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Assessment of fidelity in an educational workshop designed to increase the uptake of a primary care alcohol screening recommendation

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Summary

Rationale, aims and objectives

Educational workshops are a commonly used quality improvement intervention. Often delivered by credible local health professionals who do not necessarily have skills in pedagogy, it can be challenging to achieve high intervention fidelity. This paper summarises the fidelity assessment of a workshop designed to increase uptake of a primary care alcohol screening recommendation.

Method

Delivered in a single health region, the workshop comprised separate sessions delivered by three local health professionals, plus two role-plays delivered by a commercial company. Sessions were tailored to local barriers. Meetings were held with presenters, and an outline of the barriers provided. Two researchers attended the workshop, rating the number of specified barriers targeted by presenters and their quality of delivery. Participant responsiveness was measured through attendees' feedback, and intervention dose calculated as the proportion of health professionals who attended and proportion of general practices represented.

Results

Exposure was low, with 62 of 545 health professionals from 30 of a possible 80 practices attending. Sixty-five percent of the specified barriers were targeted. There was variability in quality of delivery and participant responsiveness; challenges

included potential mixed messages, overreliance on didactic methods, and certain barriers appearing easier to target than others.

Conclusions

The framework provided a rounded assessment of intervention fidelity: intervention coverage was low, adherence moderate, and there was variability in the quality of delivery across presenters. Future studies testing the effectiveness of interventions delivered by local experts with and without brief training in pedagogy/behaviour change would be beneficial.

Introduction

Despite only modest effects on health professional behaviour, educational meetings and workshops are a commonly used quality improvement intervention aimed at improving clinical practice (1, 2), either as a single intervention, or more commonly combined with other strategies as part of a multifaceted intervention. Reasons for their popularity include: feasibility (a short, lunchtime, educational meeting may be one of only a few strategies considered possible) (1, 3); the presence of continuing professional development “points”; the ability to deploy a variety of didactic and interactive strategies and a range of behaviour-change techniques (e.g., (4)) to increase effectiveness; and, sometimes, just because they are “familiar” to healthcare staff (5).

How well the delivery and receipt of the intervention mirrors the plans of those who have developed it – the intervention’s fidelity - is increasingly recognised as an important determinant of its effectiveness. Recommendations for how to assess fidelity emphasise the importance of monitoring adherence to the intervention plan, ensuring that the “dose” of the intervention is standardised, that recipients’ response to the intervention is as anticipated, and that active elements of the intervention content (the essential components, predicted to stimulate change) are specified (6). The conceptual framework for implementation fidelity (7) outlines the relationship between these elements. In this framework, adherence is proposed as the “bottom-line measurement of implementation fidelity” (7): if intervention delivery adheres to the content (the active elements of the intervention) and adheres to the frequency, duration and coverage specified in the intervention plan (the intervention dose), then fidelity is classed as high. However, the framework also posits that adherence to the content, frequency, duration and coverage of the intervention as planned is influenced by the following, moderating, variables: quality of intervention delivery, participant responsiveness to the intervention, intervention complexity and whether facilitation strategies (such as intervention manuals) are used.

Despite the importance of fidelity, achieving it in quality improvement educational meetings and workshops is difficult; primarily because those who have developed the intervention often researchers or staff with a quality improvement remit - often have only limited control over its delivery. From a communications perspective, a credible “messenger” is an important factor for success (8). In reality though, health professional subject-experts within an organisation may lack the requisite behaviour-

change, negotiation and persuasion and facilitation skills to deliver truly high quality educational meetings. Successfully mixing didactic and interactive components (itself, desirable) (2) is also dependent on the quality of delivery. Because subject experts are often very motivated, they may wish to promote messages and material that go beyond “the intervention” proper, or append additional techniques (for example, providing unscripted feedback on performance). Whether this enhances or dilutes intervention effectiveness is unknown (11).

