

**Improving psychological knowledge and skills for cancer care professionals working in supportive and palliative settings: development and evaluation of an innovative Acceptance and Commitment Therapy (ACT) Enhanced Communication Skills Training Programme**

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## ABSTRACT

**Background:** Psychological suffering is ubiquitous with cancer and frequently presents as an unmet supportive care need. In clinical practice, distress-related needs are often addressed by nurses and non-psychologist allied healthcare professionals who may have limited training in psychological therapeutic frameworks, particularly more recently-developed interventions such as Acceptance and Commitment Therapy (ACT).

**Aims:** We developed a single-day training programme for professionals working in supportive and palliative cancer care settings to change the nature of clinical communication about psychological distress and suffering towards an ACT-consistent approach.

**Method:** We report on experiences of training delivery, and evaluation data about training satisfaction and intention to apply the training to clinical practice, from three training iterations in British and Australian, government-funded and charitable sectors. One hundred and sixteen cancer care professionals participated in the training. Evaluation data was collected from 53 participants (at either two-week or three-month follow-up, or both) using self-report survey including both quantitative and free-text questions.

**Results:** At two-week follow-up, 73% of trainees rating our course as having relevance to their work, and at three-month follow up, 46% agreed that they were better placed to provide improved clinical services. Qualitative feedback supported the inclusion of experiential learning and theoretical explanations underpinning ACT techniques. Undertaking this training did not significantly increase trainees' stress levels, nor did implementation of this new way of working negatively affect staff wellbeing. Positive, ACT-consistent, changes in communication behaviours and attitudes were reported, however there was a lack of significant change in psychological flexibility.

**Discussion:** Acceptability and applicability of this training to supportive and palliative healthcare is positive. The lack of change in psychological flexibility suggests a potential need for more experiential content in the training programme. Logistical challenges in one training group suggests the need for more robust train-the-trainer models moving forward.

## INTRODUCTION

Cancer remains one of the most prevalent chronic health conditions, and is the second-leading global cause of cause of death.[1] Cancer affects people of all demographic groups. For instance, despite lower prevalence, societal and economic impacts in adolescents and young adults can be considerable.[2,3] Cancer-related emotional distress is common and a frequently identified supportive care need: recent studies estimate distress prevalence at 46% in adults[4] and 41.5% in adolescent and young adults.[5] Depression, generalised anxiety, post-traumatic stress, and fear of recurrence are common significant clinical presentations[6,7] including effects on family members.[8]

The psychological flexibility model underpinning Acceptance and Commitment Therapy (ACT)[9] is advocated as a conceptually-suitable intervention framework for cancer-related distress;[10] trial-based evidence is building[11] across a range of outcomes,[12] including in those with incurable cancer who are being treated in palliative care settings.[13,14] Non-interventional research demonstrates that psychological flexibility (the process variable changed in ACT) correlates strongly with patient-reported outcome measures in cancer — including distress-related, quality of life, and positive ‘growth’ outcomes[15] — and may moderate the relationship between unmet needs and these outcomes.[16] There have been repeated calls to action to consider how to disseminate evidence-based psychological intervention technologies to broader audiences. This message resonates with us given our expertise working with people affected by cancer. Given the broad applicability of the psychological flexibility model for those with both curative and non-curative cancer, ACT-informed practice is likely to be useful as part of the broad supportive care toolkit across the cancer continuum from diagnosis, through to survivorship and end of life.

The high prevalence of cancer inevitably means that alternative care provision for psychological needs is necessary; there are insufficient psychologists in global healthcare systems to support patients, and many of those affected by cancer-related distress actively choose to seek support from other healthcare professionals.[17] Across different countries and healthcare systems, psychosocial support often falls to nurses[18] and stepped-care approaches

to psychosocial screening and distress management are advocated.[19-21] Ongoing austerity in global healthcare has placed greater burden on the charitable sector to provide psychosocial support. At the same time, professional development budgets are often limited and healthcare practitioners may lack knowledge of, or confidence to use, recently developed psychological intervention frameworks.

