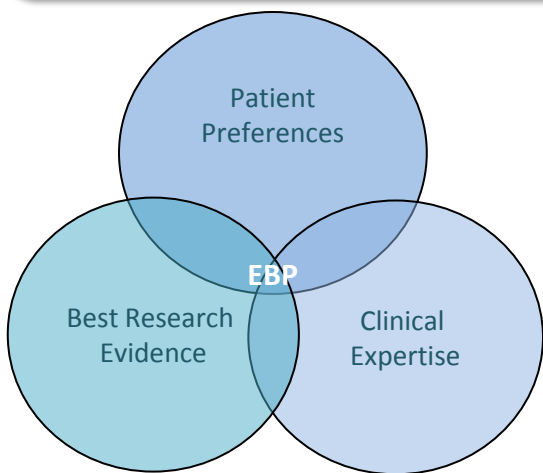


A Team-Based Approach to Integrating Evidence into Population Health

Amanda Davis, MPH, RD, CHES, Quality and Patient Safety Department, Medical University of South Carolina, Charleston, SC; Elizabeth Crabtree, MPH, PhD(c), Department of Library Science and Informatics & Department of Public Health Sciences, Medical University of South Carolina, Charleston, SC; Emily Brennan, MLIS, Department of Library Science and Informatics & Department of Pediatrics, Medical University of South Carolina, Charleston, SC;

Ideally, health care decisions are based on the best available scientific evidence. However, in reality this is not always the case. There are many barriers to applying the principles of evidence-based practice in everyday practice for healthcare providers, which can lead to wide variations in patient care. The Center for Evidence-Based Practice at the Medical University of South Carolina (MUSC) was established in 2013 to develop interdisciplinary, enterprise-wide evidence-based recommendations and point-of-care clinical decision support tools for healthcare providers at MUSC.



Evidence-Based Practice (EBP)

Is a problem-solving approach to clinical practice that integrates best research evidence from primary literature & existing guidelines with clinicians interpretation of the evidence based on their clinical experiences and expertise, taking into account local patient values & preferences to improve point-of-care, medical decision-making

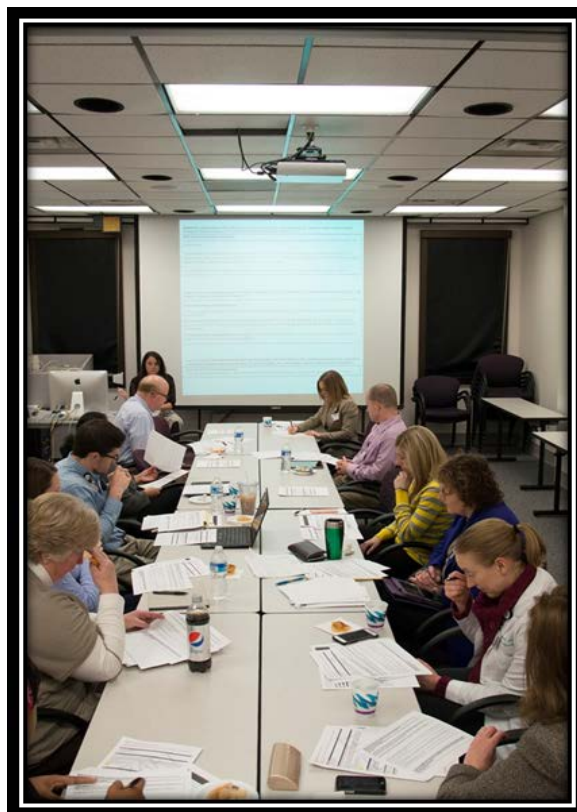
Clinical Content Expert Team

- Includes representatives from all disciplines involved in the care of the identified patient population
- Creates an environment of inclusion for interpreting evidence
- As engaged “champions” of EBP, clinical content experts are an integral component of the development and dissemination of evidence-based, point-of-care decision support tools and training materials

MUSC Center for Evidence-Based Practice

Changing What’s Possible...With Evidence

- Uses an interdisciplinary, team-based approach to develop evidence-based guidelines to assist clinicians in providing high quality patient care
- This framework includes:
 - Establishing focused, searchable clinical questions using the PICO format
 - Appraising existing guidelines for the patient population using the University of Pennsylvania Trustworthiness Guideline rating scale
 - Searching for relevant literature with the assistance of a medical librarian
 - Critically analyzing the body of evidence using GRADE criteria
 - Presenting evidence summary findings to clinical content experts
 - Facilitating the development of clinical practice recommendations & clinical decision support materials in the EMR
- Promotes clinical inquiry and the delivery of comprehensive, coordinated, evidence-based care across the healthcare continuum
- Links research, evidence-based practice and quality improvement by asking “Are we doing the best thing for our patients, the best way, every time?”



