang; P. Mehta; E.P. Post; L.V. Rubenstein; J.W. Williams
3:15 PM-4:45 PM, Chestnut East Room, Mezzanine, **WE02. Evidence-Based Practice Guidelines and Shared Decision Making**, Workshop, **Track 02: Clinical Practice**, Coordinator: Zackary Berger, zberger1@Jhmi.edu, Johns Hopkins School of Medicine	
3:15 PM-4:45 PM	**Evidence-Based Practice Guidelines and Shared Decision Making: Conflicting or Complementary Strategies for "Doing the Right Thing" in Health Care?** Z. Berger; K. Fairfield; J.S. Yeh; L.H. Simmons; D.A. Zipkin; M.J. Barry; D. deBronkart
5:00 PM-6:00 PM, Sheraton Hall, Lower Concourse, **PSI1. Innovations Poster Session**, Poster Session, **All Tracks**	
5:00 PM-6:00 PM	**A Blast from the Past: Resident and Faculty Attitudes with Re-institution of 24+4-Hour Call at One Medical Center** J.C. Boggan; V.A. Patel; A.K. Zaas
5:00 PM-6:00 PM	**A safe and effective discharge curriculum implemented in eleven Internal Medicine programs of the Educational Research Outcomes Collaborative** L.B. Meade; K.A. Heist; R. Jones; C. O'Malley; K. Yamazaki; A.K. Zaas

Friday, April 24, 2015

Time	Session or Event Info
10:00 AM-11:30 AM, Chestnut East Room, Mezzanine, **WG03. Clinical Suspicion and Diagnostic Testing**, Workshop, **Track 02: Clinical Practice**, Coordinator: Michael Bowen, michael.bowen@utsouthwestern.edu, UT Southwestern Medical Center	
10:00 AM-11:30 AM	**Trust Your Instincts: The Role of Clinical Suspicion in Diagnostic Testing** M.E. Bowen; D.A. Zipkin; B. Smith; J.S. Yeh; R.R. Correa; D.J. Elliott
12:00 PM-1:00 PM, Sheraton Hall, Lower Concourse, **PSA3. Scientific Abstract Poster Session 3**, Poster Session	
12:00 PM-1:00 PM	**Treatment Patterns for Older Veterans with Localized Prostate Cancer** R. Hoffman; Y. Shi; S. Freedland; N.L. Keating; L. Walter
12:00 PM-1:00 PM	**Should Primary Care Physicians Remain More Involved in the Care of Patients with Advanced Chronic Kidney Disease?** R. Greer; P. Ephraim; N.R. Powe; B.G. Jaar; M.J. Choi; F. Hill-Briggs; E. Kraus; C. Cook; L. Lewis-Boyer; L. Gimenez; J.K. Melancon; L. Boulware

12:00 PM-1:00 PM	**"We Follow-Up": Improving follow-up, communication and documentation of outpatient test results by Duke residents** A.C. Swaminathan; J.C. Boggan; S. Thomas; J. Bae
12:00 PM-1:00 PM	**Effect of family history and genetic risk counselling for Type 2 Diabetes on perceptions of risk and control: Secondary analysis of a randomized controlled trial** R.R. Wu; T. Himmel; R.A. Myers; E. Hauser; A. Vorderstrasse; G. Ginsburg; L.A. Orlando
12:00 PM-1:00 PM	**Patient-Reported Medication Adherence Barriers among Veterans Affairs Patients with Cardiovascular Risk Factors** L.L. Zullig; K. Stechuchak; K.M. Goldstein; M. Olsen; F.A. McCant; S.M. Danus; M. Crowley; E. Oddone; H. bOSWORTH
12:00 PM-1:00 PM	**Evidence-Based Quality Improvement in a VA Women's Health Practice Based Research Network** K.M. Goldstein; S.M. Frayne; J. Gierisch; J. Blakeney; E.M. Yano; A. Sadler; B. Bean-Mayberry; D. Carney; B. DiLeone; A. Fox; R. Klap; A. Hamilton; E. Yee; D. Vogt
4:15 PM-5:45 PM, Wentworth Room, 2nd Floor, **ABK5. Abstract Session K5: VA-Related Research**, Oral Abstract Session, **All Tracks**, Session Moderator: Allen Gifford, agifford@bu.edu, Boston University; Session Moderator: Jeff Kullgren, jkullgre@med.umich.edu, Ann Arbor VA Healthcare System and University of Michigan	
4:15-4:30 PM	**After Hospitalization, Follow-up with Your (And Only Your) Primary Care Physician is Associated With Reduced Readmissions** R.D. Schulteis; D. Simel
4:15 PM-5:45 PM, Chestnut West Room, Mezzanine, **WK03. Joining Forces – General Medicine and Psychiatry**, Workshop, **Track 05: Healthcare Delivery and Redesign**, Coordinator: Heather Huang, heather.huang@uwmf.wisc.edu, University of WI	
4:15 PM-5:45 PM	**Joining Forces – General Medicine and Psychiatry** H. Huang; C. Hebert; N.T. Cunningham

Saturday, April 25, 2015

Time	Session or Event Info
11:30 AM-1:00 PM, Willow Centre Room, Mezzanine, **WM10. Getting Promoted as an Educator**, Workshop, Coordinator: Daniella Zipkin, danizipkin@mac.com, Duke University	
11:30 AM-1:00 PM	**Getting Promoted as an Educator** D.A. Zipkin; R. Levine; S. Wright; A. Spencer; L. Boulware
11:30 AM-1:00 PM, Yorkville West Room, 4th Floor, **WM14. Creating and Sustaining Longitudinal Integrated Clerkships**, Workshop, **Track 08: Medical Education Scholarship**, Coordinator: Jennifer Adams, jennifer.adams@dhha.org, Denver Health	
11:30 AM-1:00 PM	**Creating and Sustaining Longitudinal Integrated Clerkships (LICs)** J. Adams; D. Hirsh; B. Peyser; D.D. Pong

Sunday, April 26, 2015

You have nothing scheduled for this day

Predicting Low Testosterone in the Aging Male: A Systematic Review

A. C. Millar; [1]; *A. Lau;* [2]; *G. A. Tomlinson;* [2]; *A. P. Kraguljac;* [3]; *D. Simel;* [4]; *A. S. Detsky;* [1]; *L. Lipscombe;* [5];

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5. Medicine, University of Toronto, Women's College Hospital, Toronto, ON, Canada.

Background: Physicians diagnose and treat suspected hypogonadism in aging men based on low testosterone levels and/or symptoms, extrapolating from the defined clinical entity of hypogonadism found in younger men.
The objective of this study is to systematically review the literature to estimate the accuracy of clinical symptoms and signs for predicting low testosterone among men over the age of 40 years.

Methods: The MEDLINE and EMBASE databases (January 1966 to July 2014) were searched for English-language articles on patient history or physical examination characteristics for identifying low testosterone in males over the age of 40. Original studies on the association between signs or symptoms and low testosterone in men over the age of 40 years were included. Three authors independently reviewed 6053 articles for inclusion and quality review, as well as extracted data from each of the selected 37 papers. The definition of the reference standard (both the method of measuring testosterone and lower limit of normal) varied considerably across studies.

Results: In high quality studies, prevalence rates of low testosterone varied between 14% and 67%, with a median of 33%. Threshold testosterone levels used for reference standards also varied substantially. The individual symptoms most commonly evaluated were decreased libido and erectile dysfunction. The summary likelihood ratio (LR) for low testosterone associated with decreased libido was 1.6 (95% CI: 1.3-1.9), and the LR for absence of this finding was 0.72 (95% CI: 0.58-0.85). Similarly, the LR associated with the presence of erectile dysfunction was 1.7 (95% CI: 1.3-2.1) and LR in the absence of erectile dysfunction was 0.76 (95% CI: 0.61-0.89). In terms of multiple item instruments, the Androtest appears to have both the most favorable LR+ (range 1.9 – 2.2) and LR- (range 0.37 – 0.49), but head-to-head comparisons between instruments have not been done.

Conclusions: Few of the individual signs or symptoms used to identify or exclude low testosterone in men over the age of 40 years had a LR+ ≥2.0, while only one symptom (normal vigor) had a LR- ≤0.5. This poor overall correlation between signs, symptoms and testosterone levels coupled with uncertainty about what threshold testosterone levels should be considered low for older men and the wide variation in estimated prevalence of the condition, makes it difficult to extrapolate the method of diagnosing hypogonadism in younger men to clinical decisions for aging males.