Given evidence for the efficacy of ACT in cancer care, and as delivered by non-psychologists,[22] we developed a novel training programme for cancer care professionals. Situated within communication skills practice, and informed by Contextual Behavioural Coaching,[23] we aimed to: (i) encourage mindset change about the nature of cancer-related distress towards ACT-consistent perspectives, and (ii) train skills and exercises for use in day-to-day clinical cancer care. In this initial evaluation study, our training beneficiaries were the healthcare professionals themselves: by upskilling them with knowledge of the psychological flexibility model and associated brief intervention techniques, we hoped that they would report feeling better equipped to provide improved emotional and psychological care to patients, and that this approach might help to develop a culture in which ACT-based care fits well. This paper describes training delivery and reflections on successes (operationalised as our primary outcomes of training satisfaction and skill implementation), challenges and opportunities.

## **TRAINING DEVELOPMENT AND DELIVERY**

Our initial training programme included four hours of introduction to the psychological flexibility model of wellbeing. We selected a range of brief experiential exercises to enhance the training, and provide a basic toolkit for use in busy clinical settings, where time is short and supportive care interactions are often passing, one-off occurrences. Following good practice guidance, we aimed for a communication style that was: non-dominant, encouraging clients to feel comfortable to talk freely and to ask questions;[24] supported appropriate use of empathy and active listening;[25] facilitated the appropriate enquiry and understanding of patients' perspectives;[26] and, emphasised good relationship building.[27] Our goal was not to train ACT 'therapists' nor to train delivery of a specific manualised intervention, but to advocate for an ACT-

consistent mindset toward cancer-related distress, and provide an alternative way of intervening with clients in those that might not otherwise be familiar with this approach. We delivered three iterations of this training programme across a range of settings, delivering this training to 116 cancer care professionals in total as summarized in table 1, and described in further detail below. Our three training settings (two third-sector cancer support charities and one NHS hospital) were selected to represent the general applicability of the psychological flexibility model: they each provide services for a range of people affected by cancer, including those requiring supportive care for treatment for a curative diagnosis, those requiring palliative care for non-curative illness, and the families and friends affected by someone else’s cancer diagnosis.

**Table 1: Summary of trainee numbers and evaluation respondents.**

Training Iteration	Trainee group		Evaluation response rate	
	Number	Disciplinary background	Two-week	Three-month
<b>1. Maggie’s Cancer Centres (UK)</b>	n=47	Nursing and allied health	n=29 (62%)	n=19 (40%)
<b>2. National Health Service (UK)</b>	n=19	Primarily nursing, but also one dietician and one service manager	n=9 (49%)	n=5 (26%)
<b>3. Canteen (Australia)</b>	n=50	A mix of psychologists, counsellors, and social workers	<i>Not collected</i>	n=25 (50%)*
<b>Total</b>	<b>116</b>		<b>n=38</b>	<b>n=49</b>

\* Our analysis in this paper, however, includes only those who provide client-facing psychosocial support for consistency with other samples (n=13)

### **Iteration 1: Maggie’s Cancer Centres**

Maggie’s ([www.maggies.org](http://www.maggies.org)) are an independent charity, with centres at cancer treatment hospitals, primarily in the UK. At the time of delivery there were 18 UK centres, and one centre in Hong Kong, though the organisation has since grown considerably. Training was delivered first to all 19 Centre Heads, and then to all UK-based Cancer Support Specialists (CSSs; 47 staff in total) one month later. Trainees—primarily nurses or allied health professionals—included all staff within

the organisation who facilitate visitor drop-in, initial triage and informal assessment, and who run support and group activities. By training Centre Heads in advance, we intended that they would be well-practiced in implementing skills taught to support the CSSs through workplace supervision.

We learned through informal discussion with trainees and managers that skill intention implementations were lower than perhaps ideal because there wasn't enough skill practice during the training: this was addressed in developing the second iteration of the training.