Clinical Decision Support Development & Approval

- The transition of clinical decision support tools into the EMR is the primary means of translating evidence-based content into practice
- The Center for EBP serves as the 'voice' of the clinical content expert teams during the approval process
- This process includes:
 - Content Expert Team consensus
 - MUSC House-wide clinician review
 - Approval by the MUSC Decision Support Oversight Committee
 - Transition into the EMR
- The Center for EBP works directly with IT system analysts to build and refine decision support tools in the EMR

Implementation & Evaluating Outcomes

- Clinical content experts assist in defining process and impact outcomes of interest for evaluation
- The Center for EBP facilitates the development of an implementation plan for the dissemination and evaluation of evidence-based guidelines
- Data collected during the evaluation phase helps to inform future guideline directions and provides opportunities for scholarly publications for clinical
- Evidence-based guidelines created by the Center for EBP are reviewed and updated every 2-3 years

AMH Tobacco Cessation Smart Set (evidence-based)
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This SmartSet underwent an evidence review by the Center for Evidence-Based Practice at MUSC. Primary research articles and guidelines were critically appraised and summarized, and practice recommendations were developed by an interdisciplinary content expert team.

[Insert link to Tobacco Cessation Evidence Summary here.](#)

MEDICATIONS – First-Line Therapy Options
Recommended treatment options include:

- Long-term (> 14 weeks) nicotine patch + other Nicotine Replacement Therapy (NRT) (gum and spray)
- The nicotine patch + the nicotine inhaler
- The nicotine patch + bupropion SR

For smokers who are greatly concerned about weight gain, it may be most appropriate to prescribe or recommend bupropion SR or NRT (in particular, nicotine gum and nicotine lozenge)

NRT is safe to use in patients with stable cardiovascular disease.

Use of NRT should be considered when a pregnant woman is otherwise unable to quit. Intermittent NRT is preferred to patches (lower total daily nicotine dose).

- Bupropion Sustained Release 150 mg (P) every morning for 3 days, then 150 mg twice daily **Begin treatment 1-2 weeks prior to quit date**
- Varenicline starter pack
- Varenicline maintenance pack
- Nicotine Patch
 - 7 mg/24 hours (if smoking < 10 cigs/day)
 - 14 mg/24 hours (if smoking 10-19 cigs/day)
 - 21 mg/24 hours (if smoking >= 20 cigs/day)
- Nicotine Lozenge
 - 2 mg (up to 24 pieces/day) (if smoking within > 30 minutes of waking)
 - 4 mg (up to 24 pieces/day) (if smoking within <= 30 minutes of waking)
- Nicotine Gum
 - 2 mg (up to 24 pieces/day) (if smoking within > 30 minutes of waking)
 - 4 mg (up to 24 pieces/day) (if smoking within <= 30 minutes of waking)
- Nicotine Inhaler 6-16 cartridges/day
 - 2 mg (up to 24 puffs/day) (if smoking >= 25 cigs/day)
 - 4 mg (up to 24 puffs/day) (if smoking >= 25 cigs/day)
- Nicotine Nasal Spray-Initially 1-2 sprays (0.5-1mg) in each nostril per hour, maximum dose of 80 sprays per day.

MEDICATIONS – Second-Line Therapy Options

- Clonidine tablet- 0.1 mg twice daily (may increase by 0.1 mg/day every 7 days, dosing range from 0.15-0.75 mg/day)
- Clonidine transdermal 0.1 mg/24 hour patch applied once every 7 days (increase by 0.1 mg at 1-week intervals if necessary, dosage range from 0.1 to 0.2 mg/24 hour)
- Nortriptyline Initial dose of 25 mg/day with a goal dose of 75-100 mg/day (increase by 25 mg/day every 7 days)

FOLLOW UP

- Referral to tobacco cessation counseling - include information about quit line in referral print out

Though initially focused on coordinating evidence-based, point-of-care guidelines for diagnosis and treatment, MUSC's Center for EBP has expanded its reach to include the development of total population health evidence-based guidelines with a focus on primary prevention.

Tobacco Cessation Guideline Development

- Interdisciplinary team with representatives from public health, tobacco treatment, medicine, pharmacy, patient support, and research
- Focus on operationalizing existing tobacco cessation guidelines effectively into the EMR
- Developed evidence-based recommendations for clinician education, changes to documentation, and appropriate referral in the inpatient and ambulatory settings



Tobacco Cessation MUSCare Plan Clinical Practice Recommendations

- Operationalized the use of a silent alert in the EMR that automatically enrolls patients in the MUSC telephone-based tobacco treatment system and provides clinicians with pharmacotherapy recommendations at point-of care
- Standardized the location, timing and clinician review of patients' tobacco use in the EMR
- Standardized the location, timing and clinician review of pediatric patients' environmental tobacco smoke exposure in the EMR
- Established evidence-based first and second-line medication therapy options for tobacco cessation
- Established specific protocols for follow-up assessment in patients 1) who are attempting to quit, 2) not yet willing to quit, and 3) who have previously quit to assess for relapse