Delivering a tailored educational meeting or workshop intervention with a high degree of fidelity, is challenging. The crux is controlling delivery of an intervention that has been developed by those with behaviour change expertise, yet delivered by local collaborators with subject-expertise but who may lack expertise in delivering tailored educational meetings or workshops.

In this paper, a fidelity assessment of an educational workshop delivered as part of a multifaceted intervention promoting uptake of a primary care alcohol screening recommendation is summarised, with issues highlighted and recommendations made for future research. The targeted recommendation was chosen collaboratively with the local quality improvement and public health team; tackling alcohol misuse is a national and local priority, and there was evidence supporting the efficacy of screening and brief intervention in primary care settings (10). There was also scope for improvement locally: local audit indicated screening was not taking place as routinely as recommended, and where screening occurred it usually consisted of

asking service-users how many units of alcohol they drink a week (the “units question”), rather than through using a validated tool with established reliability and sensitivity at identifying problem drinkers. Given the breadth of the recommendation, the number of screening tools available, and the potential for clinical benefit, we targeted patients with hypertension, who are a high risk group (10), and promoted a shorter version of the ‘Alcohol Use Disorders Identification Test’ (AUDIT) called ‘AUDIT-C’.

Method

This study received ethical approval from Local (West Yorkshire) Research Ethics Committee (Reference 10/H1313/79).

Setting and participants

The study was conducted in a single health region and targeted general practitioners’ (GPs, N=394), nurse practitioners’ (N=61) and practice nurses’ (N=90) uptake of the targeted alcohol screening recommendation.

The quality improvement intervention

Using an intervention mapping approach (11), a literature review was conducted to identify commonly occurring barriers to alcohol screening in primary care. To assess the local relevance of the barriers identified from the review, a summary was sent to a convenience sample of 12 local health professionals (11 GPs and 1 practice nurse)

identified by the local quality improvement team. All of the barriers were fed back as ‘resonating’ locally. The barriers were subsequently re-phrased into proximal programme objectives (intervention objectives), in line with intervention mapping recommendations (11). For example, the barrier “difficulty keeping up to date with the guidance” was re-phrased as “develop knowledge of updated guidance”. Given the number of objectives, they were then grouped into related “domains” with reference to the Theoretical Domains Framework (12); this validated framework (13) summarises individual level variables that can influence the uptake of recommendations (such as knowledge and skills), social variables (such as social/professional role and identity) as well as system level variables (“environmental context and resources”). Intervention development was guided by consensus-based recommendations (4) as to which behaviour change techniques (e.g., ‘use of persuasive communication’) to use to target each of the identified domains, with mode of delivery (e.g., via “educational workshop”) determined by consideration of what was feasible in the local context. Figure 1 provides a summary of the intervention objectives, the domains they were grouped into, and the recommended behaviour change techniques and modes of delivery selected.

(Insert Figure 1 here)

As can be seen from figure 1, the main intervention was a single, three hour, educational workshop, delivered March 2013, designed to target all of the identified barriers/objectives. Additional intervention components, to further target the objectives- although not the focus of this paper-comprised the following two educational materials delivered electronically: an educational leaflet tailored to the

barriers/objectives (with embedded links to an online training resource, a downloadable patient information leaflet, a patient information letter and a copy of the AUDIT C tool), and a separate document with embedded links to two video recorded role-plays demonstrating effective use of validated screening in a time pressured patient consultation by a GP. Changes were also made to the clinical pathway for treating alcohol misuse, and these were promoted at the educational workshop, drawing attention to how the changes made targeted the barriers experienced locally. The intervention was developed collaboratively with the quality improvement team, the commissioning manager for alcohol services and the Public Health Lead for alcohol.