How Nurse Care Managers Work with Chronic Pain Patients on Chronic Opioid Therapy to Facilitate Adherence to Clinical Guidelines by the Primary Care Team

P. A. Cushman; [1]; *A. Lange;* [1, 3]; *O. Heymann;* [1]; *J. M. Liebschutz;* [1]; *K. E. Lasser;* [1, 4]; *C. W. Shanahan;* [2, 5]; *H. S. Kopinski;* [1]; *J. M. Husain;* [1]; *V. A. Parker;* [6];

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Background: Caring for patients with chronic non-cancer pain who are chronic users of prescription opioids is challenging for healthcare teams due to provider time constraints, lack of consensus about optimal treatment, high risk of misuse and diversion of prescription opioids, and frequent co-occurring illicit drug use. Previous qualitative studies suggest improvement in patient understanding and self-treatment of chronic non-cancer pain after working with a Nurse Care Manager (NCM), but little is known about how NCMs accomplish these outcomes. No study to date has examined whether NCM-patient interactions help increase PCP adherence to chronic opioid therapy guidelines. Our objective is to describe the strategies an NCM uses for effectively interacting with patients on chronic opioid therapy in the context of a multi-component intervention, the Transforming Opioid Prescribing in Primary Care (TOPCARE) cluster randomized controlled trial. TOPCARE's overall goal is to improve opioid prescribing for chronic pain in primary care.

Methods: We studied patients under the care of PCPs who had been randomized to the intervention arm of the TOPCARE study. We observed interactions that took place between two NCMs and these patients. A convenience sample of 29 observations was utilized based on the availability of an observer at the time of appointments. Observers took notes using structured observation guides developed after two pilot observations. The structured guide included prompts to note NCM behaviors, patient behaviors, NCM expressed perceptions of risk, NCM feedback to the patient, and NCM goals (established in pre- or post-observation debrief). Whenever possible, observers captured verbatim quotes in the observation notes. Later the same day, the observer added content and context to the notes that had been observed but not recorded. We coded the observations using conventional content analysis and developed codes that best described the interactions. Subsequently, the team refined each code, and then sorted the codes into over-arching themes that described different aspects of the NCM's actions. We used Nvivo v. 10 (QSR International, Cambridge, MA) to organize and analyze the data.

Results: Five major strategies emerged from the data analysis. 1) The NCM put the rationale for intensive opioid management into context for the patient. The NCM framed his/her role on the patient's healthcare team, often by offering support for the patient. S/he also explained the reason for increased monitoring of the patient's opioid use. 2) The NCM collected information about the patient's life circumstances to determine their risk for opioid misuse. The NCM used several strategies for collecting information, including asking routine questions about substance use, psychiatric history, and current use patterns of the patient's pain medication to assess risk for opioid misuse. Additionally, the NCM asked open-ended questions and clarified the patient's behavior with probing questions. 3) The NCM coached patients to help them navigate their illness, medication use, and the healthcare system by offering clinical recommendations and giving information about how opioid medications work. 4) The NCM and the patient discussed discrepancies and changes to the patient's opioid prescriptions and chronic pain management plan. The NCM made observations about inconsistencies in the patient's story, and the patient explained the discrepancy either

with a reason that did not violate the opioid treatment agreement or with admission to behavior violating the treatment agreement. The patient and NCM sometimes disagreed about the NCM's assessment and the patient and NCM arrived at different conclusions. 5) The NCM initiated a therapeutic relationship with patients by attempting to connect with them, make them feel comfortable, and by providing empathetic responses. All themes were observed across multiple NCM-patient interactions.

Conclusions: As a vital component of the healthcare team, NCMs collected information and used coaching strategies to encourage chronic non-cancer pain patients on chronic opioid therapy to participate in guideline-adherent practices with their primary care provider. To our knowledge, no other study has described how the NCM's activities with patients contribute to improved PCP provision of guideline adherent care. These findings will contribute to the successful replication of NCM intensive management strategies in other primary care settings.

Declining Pass Rates of the American Board of Internal Medicine Certification Examination: Program Directors' Perspectives

L. L. Willett; [7]; *A. J. Halvorsen;* [4]; *M. Adams;* [3]; *V. M. Arora;* [8]; *K. Chacko;* [6]; *F. S. McDonald;* [5]; *A. Oxentenko;* [4]; *S. L. Swenson;* [1]; *A. K. Zaas;* [2]; *S. Chaudhry;* [9];

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Background: The American Board of Internal Medicine (ABIM) is a high stakes exam. Since 2007, the percentage of first time test takers who passed the ABIM has fallen. To understand reasons for the decline, we administered a national survey to Internal Medicine (IM) PDs to determine their views on why the pass rates have fallen.

Methods: The Association of Program Directors in Internal Medicine (APDIM) Survey Committee develops yearly questionnaires to address current issues facing IM residency programs. With the 2013 Web-based electronic survey, we assess PD perspective of the ABIM declining pass rates. We assessed differences in pass rates by program demographics (program description, region, size, PD tenure), and resident demographics (percentage of US medical graduates, women, and underrepresented minorities [URM]). We assessed PD agreement with: reasons for ABIM pass rate decline; why residents did not pass; methods to prepare residents; and use of InTraining Examination (ITE). We asked PDs to free text reasons why the pass rate declined, if given statements did not capture their thoughts. These responses were coded for qualitative data.

Results: Our response rate was 67.8% (265/391). We found no difference in ABIM pass rate by program type (79.5% average pass rate). There were differences by region, program size, and PD tenure. Regionally, the pass rate was 71.8% for Continental US and Unincorporated Territories (p=0.001); when only Continental US was included, regional differences were no longer significant (p=0.27). Smaller size residency programs had lower pass rates: <40 residents 82.5%, 40-73 residents 85.3%, >73 residents 86.8% pass rate (p=0.004). PDs with shorter tenure had lower pass rates: tenure <2 years 83.2%; 2-7 years 84.2%;>7 years 87.4% (p=0.003). Of resident demographics (% of US medical graduates [USMG], women, and URM), the only differences were found in programs with lower percentage of USMGs. Pass rates for programs with <12% USMGs were 85.3%, and >80% USMGs 88.6% (p<0.001).

Reasons for pass rate decline: Most PDs feel pass rate decline is most attributable to residents spending less time independently reading (73% agree/strongly disagree) and reflecting about their patients (67% agree/strongly agree). Fifty-one PDs used the free text box, citing 42 additional reasons, of which the most common were: less qualified trainees taking the ABIM, societal factors/generational differences in learning and studying, and logistics of the clinical environment.

Reasons specific residents did not pass the exam: PDs communicated with all (18%) or some (49%) of the residents who failed the exam. Top reasons why residents felt they failed were: resident was “poor standardized test taker” (67.9%), didn’t study enough (65.4%), and had competing personal responsibilities (pregnancy, children)(48.4%). The top three reasons PD s felt the resident(s) did not pass were low performance on the ITE each post graduate year (PGY)-3, 72.5%; PGY2 68.7%; PGY1 55.5%.

Methods to prepare residents for ABIM exam : The majority of programs provide a board review program

(86%), for a mean of 57.9 hours/year, including: Medical Knowledge Self-Assessment Program (MKSAP) (96.2%), MKSAP incorporated into other regular teaching sessions (62.9%), and independent designated lectures (58.1%). These sessions target PGY-3s (98.1%), PGY2s (69.0%) and PGY1s (42.4%). Programs provide funding for MKSAP (61.1%), for independent study materials (49.8%) and commercial board review course registration (26%).
Use of In Training Examination (ITE): Programs administer the ITE to all PGY levels (PGY2 93.6%, PGY3 91.7%, and PGY1 86.4%). Ninety-one percent of PDs use a threshold score on the ITE to identify a resident at risk for failing the ABIM; 77% have not changed the threshold in the past 3 years. The majority of PDs use the national percentile rank (86%) to identify an at-risk resident, versus total percent of questions correct (14%). The mean percentile rank score used by PDs is 32.6. Most (69.8%) use the same threshold score regardless of PGY.
Program response to ABIM failures: Seventy percent of PDs have made changes to their board preparation methods because of ABIM failures. Those who have made changes are more likely to have lower pass rates (83.7% pass rate) compared to PDs that have not made changes (92.7% pass rate) ($p<0.0001$). Sixty-seven percent of PDs give stronger consideration to US Medical Licensing Examination scores for ranking medical students than in years' past.

