"Development, validity and reliability testing of the East Midlands Evaluation Tool (EMET) for measuring impacts on trainees' confidence and competence following end of life care training"

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Introduction

Objectives: There has been a wide range of education development within end of life care and polices both in the UK and internationally recommend education as a means to increasing competence in end of life care delivery (LACDP, 2014; Gamondi C, Larkin P, Payne S, 2013). Whilst the gold standard means of assessing the impact of training, is to perform before and after workplace observations of staff and patients interacting, this would be highly time consuming and costly. The need to develop a time efficient, reliable and flexible evaluation questionnaire was identified. The East Midlands Evaluation Tool (EMET), for measuring effects of end of life care training events on trainees' self-reported confidence and competence was developed, tested and validated, as a collaborative project across the region.

Methods – the 'tool 'development

- Initial design of the tool entailed literature search and review which found that there were no validated tools available for evaluating the impact of end of life care learning events across a range of roles and care settings(Frey R, Gott M, Banfield R, et al,2009; Slåtten K, Hatlevik O, Fagerström L, 2014)

- Project team discussions, clinical and educational experts in end of life care

- Translation of the overarching statements of core competencies from National EOLC Programme (2009) into questionnaire items grouped into the same subdomains

- Resulting tool comprised a total of 27 statements to which trainees were asked to respond via Likert-scaled responses. Supplemented by narrative questions seeking free-text responses to gain trainee views on how the training had changed their confidence and competence in the delivery of end of life care

- Next stage of development involved field testing the tool by administering it across a wide range of training events delivered by a total of 13 different organisations in 55 different training events involving 1793 trainees. 71% of the training events involved mixed cohorts of registered and non-registered employees from various occupational backgrounds and care settings

- Additionally, all trainers administering the tool during field testing were asked to complete a brief 'feedback questionnaire' which sought both Likert-scaled and free-text responses on the ease of use of the tool