The educational workshop was promoted via an invitation letter and flyer emailed and posted to GPs, nurse practitioners and practice nurses, and through advertisements in two different, weekly, staff newsletters, a month prior to the event. The workshop comprised separate presentations/talks by three local experts in alcohol screening and treatment (nominated by the quality improvement team): a general practitioner who was also the clinical commissioning group lead for alcohol, a consultant psychiatrist based at a neighbouring district care trust with expertise in substance misuse, and a substance misuse commissioning manager who had led on development of a new care pathway for alcohol screening and brief intervention provision locally. Each expert had a 20 minute time slot during the educational session, during which they were required to target different objectives/domains. Two interactive role play sessions were also included in the educational session. These were developed by the research team and delivered by a commercial company with experience in running role play sessions for health professional training. The event was opened and closed by the

public health lead for alcohol. Figure 2 outlines the title and aim of the talks given by each presenter and the two role play sessions, and which of the objectives each session was designed to target. Facilitation strategies were used to try and increase adherence to the intervention as planned: two meetings were held with each presenter a month before the event (attended by the presenter, a member of the research team and a member of the quality improvement team) to discuss its purpose and what their individual sessions needed to cover. Following this, the presenters were provided with an outline of the key messages and objectives for them to target in their session. We considered providing the health professionals with ‘ready-made’ presentations and intervention manuals outlining behaviour change techniques (e.g., advising them to target the objective ‘Perception that brief interventions and referrals are effective’ through use of ‘persuasive communication), but the approach we adopted was recommended by the quality improvement team as “the standard way” of organising educational events locally. The more structured prescriptive alternative was felt (by the local NHS quality improvement team) to be too “imposing”.

(Insert Figure 2 here)

Fidelity assessment

Fidelity was assessed by two research team members (AH, KF) attending the educational session and observing its delivery using a tailored “fidelity check-list”. This comprised a table summarising the objectives/domains to be targeted by each presenter, a column to note whether they were targeted (adherence measure), and space to comment on quality of delivery. The check-list mirrored the outline of

sessions and objectives to be covered by each presenter (figure 2), with added space for free text comments regarding quality of delivery. A similar, tailored, fidelity check-list was used by Hasson et al (14) in their study, underpinned by the conceptual framework for implementation fidelity, which examined the fidelity of an integrated care intervention for elderly people.

Adherence was rated as present when the listed objective had been targeted, for example, by presenting arguments in favour of screening and brief intervention, by providing information to support an assertion made or by use of a video clip demonstrating a health professional performing screening and/or brief intervention. The behaviour change techniques used to target each of the objectives are the active intervention ingredients (15); to assess whether they were targeted, the raters referred to the definitions of the techniques specified in the consensus based recommendations (4) (summarised in figure 1). Copies of presentation slides were also scored for adherence using the fidelity check-list. Quality of delivery focussed on presenters' presentation skills, including whether there was any interaction with the audience, whether there was any potential for mixed messages to be received based on the content of the information delivered, and legibility of presentation slides used, rather than rating it against a benchmark standard. Therefore, this was based on subjective judgement by AH and KF. Participant feedback was also obtained by asking participants to score 'style of delivery', on a five point scale from 1 ('poor') to 5 ('excellent') using an educational workshop evaluation form developed by the local quality improvement team. Participant responsiveness (defined by Carroll et al as the extent to which participants respond to or engage with the intervention; their judgements of the outcomes and relevance of an intervention) is often assessed using

self-report methods such as including use of logs and diaries (7). As this educational meeting was delivered in a single “dose”, responsiveness was measured by asking participants to also score ‘quality of intervention content’, on a five point scale from 1 (‘poor’) to 5 (‘excellent’) on the educational workshop evaluation form; they also had the chance to add free text comments.

To assess exposure/dose of the intervention, an attendance list was used to monitor the number of targeted health professionals who attended, and to also count the number of practices who had representation at the event (with some practices reporting sending only one health professional to then feedback to colleagues).

Results

Exposure/dose of the intervention

Sixty-two health professionals attended the event, of which 43 were from the target population of GPs, practice nurses and nurse practitioners (N=545): 32 GPs (8% attendance rate), and 11 practice nurses/nurse practitioners (7% attendance rate).