Conclusions: The ABIM is important for our profession, and the declining pass rates warrant study. We identified characteristics of programs with lower pass rates and IM PD perspectives on reasons for the decline. The level of detail we discovered will inform the IM community of key areas for further study to help our trainees succeed in certification.

Conflicting or Complementary Priorities? Balancing evidence-based medicine, high-value care, and patient-centered communication in the clinical encounter

H. Sateia; [1]; *D. J. Elliott;* [3]; *D. A. Zipkin;* [4]; *M. E. Bowen;* [2]; *B. Smith;* [5]; *R. Beyth;* [6];
1. Dept of Medicine, Johns Hopkins University, Lutherville, MD, United States.
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6. Medicine, Univ. of Florida & Malcom Randall VAMC, Gainesville, FL, United States.

Online Title of Submission (maximum 60 characters): Improving communication of evidence-based, high-value care

Short Session Summary (maximum of 500 characters): This workshop will define EBM, HVC, and patient-centered communication and will identify the overlap in these fields. We will introduce resources that will allow team members to efficiently practice HVC and EBM. We will then demonstrate how patient-centered communication can be used to incorporate patient values into the evidence-based, high-value clinical encounter. Participants will be equipped with practical tips and tools to advocate for these practices across multiple disciplines.

Meeting Theme: How does this session fit with the meeting theme? (limit:250 characters, including spaces): This workshop will address the challenges all generalist team members face when trying to provide high-value, evidence-based care while upholding the principles of patient-centered communication.

Session summary (limit: 3,000 characters, including spaces): High-value care (HVC) is defined as care that maximizes value by weighing clinical benefit against potential harms – both physical and financial. The IOM conservatively estimates that nearly $300 billion per year is spent on unnecessary, and therefore low-value, healthcare expenditures. In light of this, the IOM, ACP, and hospitals large and small are making HVC a priority. Many view HVC as one facet of our existing practice of evidence-based medicine (EBM), defined as the process of combining best evidence with clinical expertise all within the context of each individual patient's values.

Satisfying all of the principles of HVC and EBM, while also responding to an individual patient's stated priorities, requires a concerted effort by all members of the clinical care team. A key component to the success of such efforts is the ability to engage the patient using patient-centered communication. In today's busy clinics and inpatient units, juggling these priorities seems herculean task. This challenge is further underscored by data suggesting that it would take an estimated 22 hours per day to cover all preventive health measures for a standard patient panel (Yarnall KSH, Østbye T, Krause KM, Pollak KI, Gradison M, Michener JL. Family physicians as team leaders: "time" to share the care. Prev Chronic Dis 2009;6(2)).

In this workshop we will define HVC, EBM, and patient-centered communication, and identify the substantial overlap between them. We will do this by challenging participants to work in small groups to define how a patient case would be approached using only one of the three principles (HVC, EBM, or patient-centered communication). We will then have each small group discuss the encounter they envisioned which will allow us all to identify the similarities and differences in the approaches. Using this information, we will then provide and practice techniques to efficiently employ HVC, EBM, and patient-centered communication in the clinical encounter. The techniques will include accessing high-yield resources that will assist in EBM and HVC-based decision-making and using evidence-based strategies to effectively translate these concepts to patients with patient centered-communication.

Incorporation of Guideline Data into Ordering Systems Reduces Transthoracic Echocardiography Order Frequency

J. C. Boggan; [1, 2]; *R. D. Schulteis;* [1, 2]; *M. Donahue;* [3]; *D. L. Simel;* [4, 2];

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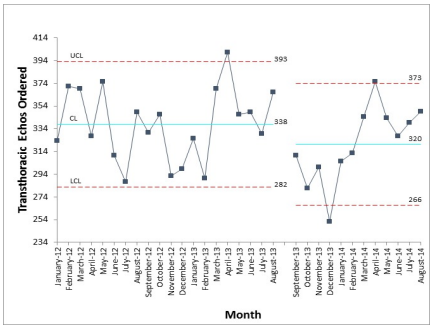
2. General Internal Medicine, Duke University Health System, Durham, NC, United States.
3. Cardiology, Durham Veterans Affairs Medical Center, Durham, NC, United States.
4. Medicine, Durham Veterans Affairs Medical Center, Durham, NC, United States.

Background: Guidance for appropriate utilization of transthoracic echocardiograms (TTEs) is available from several sources. At Durham Veterans Affairs Medical Center, approximately 50% of ordered TTEs are ordered for the indications of dyspnea, edema, and/or valvular disease. We hypothesized that increasing the information available for these indications at the point of order would lead to a reduction in TTEs ordered.

Methods: We incorporated data from the 2011 Appropriate Use Criteria for Echocardiography, the 2010 National Institute for Clinical Excellence Guideline on Chronic Heart Failure, and the American College of Cardiology Choosing Wisely® list on TTE use for dyspnea, edema, and valvular disease into our electronic ordering system as a quality improvement intervention beginning in September 2013. The primary outcome was the number of TTE orders per month from both the inpatient and outpatient settings modeled using Poisson regression. Secondary outcomes included rates of outpatient TTE ordering per 100 visits and frequency of brain natriuretic peptide (BNP) level ordering in the 30 days prior to TTE ordering. Outcomes were measured for 20 months before and 12 months after the intervention. Ordering rates for TTEs and BNP tests were obtained using the electronic health record.

Results: The number of TTEs ordered across the medical center decreased significantly by 5.3% after the intervention (338 +/- 32 TTEs/month prior vs. 320 +/- 33 afterward, $p < 0.01$). Rates of TTE ordering in the outpatient setting also decreased significantly post-intervention (2.28 per 100 primary care or cardiology visits prior vs. 1.99 afterward, $p<0.01$). Over the same period, outpatient primary care and cardiology clinic visits at DVAMC increased by 10.7% from fiscal year 2012 to fiscal year 2014. Thus, in fiscal year 2014, the reduced rate means that > 300 TTEs were avoided. The intervention significantly interacted with the time from the intervention ($p<0.01$ for both TTE orders and outpatient TTE orders/visit), as the effect of the intervention partially waned over time. BNP measurement prior to ordering TTEs increased modestly after the intervention (21.8% prior to intervention vs. 26.1% after, $p < 0.01$). This was true for TTEs ordered from both the inpatient and outpatient settings (36.5% prior vs. 42.2% after in the inpatient setting, $p=0.01$; 10.8% prior vs. 14.5% after in the outpatient setting, $p < 0.01$).

Conclusions: Incorporation of evidence-based guideline information into ordering prompts for TTEs throughout a VA hospital and its associated clinics led to improved adherence to guidelines with reduced ordering frequency and a significant increase in the frequency of TTEs linked to a prior BNP test. As the immediate effect of the intervention decayed with time, long-term educational strategies may be necessary to optimize utilization of TTEs.



UCL = Upper Control Limit, equal to + 3 standard deviations from the mean

CL = Center Line, or mean

LCL = Lower Control Limit, equal to – 3 standard deviations from the mean

*Fiscal Year 2012 corresponds to October 2011 through September 2012, Fiscal Year 2013 corresponds to October 2012 through September 2013, and Fiscal Year 2014 corresponds to October 2013 through September 2014. The separating space in the graph indicates the time of the intervention.

Integrating Mental Health into Patient-Centered Medical Homes: Recommendations From a VA Expert Panel

E. T. Chang; [5]; *P. Mehta;* [4]; *E. P. Post;* [3]; *L. V. Rubenstein;* [2]; *J. W. Williams;* [1];

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3. VA Ann Arbor Healthcare System and University of Michigan, Ann Arbor, MI, United States.
4. Medicine, VA Great Lakes Health Care system, Weschester, IL, United States.
5. General Internal Medicine, VA- Greater Los Angeles, Los Angeles, CA, United States.

Online Title of Submission (limit: 35 characters, including spaces): Integrating Mental Health into Primary Care

Meeting Theme: How does this session fit with the meeting theme? (limit:250 characters, including spaces): During this session, we will discuss how to manage and coordinate care for a patient's mental health issues through an interdisciplinary team.