### **Iteration 2: UK NHS**

Clinical practice guidelines for supportive and palliative care have been published by the National Institute for Clinical Excellence, and apply across all National Health Service (NHS) hospitals in England and Wales.[19] The guidelines emphasise the importance of good communication, and regular assessment and support of psychological and supportive care needs throughout the cancer pathway. In addition to communication skills training,[28] specialist cancer nurses should have access to additional training in assessment and management of psychological distress, and regular supervision to sustain learning. We worked with the team responsible for delivering this training at one NHS Hospital in England to integrate our training package into their bespoke, two-day, skills training course. Training was delivered by NHS staff, supported and supervised by two training developers. Nineteen staff attended the training, the majority of whom were specialist cancer nurses, though one dietician and one service manager also attended.

### **Iteration 3: Canteen, Australia**

Canteen ([www.canteen.org.au](http://www.canteen.org.au)) supports young people aged 12 to 25 affected by cancer across Australia. Training was delivered (by one training developer) to 50 staff in the organisation, covering the majority of staff in the organisation with responsibility for providing in person and online support to these young people. The programme structure followed that delivered in iteration one but with the additional skill practice opportunities added in iteration two. Following

additional feedback we included more content on ACT-based coaching skills,[23] and basic contemporary evidence from communication-relevant applications of Relational Frame Theory (RFT)[29] (e.g. use of metaphor and multiple-exemplar training) to provide a stronger practical evidence-base (Table 2).

**TABLE 2: Overview of training programme content**

Training section	Content overview	Core theory/frameworks introduced	Experiential exercises / metaphors used
<b>Opening</b>	<ul style="list-style-type: none"> <li>- Overview of aims and objectives</li> <li>- Working agreement</li> </ul>		
<b>Introducing the ACT model</b>	<ul style="list-style-type: none"> <li>- Overview of Relational Frame Theory (RFT) -based explanations of language, thought automaticity and the link to distressing emotions</li> <li>- Paradox of thought challenge / experiential avoidance</li> <li>- Defining acceptance in the context of cancer and end of life care</li> <li>- Thinking about the importance of value-guided conversations</li> </ul>	<ul style="list-style-type: none"> <li>- Grounded at first in the psychological flexibility hexaflex[9] but then narrowing down to the simplified triflex as a potentially more pragmatic way of thinking about ACT in non-package applications</li> </ul>	<ul style="list-style-type: none"> <li>- Sentence completion exercises</li> <li>- Thought watching meditation</li> <li>- Ironing water metaphor</li> <li>- Yellow-truck exercise</li> <li>- Chinese finger trap</li> <li>- Values as a compass metaphor</li> <li>- Sweet spot values exercise</li> <li>- Values card sort/worksheets</li> </ul>
<b>Defining psychological flexibility</b>	<ul style="list-style-type: none"> <li>- Moving on from talking about the underlying theory, we then discuss, practically, what changing psychological flexibility might look like in clinical settings</li> </ul>	<ul style="list-style-type: none"> <li>- Towards the end, we introduced some of the cancer-specific evidence to show what they'd learned about is relevant in their specific setting.</li> </ul>	<ul style="list-style-type: none"> <li>- "I can't walk to the door" exercise</li> <li>- "I'm having the thought that..." exercise</li> <li>- Imaging thoughts in different voices / manipulating on an imaginary computer screen</li> <li>- Beach ball metaphor</li> <li>- Passengers on the bus</li> </ul>
<b>Integrating ACT into clinical communication*</b>	<ul style="list-style-type: none"> <li>- The importance of tailoring content for specific client groups</li> <li>- The importance of modelling as an extension of existing empathic listening skills</li> <li>- Multiple exemplar training</li> <li>- The effective use of metaphor</li> </ul>	<ul style="list-style-type: none"> <li>- Process based approaches, and encouraging confidence to 'deconstruct' the hexaflex in order to focus on the most important content in brief client interactions</li> <li>- ACT-based / contextual behavioural coaching[23]</li> </ul>	<ul style="list-style-type: none"> <li>- Examples of physical (non-verbal metaphors)</li> <li>- Working with a client you can't fix exercise</li> <li>- Description of multiple (brief) mindfulness exercises, for example, mindful eating of a raisin, making a mindful cup of tea etc.</li> <li>- Leaves on a stream</li> </ul>

\* This section was expanded considerably in training iteration three.