Other attendees, not specifically targeted by the educational event were specialist alcohol service workers (N=4), health care assistants (N=4), dentists (N= 2) and health trainers (N= 9).

Of the 80 general practices in the area 30 (38%) were represented at the session by at least one health professional. There were also attendees from related organisations

and services (local mental health care provider, health trainer service and a local voluntary organisation delivering alcohol services). The highest number of health professionals attending from any one practice was 7, with 15 practices sending 1 health professional and a further 8 practices sending 2 health professionals.

Adherence

Figure 3 summarises the objectives to be targeted by each presenter, whether they were targeted, and comments regarding quality of delivery.

(Insert Figure 3 here)

Of the 20 intervention objectives specified in the intervention plan (some repeated across presenters), overall 13 (65%) were scored as adhered to and 6 (30%) as not adhered to by both raters, indicating a high degree of consensus across the two raters. There was disagreement regarding only 1 objective- whether a particular presenter promoted the fact that screening and brief intervention does not require specialist skills. Looking at the adherence of individual presenters to the barriers/objectives allocated to them to target, the first presenter (GP who focussed on the extent of alcohol misuse locally and highlighted high risk groups) targeted three out of their four specified objectives, the second presenter (consultant psychiatrist who focussed on the effectiveness of screening and brief interventions) targeted 4 out of their 10, and the third presenter (substance misuse commissioning manager who covered roles related to screening and brief intervention and promoted the new clinical pathway) targeted all 3 of their specified objectives. For the two role play sessions, all allocated

barriers/objectives were targeted (two were allocated for the first session, and one for second).

Participant responsiveness

Feedback was provided by 39 out of the 62 health professionals who attended.

Ratings of presentation content varied across presenters, with the lowest rated session receiving a 'good' or 'excellent' score from only 20 (51%) participants (for the session which detailed the effectiveness of screening and brief intervention), and the highest receiving this score from 28 (72%) participants (for the session which highlighted the extent of alcohol misuse locally and high risk groups). The free text feedback comments, although low in number, suggested participants had expected greater coverage of brief interventions in the session which received the lowest ratings– 'what to do next'- to compliment the coverage of alcohol screening.

Quality of delivery

Presenters used graphs, maps and facts and figures to substantiate the information they relayed. There was, however, a reliance on didactic methods, with audience participation only occurring during the two scripted role play sessions delivered by a commercial company. On the evaluation form completed immediately after the workshop, there was variability in ratings of presentation style across the presenters/sessions, ranging from 31 of the 39 participants (79%) rating a session as 'good' to 'excellent' (the interactive role play session), to 18 of the 39 (46%, for the session detailing screening and brief intervention effectiveness). The lowest rated

session for presentation style was also the lowest rated session for presentation content. Potential unanticipated consequences and mixed messages were observed during the fidelity check. For example, one presenter used the expression ‘ask the question’ when referring to screening, which may have unintentionally promoted using the single units question over the validated tool, and the a-priori agreed focus to promote the AUDIT-C tool as a simple take away message (given the wide array of tools available) was lost; presenters instead detailed all of the different tools.

Discussion

This study conducted a fidelity assessment- framed around the Conceptual Framework for Implementation Fidelity- of a tailored educational workshop intervention. This was one component of a multifaceted intervention delivered in a single health region, which was designed to increase primary care health professionals’ uptake of a national alcohol screening recommendation.