- Tool modified at this stage based on feedback and new policy initiatives—in particular the UK's National Institute on Health and Care Excellence (NICE,2011) guidance focused on recognising dying, avoiding inappropriate hospital admissions and initiating conversations about end of life
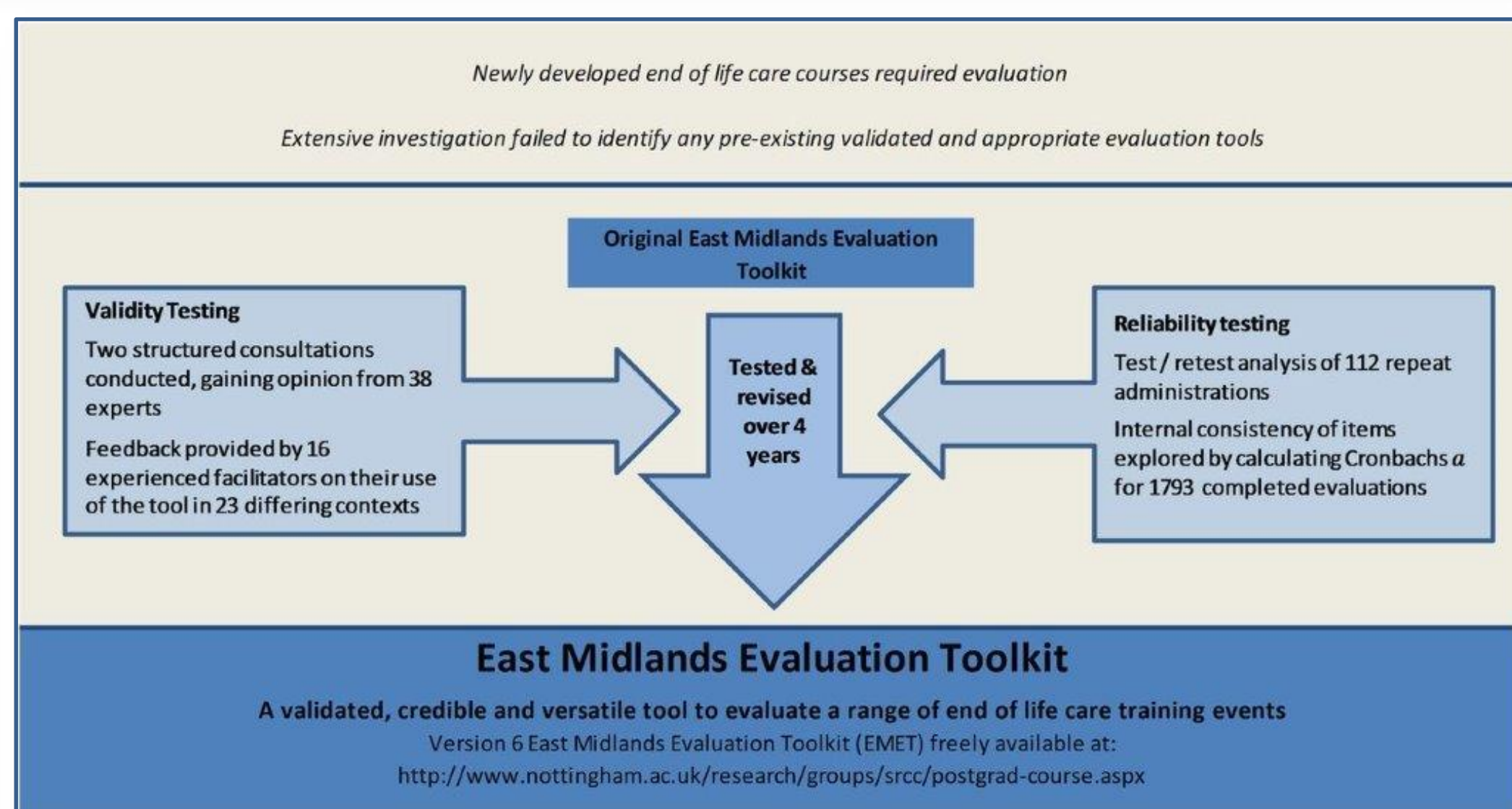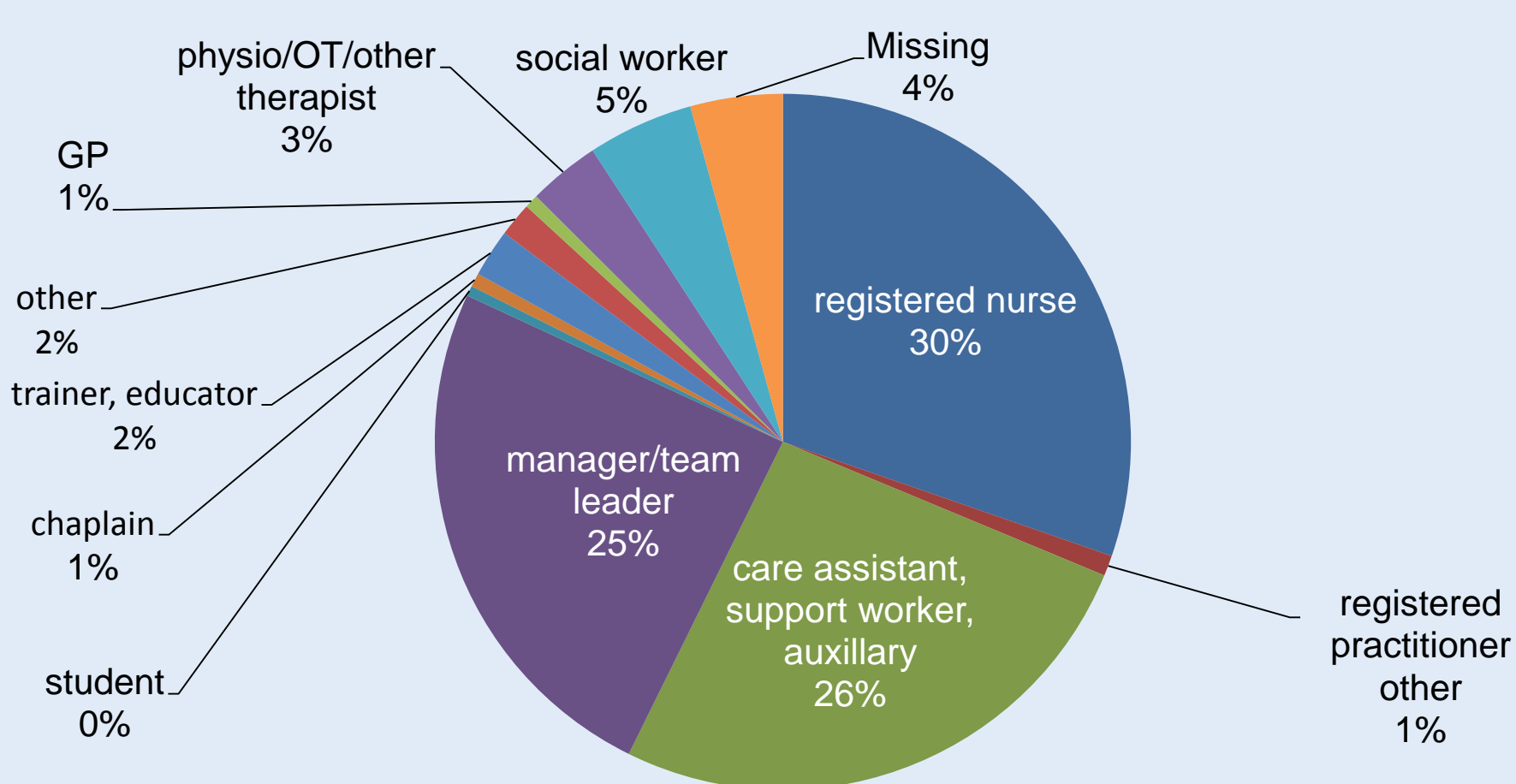
Whittaker B, Parry R, Bird L on behalf of the EMET project team, *et al* Development, validity and reliability testing of the East Midlands Evaluation Tool (EMET) for measuring impacts on trainees' confidence and competence following end of life care training *BMJ Supportive & Palliative Care*. Published Online First: 02 February 2017. doi: 10.1136/bmjspcare-2016-001100