## **Data collection**

We evaluated this training using a self-report questionnaire. In training iterations one and two, assessments were completed pre-training, and at two-week and three-month follow-up. For training iteration one our response rate at three-month follow-up was 40% (19 trainees); although we achieved a 49% response to the two-week follow-up for training iteration two, a smaller number ( $n=5$ ) completed three-month questionnaire. We were unable to record pre-training answers for training iteration three due to logistical constraints: data was collected at three-month follow-up only. Twenty-five trainees responded (50% response rate), but here we focus only on those who provide client-facing psychosocial support for consistency with other training samples ( $n=13$ ).

In addition to demographic and contextual information about job role and experience we asked trainees to complete a number of validated self-report questionnaires:

### ***Primary outcomes***

Our primary evaluation outcome was a self-report measure assessing two separate domains: (i) training satisfaction and (ii) skill implementation intentions. The 19-item questionnaire used to assess this was developed specifically for this evaluation (see table 3). Trainees responded to each item using a five-point response scale where higher ratings represent better satisfaction and higher implementation intention.

### ***Secondary outcomes***

In training iterations two and three we supplemented our evaluation questionnaire with nine additional questions to assess potential changes in ACT-consistent communication practices. Trainees responded to each using 10-point response scale; four questions were anchored such that lower scores represent an ACT-consistent responses, and six such that the ACT-consistent practice is indicated by a higher response score (see table 4).

To ensure that our training (and implementation of the new skills) did not negatively affect staff wellbeing, we measured change in perceived stress using the ten-item version of the Perceived Stress Scale (PSS-10).[30] This scale assesses the frequency of stressful encounters over the previous four-week period on a scale ranging from 0 (never occurs) to 4 (occurs very often) and was used in evaluation of all three training iterations. In training iteration one we used the Professional Quality of Life Scale (ProQoL),[31] a 30-item assessment of burnout, compassion satisfaction and compassion fatigue designed specifically for people working in the helping professions. The ProQoL was not used in later training iterations to pragmatically reduce response burden by shortening the questionnaire.

Psychological flexibility is the intended process-variable of ACT-interventions; given ACT training exposes trainees to similar experiential learning as those receiving an ACT intervention, we expected some improvement following participation in our training. We assessed this in training iterations one and two using the seven-item Acceptance and Action Questionnaire II (AAQ-II).[32] The AAQ-II was not used for training iteration three due to lack of change reported in previous iterations.

### **Open-format feedback**

At the end of the evaluation survey distributed to iteration three trainees, we included space for any additional free-text comments using an open-ended question format. Although included for only a small sub-set of our trainees, we hoped that this would provide some information to supplement informal feedback from organization managers from training iterations one and two, and might further clarify barriers to implementation to inform further development of this work.

### **Data analysis**

Training satisfaction, skill implementation intentions, and self-reported ACT-consistent communication practices are reported descriptively, with a focus on change from pre- to post-training ratings and whether these were maintained to three-month follow-up. Changes in

perceived stress, professional quality of life and psychological flexibility were analysed using ANOVA inferential statistics. Analysis was undertaken using SPSS v24.

Given the small number of free-text responses it was not appropriate to undertake a full qualitative analysis of these data; instead, we report some illustrative and representative comments verbatim as part of this evaluation report.

## RESULTS

Trainees had varied degrees of work experience in supportive and palliative cancer care, from just a few months to over 20 years. Of all survey respondents ( $n=53$ ), five were male and over half had received training in communication skills. Thirty-five and sixteen, respectively, had received introductory-level training in mindfulness or ACT, though proportions were higher in the third training iteration.

### Qualitative comments

Free-text, qualitative feedback suggested that the training was “...done in a way that was very accessible and interesting” and provided “...a solid foundation of what our work is based on”. Participants appreciated aspects encouraging a deconstructed, briefer approach to using the ACT framework, for example, “...that brief ACT-based interventions, such as defusion, on its own can enact positive change...”.