The Conceptual Framework for Implementation Fidelity proposes intervention exposure/dose, participant responsiveness and quality of delivery to be dimensions of fidelity which in turn influence the degree of adherence to the intervention plan achieved. Overall coverage of the intervention (intervention exposure/dose) was 62 health professionals based across 30 of the 80 practices; with 8% of the health professionals drawn from the target population with responsibility for opportunistic screening and brief intervention. Given the cost (including time) involved in developing educational sessions (developing a detailed plan, identifying, contacting

and meeting presenters, booking a venue, refreshments and organising event promotion), the exposure/dose of the intervention in this study was a low return on this investment. The impact of this low exposure is further compounded by the likelihood that attendees were those with a particular interest in alcohol screening and brief interventions, and already performing well in this area; making recruitment of those who do not readily engage all the more important. To increase the likelihood of achieving a higher intervention dose, particularly with less motivated staff, future research should also seek to develop and include measures to assess the extent (if at all) to which information gained at educational events is cascaded back to health professionals' colleagues (as suggested by the collaborating quality improvement team), and to consider ways of facilitating this cascading of information both within and across teams. Until the extent of this post-intervention diffusion is known, it is difficult to reliably judge what an acceptable degree of exposure/dose is for educational meetings: there is currently no formal consensus.

Adherence of the intervention to the intervention plan- the extent to which the presenters targeted all of the specified barriers/objectives - was moderate, with 13 out of 20 (65%) objectives targeted overall. The individual presenters/sessions typically targeted their allocated objectives; for example, the first presenter covered three out of their four and the first interactive role play session targeted both specified objectives. However, the second presenter (who covered the evidence for screening and brief interventions) only covered four out of their ten allocated objectives. The overall adherence rate of 65 percent is close to that reported by Lorencatto et al (9) (66%) in their assessment of two English Stop Smoking Services in which they rated audio-

recorded sessions for their use of treatment manual specified behaviour-change techniques. Steps were taken to try and increase adherence - meetings were held with each of the presenters in advance and a list of the barriers to be targeted provided- but a formal intervention manual or provision of presentation slides to use during their sessions were not provided, based on advice of the quality improvement team that this would be felt to be too prescriptive. Whilst an overall adherence rate of 65% indicates that there was scope for improvement to ensure all, or at least a greater number of barriers were targeted, there is some debate regarding the degree to which adaptability of the intervention may be beneficial to recipients, rather than rigid adherence. For example, Lorencatto et al found in their study that intervention deliverers commonly added in additional techniques, not specified in the treatment manual. This led them to question whether these additional techniques may be beneficial, with delivery tailored to the audience and local context. This is where specifying the active components of an intervention is important; delivering on these active components may be critical, with potential to adapt other components (18). Our fidelity check also found that certain types of barriers in particular were adhered to more easily than others.

Promotion of the evidence base and cost effectiveness of screening and brief interventions were not adhered to, with both raters noting a lack of citations of specific studies/evidence by presenters during discussions. Barriers around promoting screening and brief intervention as part of routine practice, highlighting the extent of the problem locally, promoting understanding of high risk groups, and promoting new local services were all adhered to. It is possible that information such as the extent of the problem locally is likely to be provided during any educational session. Whereas, presenters having to search the literature for very specific effectiveness and cost effectiveness studies to cite may be less common due to 'knowledge management'

related barriers, including having the time to read and skills to appraise and understand research evidence (1).

Our assessment of quality of delivery focussed on presenters' presentation skills, whether there were any potential mixed messages, and examination of participants' ratings of 'presentation style' on a scale from 1 ('poor') to 'five' (excellent).

Presenters used facts and figures, maps and charts to substantiate the information that they provided to participants; however, there was a tendency for the sessions to be didactic rather than interactive-with the exception of the two role play sessions- and variability in participant's ratings of presentation style was found. There was also some variability in participants' ratings of intervention content, used as a gauge of participant responsiveness to the intervention, alongside any free text comments made. Of note was the fact that the lowest rated session for presentation style was also the lowest rated session for intervention content: with only 46 percent of participants rating presentation style as good to excellent, and 51 percent rating the content as good to excellent. This highlights a particular challenge for achieving high fidelity of educational sessions: identifying credible local experts who are willing to deliver an educational session, yet who have the right mix of presentation skills to do so to maximum effect. Interestingly, examining participant ratings of the two role play sessions - developed by the research team and delivered by a commercial company with experience in role-play based health professional training- the presentation style of these sessions was rated highly (79% and 70% of participants rated them as 'good' or 'excellent'), yet the content was less so (54% and 65% rated 'good' or 'excellent' respectively). The raters also noted that for these two sessions, the external facilitator

did not appear to have a good understanding of the clinical and local issues, and so had to keep referring to local experts to answer queries; something which a participant fed back on also in the free text box on the evaluation form.