Session summary (limit: 3,000 characters, including spaces): Because mental health and substance use problems are among the most common conditions seen in primary care settings and frequently occur with other medical problems, primary care providers are often in the best position to identify, diagnose, and treat them. Patient-centered medical homes (PCMH) provide an opportunity to integrate mental health into an enhanced primary care model; accomplishing this, however, will require identifying key principles from prior research while adapting them to the needs, resources, and organization of PCMH. The national implementation of PCMH in VA through the Patient Aligned Care Teams (PACT) model provides an opportunity to plan and test primary care-mental health integration in a system that is currently facing these challenges. In August 2012, the VA Primary Care Office charged an interdisciplinary group of VA nationwide subject matter experts to identify primary care-mental health integration goals and objectives given the reorganization of VA primary care into PACT and to make recommendations for integrating mental health into medical homes.

Short Session Summary (limit:750 characters, including spaces): Patient-centered medical homes (PCMH) provide an opportunity to integrate mental health into an enhanced primary care model. Accomplishing this, however, will require identifying key principles from prior research while adapting them to the needs, resources, and organization of PCMH. Given the reorganization of VA primary care into PCMH, the VA Primary Care Office charged an interdisciplinary group of VA nationwide subject matter experts to make recommendations for integrating mental health into medical homes in August 2012.

Evidence-Based Practice Guidelines and Shared Decision Making: Conflicting or Complementary Strategies for "Doing the Right Thing" in Health Care?

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Online Title of Submission (maximum 60 characters): Evidence-Based Practice Guidelines and Shared Decision Making

Short Session Summary (maximum of 500 characters): The workshop explores potential for conflict between clinical practice guidelines and patient preferences. The presentation will discuss guidelines for lipid, hypertension, and diabetes management and PSA screening, focusing on whether patients' viewpoints are incorporated into guidelines, patients' reactions to discordance between EBM and preferences, and practice solutions. Approaches including patient preference analyses, consideration of decision quality, and patient representatives will be discussed, adding other solutions on the basis of group discussion.

Meeting Theme: How does this session fit with the meeting theme? (limit:250 characters, including spaces): Participants will work in teams, role-modeling team based learning in negotiating EBM and SDM.

Session summary (limit: 3,000 characters, including spaces): Two of the Institute of Medicine's core competencies for healthcare professionals are the practice of evidence-based medicine and the delivery of patient-centered care. Evidence-based practice guidelines help to ensure best practices, and new campaigns such as Choosing Wisely help to reduce ineffective care. Shared decision making (SDM) is a strategy to involve patients in decisions about their care by clarifying patients' values and preferences and informing them about clinical evidence. The need for SDM is often felt most strongly when there is more than one medically reasonable management option. However, guidelines may recommend care that some fully informed patients don't want, or recommend against care they request. Many clinicians report feeling conflicted about performance measures related to the delivery of care that individual patients may neither want nor need (e.g., Hoffman RM, et al. Lack of shared decision making in cancer screening discussions. Am J Prev Med 2014;47(3):251). Are these conflicts inevitable?

The workshop will first explore the potential for conflict between clinical practice guidelines and the preferences of informed patients. The discussion will be shaped around current for lipid management, hypertension management, diabetes care, and PSA screening. We will review how patient perspectives were or were not incorporated into these guidelines, particularly around treatment thresholds and management goals. We will discuss patient reactions to this conflict, by reviewing existing literature and by soliciting patient viewpoints before the workshop via social media, which will be read aloud and shared at the workshop. The problem of prioritization when individuals have multiple chronic conditions will be highlighted. We will use an interactive format involving speakers and participants to create a multi-faceted discussion of this issue. (For example, we will use audience response applications to engage audience participation and to promote active discussion of these issues,, and actively submit views from participants on this topic before the conference via GIM Connect.)

The next phase of the workshop will involve exploring potential solutions to conflicts between guidelines and patients' preferences. The early work of Dr. David Eddy in the methodology for developing "Practice Policies" will be reviewed, including the formal incorporation of patient preferences in guideline development. Solutions such as including trained

patient representatives on guideline panels, and conducting “patient preference analyses” as part of guideline development, will be reviewed. The move toward measurement of “decision quality,” rather than simply whether an intervention is delivered or not, will be discussed. The audience will have the opportunity to add to the list of potential solutions during moderated discussion.

After the workshop, a short white paper will be coauthored by the two interest groups summarizing the results of the conference, to be distributed electronically through SGIM and the Informed Medical Decisions Foundation. The white paper will also be submitted for posting via “KevinMD” blog.

A Blast from the Past: Resident and Faculty Attitudes with Re-institution of 24+4-Hour Call at One Medical Center

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Needs and objectives: To comply with duty hour regulations, many programs have switched from overnight (ON) call inpatient coverage systems to night float (NF) team structures. This study investigates attitudes after reinstitution of ON systems at a single academic medical center.

Setting and participants: Residents and attendings on inpatient general medicine services at Durham Veterans Affairs Medical Center, beginning April 2014.

Description: Rotations were changed from a NF (daily admissions, including 'rollovers', and occasional 'long' shifts of 16 hours with night float coverage) to an ON (24+4-hour call every fourth night for upper-level residents) system. Interns continued to do 12-hour day shifts, with one week of night shifts per rotation (Table 1). Because of intern staffing, the ON system resulted in resident-only teams during the day when the paired intern was on the week of night shifts.

Evaluation: We tracked team census, admission flow, and inpatient length of stay for eight weeks pre-intervention and eighteen weeks post-intervention. We anonymously surveyed interns, residents, and attendings using Likert scales regarding schedule changes, patient knowledge, daily census, education, and workload. Duty hour violations were tracked, in aggregate, from our reporting system. Student t-testing for team censuses and admissions, χ^2 and nonparametric testing of trends for survey responses, and Kruskal-Wallis testing for length of stay differences were performed.

Discussion / reflection / lessons learned: The resident general medicine capacity increased by 14 patients, while the total daily resident admission capacity decreased from 24 patients to 18 patients (Table 1). Mean team census decreased from 9.3 +/- 1.7 patients pre-intervention to 6.6 +/- 2.2 post-intervention ($p<0.01$). While patients were perceived by trainees to be discharged more quickly post-intervention, there was no statistically significant reduction in length of stay (4.9 days pre-intervention vs. 4.4 days post-intervention, difference in means 0.5 days, $p=0.16$). Mean reported weekly hours and monthly violations were similar (71.2 hours and 34.6 violations pre-intervention vs. 73.9 hours and 29.2 violations post-intervention).

Fifty-four trainees (84%) and eleven attendings (61%) responded to surveys. Trainees were in favor of keeping the ON system (48.1% in favor vs. 24.1% opposed), although they were significantly more likely than faculty to oppose this change (0.0% of faculty opposed, $p=0.03$). The majority of interns (72.7%) who worked in both systems reported a more favorable experience with ON, while residents were divided (44.8% more favorable, 34.5% less). Most trainees (74.5%) endorsed better patient knowledge post-intervention. Self-reported quality of learning either improved (50.0%) or did not change (33.3%). Upper-level residents (62.0%) and faculty (0.0%) differed significantly about whether resident-only weeks were 'unmanageable' ($p<0.01$).

Structure changes to ON call at a single center allowed for improved resident-patient continuity, patient knowledge, and reduced average team census without worsening reported duty hours or increasing duty hour violations. Changes based on resident feedback have included lower resident-only team and admission caps. Longitudinal study of ON systems will provide better information about educational quality and patient-centered outcomes.

A safe and effective discharge curriculum implemented in eleven Internal Medicine programs of the Educational Research Outcomes Collaborative

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Needs and objectives: The transition from hospital to home is a vulnerable time for patients and families and is ripe for physician training. We implemented a discharge curriculum focusing on the competence of a 'Safe and Effective Discharge (SAFE-D) From the Hospital'. The primary objective for the SAFE-D innovation was to assess the usefulness of determining competence using direct observation and feedback. Our secondary objectives include: 1. To increase attending and resident awareness of 6 physician behaviors for a SAFE-D 2. To increase the quality of feedback from attendings when they observe residents in the SAFE-D behaviors 3. To assess the usefulness of multi-source feedback on the determination of resident competence and 4. To assess the feasibility of using behavior-based direct observation in assessment for SAFE-D. We will also assess the effect of a Collaborative process in implementation across programs.

Setting and participants: Eleven Internal Medicine (IM) programs of the Educational Research Outcomes Collaborative (Collaborative) participated in the SAFE-D innovation including 251 attendings and 299 Post Graduate Year 1 residents. The discharge innovation was required for all attendings and residents on the wards as part of the educational requirements of the wards rotation. Faculty and residents were oriented to the discharge curriculum in a 1 hour interactive session by the site principle investigator (PI). Site PIs from all the programs collaborated on monthly conference calls to implement the discharge curriculum by sharing barriers and successes throughout the year.