The addition of more ‘technical’ content in the form of Relational Frame Theory (RFT)-based explanations of the use of metaphor and multiple-exemplar training was also appreciated to “...connect ACT principles that I was familiar with, with RFT”, and providing “...more understanding about RFT and its clinical applicability”.

Participants pointed to the cancer-specific tailored nature of the training as beneficial compared to previous ACT trainings, for example: “...it seemed to relate more to how [my organisation] works...”, “[training] ACT in a way that can be explained to [my client group]”, and

*“I’ve done ACT training before but I found the presenter’s take quite interesting and there were perspectives I hadn’t thought about previously.”*

### **Quantitative data**

Satisfaction data was encouraging (Table 3), with participants rating training delivery positively. In most cases, satisfaction further improved by three-month follow-up, though it is unclear whether this represents *actual* improvement, or is affected by inclusion of data from training iteration three at this time-point. At three-month post-training, 46% endorsed that they were able to provide a better service as a result of the training. Slight outliers to these positive ratings relate to *coping with job demand* and the training providing *self-care skills*. Though the latter increased by three-month follow-up, trainee impacts were considered secondary to impacts on patient-facing clinical work when designing this training.

Intentions to use the skills taught at two-week follow-up were higher than actual skill implementation three months later (Table 3). Nonetheless, at least half of our respondents were using the skills with cancer patients, patients’ families and friends, or for their own benefit at this time-point. Fifty-four percent of trainees who completed three-month follow-up reported that they had undertaken further learning about ACT, and 43% reflected that their practice had changed as a result of the training.

**TABLE 3: Satisfaction and implementation data (percentage of participants endorsing the item at either 4 or 5 out a 5-point response scale).**

	2 week follow-up (n=38) <sup>**</sup>	3 month follow-up (n=37) <sup>***</sup>
<b>General training satisfaction:</b>		
The training met my expectations	77%	70%
The training was delivered in a clear and understandable way	62%	81%
The training had clear relevance to my work	74%	81%
The training was helpful in giving me self-care skills	45%	65%
I would recommend this training to others	74%	76%
I think that my [client group] will benefit as a result of staff attending this training	70%	73%
Overall, the training was worthwhile for me	74%	76%
I think I'm able to provide a better service as a result of attending the training	---	46%
I'm better able to cope with the demands of my job as a result of the training	---	24%
<b>Skill implementation:</b>		
I have a clear idea how I'll be able to integrate my learning into my day to day work	60%	57%
I intend to use the skills learnt with clients <sup>‡</sup>	72%	---
I regularly use the skills learnt with clients	---	51%
I intend to use the skills learnt with clients' families and friends	70%	---
I regularly use the skills learnt with clients' families and friends	---	49%
I intend to use the skills learnt for my own benefit	62%	---
I regularly use the skills learnt for my own benefit	---	49%
I intend to learn more about ACT after the workshop	68%	---
I have undertaken further reading / learning about ACT after the workshop	---	54%
My practice has changed as a result of the training	---	43%

<sup>‡</sup>Clients here refers to the person with a cancer diagnosis; <sup>\*\*</sup>Data from training iterations 1 and 2 only;

<sup>\*\*\*</sup>Data from all three training iterations

Our measure of ACT-consistent practice has a Likert-scale mid-point value of five: on four items we expected an ACT-consistent perspective to be below the mid-point, and for the remaining five items, the ACT-consistent perspective should score above mid-point (Table 4). Trainee ratings were consistent with expectations with just two exceptions (questions 3 and 7). In most cases, ratings were more ACT-consistent at three-month follow-up. We would caution, however, against concluding that this represents longer-term improvement; the three-month sample includes respondents from all three training iterations, and it is likely that inclusion of trainees from delivery iteration three shifted mean scores considerably. There was a general trend towards iteration two respondents scoring less ACT-consistently at three months, with only minor improvements from two-week ratings.