Mixed messages during the educational meeting were also noted by the raters; for example, the presenters failed to promote the validated tool that had been agreed within the collaborating trust as the one to 'push', instead discussing the range of tools that can be used. The potential for mixed messages may have been tackled in advance through piloting; the absence of which could be raised as a limitation of this study. However, educational workshops delivered by local experts lend themselves less to piloting than interventions based on written material, such as audit and feedback or information leaflets which can be piloted with a small sample of health professionals using cognitive interviewing (19). Given the didactic nature of educational meetings, piloting would require rehearsal of each of the sessions with an audience of health professionals, with ongoing monitoring and feedback to identify any issues and improve delivery; a strategy suggested by Carroll et al (7) but which does not readily lend itself to interventions delivered by local clinical leads and commissioners.

Given the difficulty of piloting, educational meeting interventions could instead benefit from conducting post-intervention interviews with intervention-deliverers, exploring the acceptability of intervention-developers' degree of input into their delivery, and whether a more versus less prescriptive input would have been preferred. It is possible, for example, that to target barriers that require research skill,

such as literature searching and presenting complex information on effectiveness/cost effectiveness in an accessible way, it may be beneficial for intervention developers to produce a brief synthesis of the key information for those delivering the intervention, rather than assume that this information will be sought out and covered. Information gained from such interviews would provide guidance for future interventions on how best to achieve collaboration with local experts, and yet greater control over intervention delivery. Post-intervention interviews with participants are also valuable, exploring perceptions of the intervention and the issue of messages intended versus received, adding support for the assertions made by fidelity raters regarding potential mixed messages. Such post event interviews-whether with those delivering or receiving the intervention-are recommended for process evaluations and can help open up the black box of intervention effectiveness (20). Their omission in this study is acknowledged as a limitation compared with the richness of feedback gained in other studies (14),(21), (22).

Quality of delivery and participant responsiveness are important components of fidelity, yet there is a lack of guidance regarding how to assess quality of delivery in particular (9). Further attention to this variable would benefit future fidelity research, especially that assessing educational workshops, encouraging more researchers to factor this important variable into their fidelity assessment. Given the suggested importance of participant responsiveness and quality of delivery on adherence (7) and, subsequently, implementation fidelity, research exploring the effectiveness of providing brief training in pedagogical techniques for intervention deliverers would help identify the optimal way to deliver future training sessions and to achieve balance between collaboration with local experts and control of delivery. Such

research would also contribute to the evidence base for educational meetings, with suggestions for future research in this area focussing on direct comparisons of different types of educational sessions (2).

Conclusions

The Conceptual Framework for Implementation Fidelity provided a rounded assessment of the fidelity of the educational workshop, despite intervention coverage being low, adherence to the intervention plan only moderate, and with certain barriers targeted by some presenters better than others. Mixed messages and an over-reliance on didactic methods characterised the sessions delivered. Future studies need to identify ways of measuring the extent-if at all- to which information learnt at educational workshops is fed back to non-attending colleagues. Qualitative interviews with intervention deliverers would also help identify the optimal way of achieving the fine balance between collaboration and control of delivery. Given the difficulty of achieving control over an intervention delivered by persons other than the intervention developer, future research would also benefit from conducting direct comparisons of the effectiveness of interventions delivered by local experts with and without brief training in pedagogy and behaviour change techniques.

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Figure legends

Figure 1 Summary of intervention objectives, domains, behaviour-change techniques and mode of delivery

Figure 2 Summary of educational workshop sessions and objectives to be targeted

Figure 3 Summary of fidelity assessment