Method The workshop was delivered through a blend of plenary and small group sessions modelled on the CEBM approach to teaching EBP. In all plenary’s speakers used real life examples from their own experience with consistent emphasis on the impact to patients and the importance of patient values.

The programme for day one covered the Ask and Search domains. Day two explored appraisal of different study designs. Day three focused on putting evidence into practice with plenaries on

- From Evidence to recommendations
- Shared decision making
- Implementation planning

These topics were chosen to reflect the real-world challenges health care professionals face. Each small group was required to demonstrate the skills attained including, asking an answerable question in PICO format, finding the evidence, critical appraisal of the best evidence and how they would put the evidence into practice in the real-world setting.

Results The small group presentations covered a wide range of topics which were based on a real clinical query of a participant. Each group discussed the quality of the evidence to answer their question, the potential benefit and harm, patient preferences and values and resources required before presenting their recommendations. They also described barriers and facilitators to the implementation of their recommendations.

In the evaluation form all participants rated their ability to practice EBP a 4-5 on a five-point scale compared with a range of 2-5 in a previous workshop. When asked what aspects of the course were most useful, comments included:

- ‘Practical aspects of bringing EBP to patients’
- ‘Guidelines to aid implementation’
- ‘Connection of theory to real world practice’
- ‘Shared decision making’
- ‘Apply information in practice’

Conclusions Our goal in EBPI is to promote the practice of EBP throughout the healthcare system in Ireland to improve patient outcomes. To be successful we need health care professionals to understand the principles of EBP. Much work internationally has gone into addressing the skills needed to ask focused questions, search the literature and appraise the literature for its quality and applicability. However, there is less agreement on how to teach integrating the best evidence with clinical expertise and patient values and applying it in practice. By developing this ‘evidence into practice’ module we are addressing the curriculum gap in how to teach the ‘apply in practice’ domain of EBP while building capacity and leadership in EBP in Ireland.

EFFECT OF AN EBP LEARNING PROGRAM ON CONFIDENCE AND COMPETENCE IN EBP

Michael Pianta, Edward Nguyen, Laura Downie. The University of Melbourne, Melbourne, Australia

Objectives The aim of this study was to investigate the effect of an EBP learning program on learner confidence and competence in the use of EBP.

Method The Evidence-Based Practice Confidence (EPIC) scale (Salbach and Jaglal, J Eval Clin Pract, 2011) and the Assessing Competency in EBM (ACE) tool (Illic et al, BMC Med Ed, 2014) were used to measure learner (n = 49) confidence and competence before and after a one-semester EBP learning program that incorporated the CrowdCARE platform.

Results The program resulted in a significant increase in both confidence (+23.0%, 95% CI [+18.2%, +27.8%]) and competence (+38.0%, 95% CI [+33.3%, +42.8%]) in the use of EBP. The largest increases in confidence were in critically appraising measurement properties, interpreting statistical tests, and integrating research evidence, clinical judgment and patient preferences; the largest increases in competence were in asking an answerable question and appraising the evidence. The smallest increases in confidence were in identifying gaps in knowledge and conducting a literature search; the smallest increase in competence was in applying the evidence.

Conclusions The learning program was effective at improving confidence and competence in EBP. The use of the EPIC scale and ACE tool allows identification of areas for improvement.

PHARMACOLOGIC TREATMENT OF MAJOR DEPRESSION: MAKING RESEARCH EVIDENCE AVAILABLE WITH A PEER-REVIEWED ALGORITHM IN AN EASY TO USE COMPUTER PROGRAM

Objectives The Psychopharmacology Algorithm Project at the Harvard South Shore Psychiatry Department has been preparing evidence-derived algorithms for choosing medication for psychiatric disorders for 25 years. They provide clinicians with syntheses of the best evidence for efficacy, effectiveness, safety, and cost of pharmaceuticals in a format that is more prescriptive than guidelines. The aim is to present very specific and very context sensitive best practice. The algorithms start with recommendations for medication-naïve patients. After that, suggestions for patients who had one failed trial are offered, and then we address deeper levels of treatment resistance. Important comorbidity is considered. They are usable on cell phones. Practitioners can obtain an actionable recommendation in 1-2 minutes. We will demonstrate the major depression algorithm, most recently published in the February 2019 issue of Harvard Review of Psychiatry.