We did not see significant increases over time in psychological flexibility on the AAQ-II in either training iteration one ( $F(2,36)=.564, p=.574$ ) or iteration two ( $F(1,4)=.738, p=.439$ ). There were no significant increases in stress ( $F=.488, p=.620$ ), nor decreases in professional quality of life (compassion satisfaction:  $F=.198, p=.822$ ; compassion fatigue:  $F=3.972, p=.051$ ; burnout:  $F=.259, p=.774$ ) as a result of the training (iteration one trainees only).

**TABLE 4: Mean responses on ACT-consistent practice beliefs, rated on a scale of 1 (completely disagree) to 10 (completely agree).**

	'Ideal' response	Two-week follow-up (n=9)*	Three-month follow-up (n=30)**
1) If the client I've spent time with isn't happier at the end of my conversation with them, then I've failed in my role	Low	4.2	3.4
2) The primary purpose of my role is to provide information and practical advice to patients/clients	Low	5.2	4.7
3) I think it's important to help clients resolve contradictory or difficult ideas, feelings, memories and the like	Low	3.8	5.4
4) When a client becomes very emotional, I feel like I need to do something to stop them feeling that way	Low	4.2	3.6
5) I believe that suffering and distress are reasonable and understandable aspects of the cancer experience	High	5.6	8.3
6) It is OK for a client to see that I too am a real, vulnerable human being	High	5.8	7.6
7) It can be appropriate for me to disclose about my own experience if that might help the client	High	3.6	5.1
8) There are no right or wrong ways to cope with emotional distress; it's just about whether the coping strategy allows a person to live a life they want to live	High	6.2	7.7
9) When faced with worries about the future, it's important to be able to notice what's happening	High	7.0	8.2

\*Data from training iteration 2 only; \*\*Data from training iterations 2 and 3 combined

## DISCUSSION

We iteratively developed an ACT-enhanced communication skills training programme over a twelve-month period. Excellent healthcare communication is acknowledged as a precursor to optimal patient care,[33] and effective communication skills are associated with better understanding, patient satisfaction and experience of care, treatment compliance, health outcomes, and lower anxiety levels, and rates of clinician malpractice claims.[34]

Iterations where the core development team (authors NHW and LHW) directly delivered training were rated more positively, highlighting the need for robust train-the-trainer approaches moving forward. The third iteration was the most practical-based, and RFT-informed content was welcomed by participants. Some RFT-based content can be difficult to understand for those without sufficient prior psychological knowledge, and whilst none of our trainees reported this to be off-putting, as facilitators we observed that this necessitated a greater learning curve and workload for trainees.

Though evaluation response rates were lower than we had hoped, we still managed to collect a reasonable amount of data from each training iteration, and from across trainee disciplinary groups. We do not have demographic and disciplinary information from all trainees and so we are not, unfortunately, able to make comparisons between responders and non-responders. It may, of course, be that non-responders were from a particular group who found the training to less relevant to their work, or that non-response indicates that these trainees were less satisfied with the training, but we are not able to make any conclusive claims in this regard from this initial piece of work. Indeed, we know that in some iterations of the training that staff were highly-stressed and their non-response may simply indicate their lack of time to engage with our evaluation more than anything else.

From those trainees who did respond to our evaluation survey, satisfaction ratings and skill implementation intentions were rated reasonably highly. Introducing novel work practices can be stressful,[35] and we were pleased that work-related wellbeing did not decrease. Ideally, trainees' own psychological flexibility would have increased, but this was not found. There are a number of potential explanations. First, our training may have been too short or didactic to achieve sufficient change to be statistically significant; second, that many trainees reported prior training in mindfulness and ACT may have left little 'space' for improvement; or third, potential changes in psychological flexibility may have been diluted by contextual factors, particularly in the NHS setting, where broader environmental stressors were extraordinarily high. Given recent literature on the psychometric properties of the AAQ-II,[36] it is also possible that this measure was not

suitable: this explanation is somewhat supported by identification of change in our own items measuring changes in workplace-specific psychological flexibility beliefs and behaviours.