Validity and reliability

Validity

- Content validity: whether the domains examined by the tool were appropriate, important and sufficient to its purposes (Bausewein C, Daveson B, Benalia H, et al,2015) examined through consultation with interested parties rather than via statistical methods
- We conducted two separate structured consultations, one of these entailed completion and analysis of trainer feedback questionnaires during field testing, secondly, we designed and ran a three-part structured workshop during the 2012 conference of the UK National Association of Palliative Care Educators (NAPCE), collated and analysed via inductive qualitative content analysis (Elo S, Kyngäs H, 2008)

Test–retest reliability

- The convenience sample of 112 student nurses completed the Likert section of the questionnaire on two separate occasions 1 week apart. The overall total score at each time point correlated best, with a Pearson r correlation of 0.84. A score of 1 indicates a perfect correlation but scores of 0.7 or above are generally considered to be highly correlated (Hinkle DE, Wiersma W, Jurs SG,2003)

- The tool has good test–retest reliability and that changes in score over time can be attributed to changes in self-assessed confidence and competence as opposed to the effect of repeat administration, internal consistency: the questions successfully assess different aspects of the same underlying concept

Results and discussion

The EMET comprises 27 items with Likert-scaled responses supplemented with questions seeking free-text responses. It measures changes in self-assessed confidence and competence on five subscales: communication skills; assessment and care planning; symptom management; advance care planning; overarching values and knowledge. The EMET provides a validated, time-efficient, comprehensive and reliable means of evaluating effects of training on self-reported confidence and competence in the key elements of end of life care.