Description: From September 2013 to June 2014, 11 IM programs implemented a workplace direct observation discharge curriculum. The discharge curriculum consists of serial direct observations in the following domains: Medication Reconcilliation, Discharge Summary, Patient Communication, Anticipates Post Hospital Needs, Actively Collaborates, and Team Communication. Attendings observed these domains during their usual work on the wards with the resident. Attendings rated the resident on a competence 5 point scale from 'resident cannot perform even with assistance' to 'resident can act as an instructor on this skill'. Attendings gave corrective feedback until the resident had reached a level of competence defined by being 'ready for indirect supervision'. At the completion of one year discharge curriculum, attendings and residents completed a voluntary survey to assess the objectives of the discharge curriculum.

Evaluation: One hundred and nineteen attendings and 181 residents completed a post innovation survey. 60% of attendings and 51% of residents agreed that the curriculum made them more aware of discharge behaviors. 53% attendings agreed that they increased their direct observation using the curriculum. 67% attendings and 57% of residents agreed that the curriculum provided a structure for giving feedback. 51% of attendings and 76% of residents agreed that they are more confident in assessing how well the resident engages with other health professionals. 46% of attendings and 57% of residents agreed the curriculum was easy to use on the wards. 79% of attendings agreed that this curriculum was more effective than their prior practice of teaching the discharge. 65% of attendings agreed that they were more confident in assessing resident competence using the discharge curriculum. 64% of residents agreed that the curriculum helped them understand the requirements to progress toward increased independence.

Discussion / reflection / lessons learned: The SAFE-D curriculum improved attending and resident awareness of discharge behaviors, increased attending direct observation and increased feedback. Applying the educational method of direct observation and feedback for the purpose of advancing the resident by competence was shown to be both useful to the attending and the resident. In addition, this educational innovation is unique in that multiple programs developed and implemented a standardized curriculum across programs using a collaborative model. The Collaborative was established in 2008 by members of Alliance for Academic Internal Medicine to share educational innovations and study their outcomes. Lessons learned from the Collaborative approach to medical education innovations include: 1. The Collaborative enhanced idea generation as we had a diverse group of programs by size, region and university affiliation. 2. The work of the Collaborative energized the faculty to try new approaches to the SAFE-D curriculum and health education overall and 3. There was more buy-in from both leadership and program faculty for the educational initiatives as a member of a national Collaborative in medical education.

Trust Your Instincts: The Role of Clinical Suspicion in Diagnostic Testing

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Online Title of Submission (maximum 60 characters): Clinical Suspicion and Diagnostic Testing

Short Session Summary (maximum of 500 characters): This hands-on workshop will improve the value of clinical decision making by equipping participants with the skills to assess pre-test probability, post-test probability, and probability revision.

Meeting Theme: How does this session fit with the meeting theme? (limit:250 characters, including spaces): This workshop will facilitate the delivery of high value care by equipping participants with practical skills to make informed decisions about diagnostic testing for individual patients.

Session summary (limit: 3,000 characters, including spaces): Health care providers strive to not only deliver evidence-based care, but to also provide high value, cost conscious care that provides the best possible patient care while simultaneously reducing unnecessary healthcare costs. Major organizations and institutions in health care are seeking opportunities to make care more efficient. This is reflected in national campaigns such as the American Board of Internal Medicine's Choosing Wisely Campaign and the American College of Physicians' High Value Care Initiative. However, to meet these challenges individual clinicians must examine their approaches to diagnostic testing and clinical decision making for each individual patient.

On a daily basis, health care providers make critical decisions with imperfect information. In an effort to inform the decision making process, healthcare providers routinely order diagnostic tests. With a wide variety of testing options and strategies available, the value of a given choice is often not readily apparent. Importantly, the interpretation of new information gained from a diagnostic test is largely dependent on what was already known about the patient *before* the test was ordered. However, clinicians frequently overlook and undervalue their clinical suspicion in their decision to select and order diagnostic tests. This information – the pre-test probability of disease – is critical to selecting the appropriate test and increasing the value of care delivered. The pre-test probability of disease is one of the most powerful factors in determining the value and outcome of a diagnostic test – more important than the accuracy of the test itself! Simply put, with a given pre-test index of suspicion for disease, will the results of this test change my management?

In this workshop, we will review the core concepts of pretest probability, posttest probability, and probability revision using likelihood ratios. We will present each step in an easily digestible fashion and practice the assessment of pre-test probability and probability revision on the fly in an effort to help participants add value into their decision making in daily practice. Participants will then break out into small groups and apply this practical knowledge in clinical cases that highlight dilemmas in diagnostic testing. Each group will then report their findings and tips back to the larger group.

A toolkit of resources regarding evidence-based medicine concepts and tips for application will be provided to

participants.

Treatment Patterns for Older Veterans with Localized Prostate Cancer

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Background: Practice guidelines have discouraged actively treating prostate cancers diagnosed in men with limited life expectancies and/or low-risk tumors. However, population-based SEER-Medicare data indicate that substantial proportions of older men with prostate cancer, regardless of comorbidity or tumor characteristics, undergo surgery or radiotherapy. We evaluated VA treatment patterns for older veterans with localized prostate cancers, including those with low-risk tumors.

Methods: We used national VA Cancer Registry data to identify men aged 65+ diagnosed with clinically localized prostate cancer between 1/1/03 and 12/31/08. We obtained baseline data on demographics, tumor characteristics, comorbidities, and initial treatment within 6 months of diagnosis (radical prostatectomy, radiotherapy, primary androgen deprivation therapy [PADT], no active treatment). National VA surveys provided facility data, including academic affiliation, availability of oncologic specialists, and distance to radiotherapy facilities. We used multinomial regression analyses to determine associations between patient and facility characteristics with treatment selection for men with localized and low-risk (stage ≤ 2a, PSA < 10 ng/mL, Gleason ≤ 6) cancers, respectively.

Results: 17,206 veterans had localized prostate cancer; 32% age 75+, 76% white, 59% married, 12% comorbidity scores ≥ 3. Overall, 39% received radiotherapy, 6% surgery, 20% PADT, and 35% no active treatment. Older and sicker men were less likely to receive surgery or radiotherapy vs. no active treatment, but more likely to receive PADT. Higher clinical stage, PSA levels, and Gleason scores predicted receiving active treatment. Over time, use of PADT decreased from 22% to 16% while the proportion receiving no active treatment increased from 33% to 40%, $P < 0.001$. Facility characteristics, including availability of specialists and academic affiliations, were not significantly associated with treatment selection. About 1/3 of the cohort (n = 5,616) had low-risk risk prostate cancer; no active treatment (48%) was the most common option, followed by radiotherapy (37%). Older and sicker men were less likely to receive surgery or radiotherapy than no active treatment; older men were more likely to receive PADT. Over time, significantly more men with low-risk prostate cancer received no active treatment (41% to 57%) and fewer received PADT (11% to 4%), $P < 0.001$.

Conclusions: VA treatment patterns followed evidence-based guidelines against treating older and sicker men with surgery or radiotherapy, for decreasing use of PADT, and for increasingly withholding active treatment, particularly for men with low-risk prostate cancer. Our findings suggest the potential value of an integrated health care system in reducing unnecessary utilization, though there is still considerable room for improvement.

Should Primary Care Physicians Remain More Involved in the Care of Patients with Advanced Chronic Kidney Disease?

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Background: Greater co-management between primary care physicians and nephrologists in chronic kidney disease (CKD) care is increasingly encouraged. Primary care physicians often have longer established relationships with patients with CKD compared to nephrologists, and may serve as a more trusted source for medical advice and decision-making support. However, nephrologists most often deliver the majority of CKD care with insufficient continuity or collaboration with patients' primary care physicians. The extent to which patients with advanced, progressive CKD prefer to rely on their primary care physicians for medical advice is unknown.

Methods: As part of the Talking about Living Kidney Donation (TALK) study, a randomized controlled trial of educational and behavioral interventions to improve consideration of living kidney transplantation, we assessed via the baseline questionnaire the extent to which patients with advanced, progressive CKD from Baltimore area nephrology practices reported they relied on their primary care physicians for medical care and advice rather than their nephrologist or other providers: "Between your kidney doctor, your primary care doctor, and your other doctors, which doctor do you most heavily rely on for care of your medical problems and for medical advice?" Using multivariate logistic regression, we also identified independent predictors of patients' primary reliance of their primary care physician for care and advice compared to other physicians, adjusting for patients' demographics (age, race, and sex); CKD severity; duration and frequency of nephrology care; trust in medical care; and their perception of their nephrologists' patient centeredness.