Method Small groups of clinicians create new algorithms or update older ones and then submit papers describing them for peer review in psychiatric journals. The review process involves reaching consensus with the expert reviewers who may not agree with all the interpretations of the evidence leading to the recommendations in the initial draft. This review process enhances the validity of the final version. After acceptance, the authors construct the on-line versions of the algorithms. Users see the entire flowchart and click on the node representing their patient’s current clinical status – ranging from first use of medication to very treatment resistant, while considering the impact of various illness subtypes and comorbidities. The website (www.psychopharm.mobi) currently has 9 algorithms. All algorithms emphasize that they advise on choice of pharmacotherapy only, but non-medication approaches are valid, important, and may be preferred.
Validation of Crowdsourcing for Citation Screening in Systematic Reviews

For most depressed outpatients, sertraline, escitalopram or bupropion are reasonable first choices. If there is no response, the prescriber has many choices for the second trial in this algorithm because there is no clear preference based on evidence, and there are many individual patient considerations and variations in patient preference to take into account. The prescriber and patient may decide to either switch (to one of the above options not previously tried, or to venlafaxine, or to a nutraceutical antidepressant such as St. John’s Wort or S-adenosylmethionine, or to transcranial magnetic stimulation), or to augment (with nutrients including L-methylfolate, or second-generation antipsychotics, or mirtazapine, or lithium or triiodothyronine). If there is no response to the second medication trial, the patient is considered to have a relatively medication-resistant depression. More recommendations follow. Comorbidities such as chronic pain, obsessive-compulsive disorder, attention-deficit hyperactivity disorder and posttraumatic stress disorder are considered.

Conclusions Utilization of this consultative tool for picking medication treatment for depression could help minimize unproductive variation in clinical care and improve clinical outcomes and produce remissions in shorter times and with fewer medication changes than with treatment as usual. Also, the algorithm encourages more cost-effective practice when generic options are recommended over expensive, brand-name products (when there is no apparent disadvantage in outcome or safety). Clinicians often overlook the large role their beliefs play in medication selection, ignoring placebo effects that contribute to their experience-based biases. These online tools provide evidence-supported ways of thinking that are available rapidly at the point of care in time to influence decision-making.

Investigator’s Brochures: Do They Adhere to Basic Principles of Evidence Synthesis Methods?

The purpose of investigator’s brochures (IB) is to compile the relevant evidence in order to enable an informed risk-benefit assessment by different reviewers including the principal investigator, a research ethics committees (REC), regulatory authorities, or data safety monitoring boards. Although a vast literature exists on the methodology of evidence synthesis for systematic reviews and meta-analyses, there is almost no literature examining the role of evidence synthesis in IBs. The primary objective of this contribution is to examine the adherence of IBs to fundamental principles of knowledge synthesis. These principles include a systematic search strategy, an evaluation of the risk of bias of the included studies and a comprehensive data collection and transparent synthesis procedure that accounts for variation in information quality.

Method We systematically examined a random sample of 30 IBs of a large sample (N = 109) from the application materials of industry-sponsored pharmaceutical clinical trials conducted between 2010–2016. IBs were obtained from three RECs of German university medical centers under data confidentiality agreements. Multiple independent examiners assessed the IBs to identify clinical trials reported in the IBs and full text assessment. Using the CrowdScreenSR citation screening software, 2323 articles from 6 SRs were available to an online crowd. Citations excluded by less than or equal to 75% of the crowd were moved forward for full text assessment. For the validation component, performance of the crowd was compared with citation review through the accepted, gold standard, trained expert approach.

Results Of 312 potential crowd members, 117 (37.5%) commenced abstract screening and 71 (22.8%) completed the minimum requirement of 50 citation assessments. The majority of participants were students (192/312, 61.5%). The crowd screened 16,988 abstracts (median: 8 per citation; IQR 7-8), and all citations achieved the minimum of 4 assessments after a median of 42 days (IQR 26-67). Crowd members retrieved 83.5% (774/927) of the articles that progressed to the full text phase. A total of 7604 full text assessments were completed (median: 7 per citation; IQR 3-11). Citations from all but 1 review achieved the minimum of 4 assessments after a median of 36 days (IQR 24-70). When complete crowd member agreement at both levels was required for exclusion, sensitivity was 100% (95% CI 97.9-100) and work performed was 68.3% (95% CI 66.4-70.1). Using the predefined alternative 75% exclusion threshold, sensitivity remained 100% and work performed increased to 72.9% (95% CI 71.0-74.6; P < .001).