- Experienced trainers felt tool may be too lengthy for administration in training events lasting half a day or less
- Potential for possible ceiling effects, i.e. trainees who report high levels of confidence and competence pretraining
- Trainees' responses is very subjective, numerous empirical studies that show self-report does not straightforwardly reflect actual skill, generally, self-reports yield larger change scores than evaluation of actual performance (Davis DA, Mazmanian PE, Fordis M, et al, 2006)
- Where resources allow, multiple assessments including actual workplace performance and patient outcomes should be used to assess actual application of that knowledge to workplace performance (Wass V, Van der Vleuten C, Shatzer J, et al, 2001), where resources are limited, a validated tool such as the EMET, offers a feasible /economical means of measuring a limited aspect of training's impacts.

http://www.nottingham.ac.uk/research/groups/ncare/documents/evaluation-toolkit-v6.1-2017.pdf
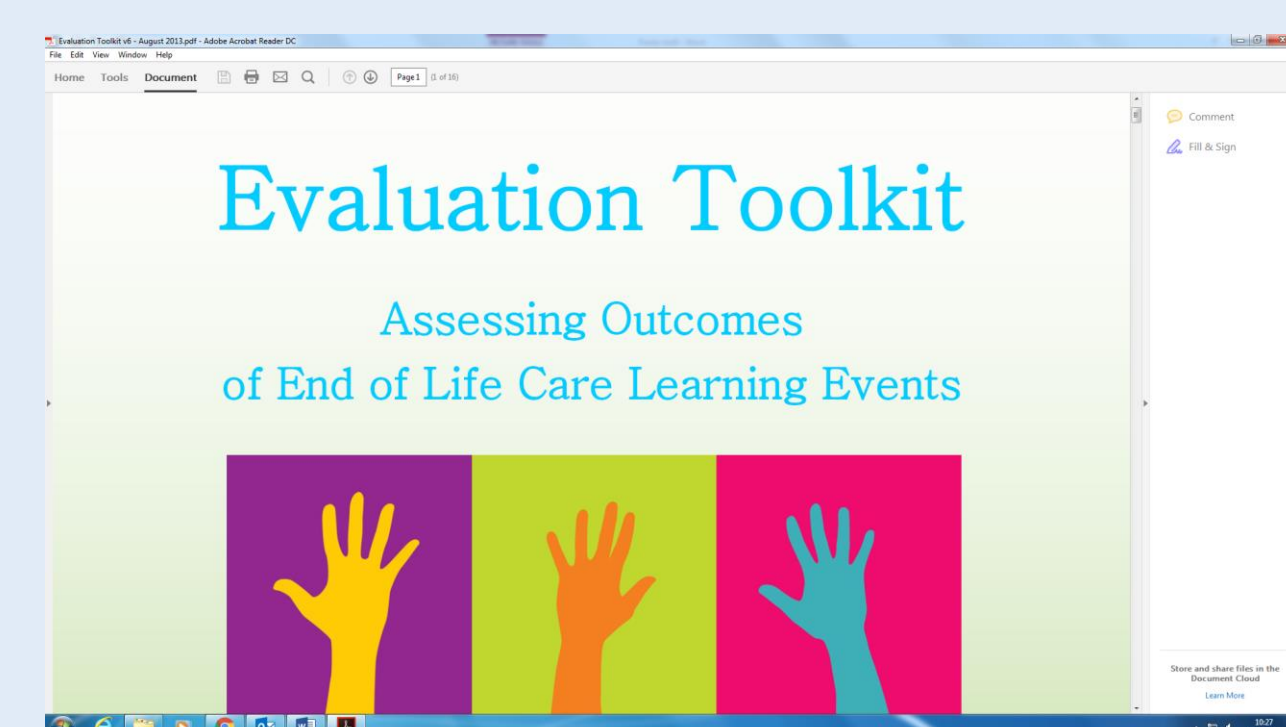
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