Results: Among 112 patients with advanced, progressive CKD (mean age 58 years), 58% were female, 48% were African American, and 82% were high school graduates. The majority (69%) of patients had Stage 4 CKD with a mean estimated glomerular filtration rate of 26.5 ml/min/1.73m^2 and most (62%) had been under nephrology care for at least 2 years. Patients most frequently reported they relied most heavily on their primary care physician for care and advice (46%), while fewer reported they relied on all their physicians fairly equally (27%), mostly on their nephrologist (21%), or mostly with another provider (6%). After adjustment for all other variables, patients receiving shorter duration nephrology care (51% less than 2 years, 49% 2-4 years, and 33% five or more years, p for trend=0.03) or making less frequent visits to their nephrologists (56% at least once a year, 52% at least every 3 months, and 22% at least every 2 months, p for trend=0.01) were more likely to rely mostly on their primary care physician for care and advice. Patient age, race, CKD severity, trust in medical care, or perception of nephrologists' patient centeredness were not associated with their likelihood of seeking care or advice from primary care physicians.

Conclusions: Despite being in nephrology care for prolonged time periods, the majority of patients with advanced, progressive CKD continue to rely heavily on their primary care physician for medical care and advice. While primary care physicians often become less involved in CKD care as patients near end-stage renal disease and prepare for renal replacement therapy, our results reinforce efforts to increase primary care physician involvement and improve nephrologists' and primary care physicians' collaboration in advanced CKD care.

"We Follow-Up": Improving follow-up, communication and documentation of outpatient test results by Duke residents

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Background: Following up on outpatient test results is a time-consuming process that has important patient safety implications. Failure to inform patients of test results and document communication may lead to diagnostic and therapeutic delays and are common sources of malpractice claims. We sought to compare the rates of follow up, communication, and documentation of outpatient test results by Duke residents before and after an educational quality improvement effort.

Methods: All three resident clinics – a community-based clinic (Clinic 1), a Veterans Affairs clinic (Clinic 2) and a private practice model (Clinic 3) – were included in this study. A follow-up standard was developed to include definitions of 'significant' test results and appropriate times to follow-up. A predetermined subset of test results with significant results were to be communicated to patients within 72 hours, while other, 'nonsignificant' results were to be communicated with 14 days. An online interactive experience to guide the project was developed utilizing Microsoft Sharepoint^{TM}. Residents were required to participate in this mandatory residency-wide project as part of their regularly scheduled ambulatory blocks during each half of the academic year 2013-14. We examined follow-up rates both before and after an intervention that provided resident physicians with education, feedback, and real-time comparison to their peers.

Results: Seventy-six residents completed the online module prior to the intervention (reviewing 1,713 patient charts), and 73 residents completed the online module subsequent to the intervention (reviewing 1,509 patient charts). At baseline 78% of test results were communicated to patients within 14 days (Table 1). After our educational intervention, this rate of communication significantly improved to 85% ($p<0.001$). This observation held true across all clinic sites (Clinic 1: 69.5% vs. 79%, Clinic 2: 85% vs. 89%, Clinic 3: 86% vs. 94%, $p<0.02$ for all). Of the test results reviewed, 32% were significant. The rate of communication of significant test results within 72 hours also improved, from 70% before the intervention to 81.5% afterwards ($p < 0.01$). Prior to the intervention, 50% of all results were communicated through patient letters and 23% via phone calls. Letters were used more commonly for non-significant results (56% vs. 39%) while phone calls were used more often for significant results (43% vs. 13%, $p<0.001$). Following the intervention the use of patient letters increased from 50% to 56% ($p<.001$), while ratios of other types of communication remained stable. There was no change in the types of test followed up on before or after the intervention.

Conclusions: This study demonstrates that lack of follow-up of outpatient test results is a common problem, and that our simple educational interventions and feedback resulted in significant improvement across a large internal medicine residency program. Such interventions should be routinely integrated into residency education and patient care. With the prevalence of the electronic medical record it has become even easier to communicate results through letters or online portals. However it remains imperative that communication of time sensitive results occur in a reliable fashion.

Effect of family history and genetic risk counselling for Type 2 Diabetes on perceptions of risk and control: Secondary analysis of a randomized controlled trial

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Background: Family health history (FHH) based risk assessment has been shown to increase perceived risk of disease and affect behavior change. Incorporating genetic testing as part of a risk assessment (either alone or in combination with FHH) has the potential to further refine patient and provider understanding of individual risk and improve collaborative efforts to manage that risk. To understand the additive impact of genetic risk assessment, we performed a secondary analysis to determine the effect of personalized risk counselling for Type 2 Diabetes (T2D), with incorporation of FHH and genetic risk counselling, on risk perception and perception of control, two cognitive precursors of behavior change.

Methods: A convenience sample of non-diabetic patients from 2 primary care clinics was recruited while awaiting bloodwork. Subjects were randomized to receive traditional risk counselling including FHH with or without the incorporation of genetic test results of SNP-based testing of 4 genes (i.e. 8 alleles) known to be associated with T2D. FHH risk was categorized based on published algorithms and explained to subjects as average, moderate, or high. Genetic results were provided as total positive alleles out of the maximum of 8. Surveys were completed at baseline and post-counselling at 3 months and 12 months to assess perceptions of overall disease risk and genetic risk for T2D using questions derived from the Common Sense Model and control over disease development using questions from the Illness Perception Questionnaire. Primary outcomes have already been reported.

Results: Participants who completed the study (invited=1416, enrolled=409, completed=321) were 69% female (64% Caucasian, 24% black, and 12% other). The mean age was 52. There was a reasonable distribution of participants in each of the FHH risk categories (average= 143, moderate=84, high=94), and the mean number of high risk alleles for the study population was 4.99 (SD 1.22, range 2-7.) FHH risk category and number of high risk alleles were correlated. Subjects with average FHH had a mean of 4.76 alleles, moderate FHH had a mean of 4.79 alleles, and high FHH subjects had a mean of 5.18 alleles (p-value=0.03). Higher FHH risk level was associated with higher perceptions of overall risk of disease development across all time points (all p-values< 0.001) and did not change over time as a result of risk counselling. In addition perception of genetic risk for disease was correlated with FHH risk category (all p-values< 0.001) across all time points and was not affected by the counselling session. In regards to genetic testing, number of positive alleles did not influence perception of overall disease development risk at any time point. However having an increased number of alleles did lead to a change in perception of genetic risk from pre- to post-counselling (more risk: 5.21 alleles, same risk: 5.06 alleles, less risk: 4.44 alleles, ANOVA p-value= 0.007). When stratified by FHH risk category, this effect was most strongly seen in those with FHH risk that was average (p-value= 0.04) or moderate (p-value= 0.005) with no effect in the high FHH risk category (p=value=0.46). (Table) Perception of control over risk of disease development was high overall (mean 24.08, SD 3.43, possible range 0-25) and not affected by FHH or genetic risk.

Conclusions: Patients have a strong sense of personal control over diabetes development. There was a strong understanding of the relationship of FHH to their overall risk of disease and perceptions of their genetic risk. A higher number of genetic risk alleles did not correlate with perception of overall disease risk but did have an effect on perceptions of genetic risk. Strongest effects were seen among those with an average or moderate FHH risk level.

As genetic testing for risk prediction becomes more main stream, further work should be done to understand who most benefits from testing and optimal methods for delivery of that information to optimize behavior change and risk reduction.