Informal feedback from trainees and managers indicated that our training was better received by staff in third-sector organisations compared to those in the NHS setting. We believe this may be a result of those organisations being more actively engaged to support implementation of the ACT model, including willingness from managers to take part in the training themselves. There was also more discussion, interaction and willingness to take part in experiential exercises within these two training cohorts. A further complication of the NHS-based training is that we are unable to separate training feedback as related to delivery of the ACT components compared with the broader training content: delivery was fully integrated with training of other clinical skills, compared to iteration three where, for example, delivery was self-contained within a three-day training event. The combined nature of the NHS training model may have also introduced confusion as content switched regularly between different, and perhaps competing, underlying frameworks.

### **Challenges and future opportunities**

At the time of delivery, the NHS hospital involved in training iteration two was experiencing a number of potentially confounding environmental factors (e.g. the effects of particularly strained budgets, staff shortages etc.) and this likely affected trainees' experiences. Trainee feedback suggested that the experiential content was perceived as more personally difficult than previous continuing professional development training attended, which they felt unprepared for and which was not well-received. This hospital is not alone in experiencing these problematic environmental factors: cancer care workers across multiple settings are at continued risk of poor psychological wellbeing, including stress, burnout and compassion fatigue.[37-39] Based on our experiences, trainees need to be better prepared for what we, as trainers, expect from them, particularly where more experiential frameworks are used. Recent research demonstrates that psychological flexibility is highly correlated with workplace stress and wellbeing in healthcare staff,[40] and so it is possible that delivered optimally, there may be dual benefits on both communication outcomes

and staff wellbeing. Interventional research in other professional settings has reported positive effects on work performance,[41] innovation[42] and work-related stress.[43] Given our trainee reports of using the skills for their own benefit, future training iterations should map beneficial effects on staff wellbeing accordingly.

A number of challenges and barriers may preclude engagement with professional development opportunities in healthcare settings, and for us this was more problematic in the NHS context. Here, the training was offered using an 'opt-in' model, rather than organizational-wide mandatory training; as such, trainees were not provided with equivalent management support and ACT-specific supervision for post-training implementation provided in iterations one and three. Implementation of this training to other hospital settings needs to address this issue to maximise success. Integration of our training content into a broader programme of skills development may have complicated skill development and training outcomes; further development work in this specific NHS hospital is being undertaken prior to attempting a similar mode of delivery to other NHS sites.

We believe that this training may be helpful for any discipline of healthcare professional supporting people affected by cancer, whether working in supportive or palliative care settings; beyond this, only minor modifications would be needed for implementation to be broadened out to other illness groups, beyond cancer. As such, additional training delivery, based on the extended iteration three training manual, is currently underway to a broader range of health and social care practitioners, reflecting the multi-disciplinary nature of cancer care,[44] which includes non-professional volunteer staff.[45] Where time permits for longer training, more skill-based practice should be included, though we found this a challenging 'sell' to managers due to back-fill constraints for staff attending the training.

Rather than being used as a stand-alone intervention, our aim with this training programme was that the knowledge and skills taught would be integrated into day-to-day communication with cancer patients, and we have shown in this initial evaluation that a substantial number of our trainees felt able to do this, and reported that their care had improved as a result. The ultimate aim of communication skill training, however, is usually a positive impact on the service user

group in question — here, cancer patients and their families/friends — although previous research has failed to reliably demonstrate such improvements in healthcare outcomes following communication skill enhancement.[46] Undertaking outcome evaluation at this level, whilst important, is costly and was not feasible for our early development and pilot work, but now that we have an acceptable training manual this is a logical next step and should be a key primary outcome measure for future training iterations, where possible. In developing healthcare interventions, cost effectiveness considerations should be paramount.[47] In addition to measuring this as an outcome of future training iterations, cheaper and more accessible delivery methods (e.g. online training) should also be explored.

**Contributors:** NHW and LHW conceived the original idea for the training programme. The initial training manual was developed by NHW, LHW and LH; this was adapted in collaboration with PP and SS for subsequent training iterations. Data collection and analysis was undertaken by NHW and LHW. NHW wrote the initial draft of the paper. All authors contributed to redrafting and editing of the manuscript.

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