Mean genetic allele number stratified by FHH risk category effect on change in perception of genetic risk over time

	Increased Risk		**Same Risk**		**Decreased Risk**		**Overall**				
	Mean (SD)	N (%)	Mean (SD)	N (%)	Mean (SD)	N (%)	Mean (SD)	N (%)	**Average FHH***	5.08 (1.18)	36 (55)
4.90 (1.37)	20 (31)	3.89 (1.17)	9 (14)	4.86 (1.29)	65 (100)	**Moderate FHH****	5.44 (0.78)	18 (42)	5.69 (0.95)	13 (30)	4.50 (1.00)
12 (28)	5.26 (1.00)	43 (100)	**High FHH*****	5.25 (1.18)	16 (33)	4.76 (1.03)	17 (35)	4.73 (1.67)	15 (31)	4.92 (1.30)	48 (100)

*ANOVA p-value = 0.04; **ANOVA p-value= 0.005; *** ANOVA p-value= 0.46

Patient-Reported Medication Adherence Barriers among Veterans Affairs Patients with Cardiovascular Risk Factors

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Background: Cardiovascular disease (CVD) is a leading cause of morbidity and mortality in the United States. In addition to lifestyle changes, medication management is often required to control CVD risk factors. Many patients experience barriers making it difficult to take CVD risk factor-related medications as prescribed. The Cardiovascular Intervention Improvement Telemedicine Study (CITIES) was a tailored behavioral pharmacist-administered, telephone-based intervention for reducing CVD risk (ClinicalTrials.gov Identifier: NCT01142908). Our objectives were to: 1) describe patient-reported barriers to taking their medication as prescribed; and 2) evaluate patient-level characteristics associated with reporting medication barriers.

Methods: We recruited patients receiving care at Durham Veterans Affairs Medical Center-affiliated primary care clinics. Eligible patients had poorly controlled hypertension and/or hypercholesterolemia as defined as blood pressure of >150/100mmHg and/or low-density lipoprotein value >130mg/dL). At the time of enrollment, patients completed an interview asking 7 questions derived from a validated measure of medication barriers. We describe patient characteristics and individual medication adherence barriers. We then use multivariable linear regression to examine the association between a medication barrier score and patient characteristics, including health literacy, financial status, and social support, among others.

Results: Most patients (n=428) were married or living with a partner (57%), were male (85%), and had a diagnosis of both hypertension and hyperlipidemia (64%). Nearly 57% of the sample endorsed at least one barrier. The most commonly reported barriers were having too much medication to take (31%) and forgetting whether medication was taken at a particular time (24%). In adjusted analysis, those who were not employed (1.32; 95% CI 0.50-2.14) or did not have someone to help with household tasks if needed (1.66; 95% CI 0.42-2.89) reported higher medication barrier scores. Compared to those diagnosed with hypertension and hyperlipidemia, those with only hypertension (0.91; 95% CI 0.04-1.79) reported higher medication barrier scores.

Conclusions: Despite access to low-cost or free medications in the VA healthcare system, barriers to medication adherence were common in this sample of veterans at high-risk for cardiovascular disease. Screening for medication barriers, including an evaluation of sociodemographic characteristics such as employment status and lack of adequate social support, may help identify patients at risk for potential adherence problems. Tailored scalable interventions that address medication barriers will be essential to continue decrease the impact of cardiovascular disease in this population.

Evidence-Based Quality Improvement in a VA Women's Health Practice Based Research Network

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11. Philadelphia VAMC, Philadelphia, PA, United States.
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13. Psychiatry, Boston University, Boston, MA, United States.
14. HSRD, Durham VAMC, Durham, NC, United States.

Background: Most research evidence fails to change clinical care, in part due to the gap between strictly standardized research settings and the variable conditions at the bedside. Practice based research networks (PBRNs) were developed as a mechanism for conducting research in 'real world' settings and to bring research findings to busy clinicians. Evidence-based quality improvement (EBQI) can be an effective strategy to accelerate implementation of clinical trial findings into routine clinical practice through use of existing research findings, employment of multi-level clinical and administrative engagement, and capitalizing on productive research-clinical partnerships. Practice based research networks (PBRNs) are a promising setting for EBQI because they amplify the impact of successful outcomes by multiplying efforts across different sites and afford an opportunity to study implementation variations by serving as a "community laboratory". To date, little has been described about the experience of EBQI in the PBRN setting. We conducted a multi-site cluster randomized trial in the recently created VA-based Women's Health PBRN (WH-PBRN) to test EBQI as a strategy to identify site specific implementation approaches of an enhanced gender awareness training targeted to VA providers and staff. We describe the barriers to and facilitators of the EBQI approach in this nascent PBRN setting.

Methods: This EBQI project was conducted at the four geographically diverse, inaugural sites in the WH-PBRN. The training implemented was *Caring for Women Veterans (CWV),* a 30 minute on-line, interactive, evidence-based training program designed to target gender awareness among VA employees. The EBQI approach included local expert panels to identify site-specific needs, tailoring of the local training delivery plan, and identification of local "owners" to carry out the adapted training plan to selected clinical workgroups at each facility. We used the Replicating Effective Programs (REP) conceptual framework, previously described in the context of implementation, to identify PBRN-specific barriers and facilitators of the EBQI approach. We collected information about perceived barriers and facilitators in two ways. First, themes were informally noted during the course of the EBQI activities and again during post-EBQI intervention debriefing calls. Then, after the completion of EBQI activities, each site was asked to identify barriers to and facilitators of EBQI activities across the four phases of the REP framework (i.e. *pre-conditions, pre-implementation, implementation, and maintenance/evolution).* Notes from the debriefing calls and the targeted REP phase-based survey were reviewed and consolidated into summary findings, which were then shared with the four Site Leads for further revision and clarification.

Results: Four hundred, forty-two employees received the gender sensitivity training across the four sites. The PBRN impacted the EBQI process in multiple ways. Specific facilitators were noted, such as marked facility leadership support across sites reinforced by common institutional values, opportunities to capitalize on common resources and efforts across sites, the ability for timely sharing of project experiences among site participants, and the use of the PBRN coordinating center support for managing multi-site EBQI complexities. Noted barriers included differences in site timelines due to staffing turnover and variable local resources for completing project activities.
Conclusions: PBRNs offer specific advantages for multi-site EBQI projects and represent a promising pathway for speeding the translation of research findings into everyday practice through the approximation of primary care teams and their research partners. Lessons learned from our multi-site cluster randomized trial of EBQI will impact strategies for the wider dissemination of the CWV gender awareness curriculum within the VA setting and inform future PBRN-based EBQI projects.

After Hospitalization, Follow-up with Your (And Only Your) Primary Care Physician is Associated With Reduced Readmissions

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Background: One intervention that is oft proposed to reduce hospital readmissions is arrangement of early follow-up visits. Studies examining the impact of post-hospital follow-up, however, have not shown an association with reduced readmissions. Furthermore, no studies, to our knowledge, have compared the effect of follow-up visits to Primary Care Physicians (PCPs) vs. non-Primary Care Physicians (non-PCPs). In this study, we measure the impact of the following follow-up visit types on a patient's timing of readmission: 1) Follow-up with the patient's own PCP; 2) Follow-up with another PCP that is not the patient's own; and, 3) Follow-up with a non-PCP.

Methods: We included patients discharged from the Durham VAMC Medicine service to the community over 43 months. For each, we recorded the time (in days) from discharge to readmission. To measure the associations of readmission with varying types of clinic visits, we recorded the times from discharge to the first follow-up visit with 1) a patient's own PCP; 2) a PCP that was not the patient's own; and, 3) a non-PCP physician. Using survival analysis with the Cox regression method, we measured the association of the various follow-up visits with time to readmission. We controlled for patients' baseline predicted readmission risk. We generated time-dependent predictors to avoid producing artificially low, biased estimates of readmission risk otherwise generated when those patients at the highest risk of readmission are readmitted early and thus unable to arrive for a follow-up visit.

Results: The predicted probability of readmission was positively associated with readmission risk. A visit with one's own PCP was protective and associated with a reduced risk of readmission (HR 0.79, $p < 0.001$, Table 1, Figure 1). This effect was independent of the baseline predicted risk of readmission. The effect of a visit with a non-PCP was hazardous and associated with a significant and near 3-fold increase in risk (HR 2.63, Table 1, Figure 1). There was no apparent effect of follow-up with a PCP that was not the patient's own on readmission (HR 1.00, p=0.97).

Conclusions: These results are consistent with previous studies in demonstrating that follow-up with an unspecified PCP is not associated with any alteration in the risk of readmission. However, unlike previous studies, we were able to measure the effect of follow-up with one's own PCP on readmission and found it to be protective (and associated with a readmission risk reduction of 25%). Furthermore, we found that follow-up in the clinic of a non-PCP physician was associated with a near 3-fold increase in readmission risk. These results suggest that efforts to reduce readmissions through post-hospital follow-up should focus on improving access of patients to their own PCPs in the weeks following discharge. Futhermore, we have evidence that follow-up with unfamiliar PCPs are ineffective; worse, follow-up visits with non-PCPs following hospitalization are associated with, and may cause, increased readmissions.

Table 1: Effect of Type of Follow-Up Visit on Readmission: Adjusted Hazard Ratios (HR) from Multivariate Analysis

	HR	95% CI	p-value		
Predicted Probability of Readmission	1.03	1.02-1.04	<0.001	Follow-up Visit with One"s Own PCP	0.79

0.69-0.91	<0.001	Follow-up Visit with Another PCP	1.00	0.88-1.14	0.97

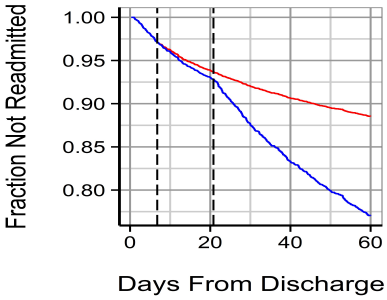

Figure 1: Predicted survival to readmission for a cohort of patients each of whom has a clinic visit with their own PCP at day 7 (red curve) and a cohort of patients each of whom is seen by a non-PCP at day 21 (blue curve).

Joining Forces – General Medicine and Psychiatry

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Online Title of Submission (maximum 60 characters): Joining Forces – General Medicine and Psychiatry

Short Session Summary (maximum of 500 characters): This session will explore team-based approaches between general medicine and psychiatry. It will highlight the importance of utilizing evidence-based models, examine the impact of comorbid mental illness on delivery of inpatient medical care, present an example of outpatient collaboration, and explore how generalists can build their skills to become more effective team members in these integrated models. This session will include faculty-led small group discussion.

Meeting Theme: How does this session fit with the meeting theme? (limit:250 characters, including spaces): This session will highlight several components of the meeting theme: team-centered care delivery, research-driven models that add value to patient care, and educational curricula for generalists interested in participating in these new roles

Session summary (limit: 3,000 characters, including spaces): Delivery models of care continue to evolve in the ever changing environment of healthcare reform. At the forefront of this transforming system is how behavioral health (BH) services integrate into medical settings. Effectively addressing behavioral health needs is a crucial component of healthcare reform, given that nearly 50% of patients with chronic medical diseases have comorbid BH conditions, more than 80% of the BH conditions remain untreated or ineffectively treated, and untreated BH conditions are associated with higher medical illness complication rates, disability, increased health care service use, higher health care costs, and premature death. Integrated behavioral health programs offer exciting opportunities to improve patient outcomes and satisfaction, as well as decrease health care costs; components of the Triple Aim.

In this workshop, Dr. Heather Huang (Internal Medicine-Psychiatry, University of Wisconsin) will give an overview of medical and BH integration. Dr. Charles Hebert (Internal Medicine-Psychiatry, Rush University Medical Center) will review the impact of comorbid mental illness on the delivery of medical care in the inpatient setting, including the increasingly important benchmarks of hospital length of stay and 30-day readmissions, and demonstrate how collaborative mental health services and medical services through a team-based approach can positively influence these systems measures. Dr. Natasha Cunningham (Department of Psychiatry, Division of Social and Community Psychiatry, Duke University) will present an example of the implementation of collaborative care in the outpatient setting. Dr. Robert McCarron (Internal Medicine-Psychiatry, UC Davis) will discuss the importance of implementing “primary care psychiatry” curricular changes that align with and support a growing collaborative care workforce. The workshop will then transition to faculty-led small group discussion and conclude with large group synthesis of small group discussion.

This session will highlight the importance of utilizing evidence-based models to guide team-centered care. It will additionally explore how generalists can build their skills to become more effective team members in these integrated models.

Getting Promoted as an Educator

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Online Title of Submission (maximum 60 characters): Getting Promoted as an Educator

Short Session Summary (maximum of 500 characters): We will present a framework for the promotion of clinician-educators by better clarifying the contributions of educators in the domains of scholarship, service, and mentorship. Participants will take steps in developing personal road maps towards their goals and personal success.

Meeting Theme: How does this session fit with the meeting theme? (limit:250 characters, including spaces): All of academic general internal medicine is a team effort. Academic divisions strive to maintain excellence in clinical care, research, education, and administration in order to meet their diverse goals. This workshop will focus on the clinician-educator - the member of the team with perhaps the least defined criteria for success. The academic team succeeds when all its players are functioning at optimal levels! We believe that supporting educators in achieving recognition for their work is an enduring issue.

Session summary (limit: 3,000 characters, including spaces): One of the great joys of being a clinician-educator is the variety of work we can do, including clinical supervision, bedside and small group teaching, curriculum development, mentorship, program or clerkship leadership, and combinations of these(1). With this joy comes the challenge of demonstrating our value and scholarly impact within existing academic tracks. Because clinician-educators are a diverse group, establishing clear criteria for promotion within academic tracks is challenging. In contrast with clinician-investigators, for whom grants, publications, and lectureships are part of a clear promotion structure, the pathway to promotion for academic clinician-educators is not as well defined, and the success of clinician-educators cannot be measured in the same way. Objectively measuring the success of educators requires new definitions of scholarship, acknowledgement of the value of the many essential services provided by educators, and alignment of scholarly expectations with their job descriptions(2).

In this workshop, we will present a framework to guide newer faculty and department leadership alike in achieving, documenting and measuring the accomplishments of clinician-educators as they move toward promotion, in the domains of scholarship, service, and mentorship. We will review definitions of clinician-educator pathways and provide samples of promotion expectations at multiple institutions. We will expand options for legitimizing educational scholarship, curriculum development, and coaching and mentorship of learners. Additionally, we'll provide pointers for making educational efforts count twice or more!

Participants will engage in a reflective exercise to identify what they are most passionate about and are already doing best in their work. They will strategize how to be recognized for what they are doing well and how to shift their work balance to align activities they are passionate about with those that provide the most benefit for career advancement. Participants will develop their own personal road map towards success and promotion as a clinician-educator, with concrete next steps. We will also offer a panel of experts including division Chiefs, residency program directors, and successful clinician-educator faculty to promote dialogue with participants on these issues.

1. Fleming VM, Schindler N, Martin GJ, DaRosa DA. Separate and equitable promotion tracks for clinician-

educators. JAMA. 2005;294(9):1101-4.

2. Geraci SA, Hollander H, Babbott SF, Buranosky R, Devine DR, Kovach RA, et al. AAIM report on master teachers and clinician educators part 4: faculty role and scholarship. Am J Med. 2010;123(11):1065-9.

Creating and Sustaining Longitudinal Integrated Clerkships (LICs)

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Online Title of Submission (maximum 60 characters): Creating and Sustaining Longitudinal Integrated Clerkships

Short Session Summary (maximum of 500 characters): LICs share key elements of 1) comprehensive patient care over time, 2) continuous learning relationships with preceptors, and 3) meeting core clinical competencies across multiple disciplines simultaneously. The literature reports numerous benefits of LICs for students and faculty. How does one create buy-in to start an LIC? How can you sustain an LIC in the current context of care and delivery system demands? What are innovations to try in your LIC? How are LICs influencing residency redesign?

Meeting Theme: How does this session fit with the meeting theme? (limit:250 characters, including spaces): LICs afford medical students authentic and meaningful roles in patient care teams as they work with preceptors and patients longitudinally. Students and faculty will be well-prepared to add value to teams in clinical care, research, and education.

Session summary (limit: 3,000 characters, including spaces): Longitudinal integrated clerkships (LICs) are a curricular structure most widely implemented in the clinical year of medical school training, and strongly influenced by social, constructivist, and workplace learning theories and cognitive psychology. LICs share foundational elements of 1) comprehensive care of patients over time, 2) continuous learning relationships with preceptors, and 3) meeting core clinical competencies across multiple disciplines simultaneously. The LIC model is expanding rapidly to medical schools nationally and internationally due to a growing body of literature demonstrating benefits of the LIC model for students, faculty and institutions. Specifically, students benefit from increased observation and feedback on clinical skills and by contributing more meaningfully to patient care. Students participating in LICs appear to maintain patient-centered values in contrast to the “ethical erosion” that the literature documents as common place in traditional block rotations. LIC students report that their participation in this model inspires patient-centeredness, advocacy, and idealism.

But, practically, how does one create buy-in to start an LIC? And how can you sustain and support an LIC given the current context of care and delivery system demands? What are new curricular innovations to try within your LIC? How are LICs influencing residency redesign? Participants will discuss these questions and more in breakout sessions with LIC leaders from around the country. Participants will also have the opportunity to collaborate with and learn from preceptors and clerkship directors nationally who are interested in educational transformation and office-based teaching and learning.