Improving outcomes – changing behaviours

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Editor

In my last editorial I highlighted the slow uptake of preventive interventions that have good evidence of effectiveness.[1] The reasons for this lack of uptake are many and varied. In 2005 Glasziou and Haynes[2] outlined some of the potential barriers between the production of the research and the patients in the research-to-practice evidence pipeline. These were:

Awareness: being aware that the evidence was there in the first place.

Acceptance: that the practitioners accept that they should change their practice based on this evidence.

Applicable: that the evidence is relevant to the patients that they see and treat.

Available and able: that the treatment is available to the practitioner and they have the training and or equipment to be able to deliver the treatment.

Acted on: even when we know and accept what we should do we do not always do it.

Agreed to: in order to provide treatment we must have the patient's agreement in order to proceed.

Adhered to: and finally if the treatment needs to have some level of compliance from the patient for the treatment regimen this may not always be forthcoming.

In practice there tends to be a drop-off at each stage, so if we started with 100 dentists who were aware of the best evidence for a particular treatment and we were 80% successful at moving them on to the next stage. By the time we got to the end of the pipeline only about 20 would of them would be delivering this treatment to their patients, and this is with a high rate of transfer at each stage.

This journal's prime role is all about the first two stages in that we aim to improve practitioners' awareness of relevant new evidence about interventions, and through our commentaries highlight their relevance to practice in order to help in some way with acceptance. The next stages are likely to be influenced by the developing field of implementation science, in particular behavioural interventions. The TRiaDS (Translational Research in a Dental Setting) group based in Dundee (http://www.sdpbrn.org.uk/index.aspx?o=2688) have been undertaking innovative working with a multi-disciplinary research team to improve the implementation of dental guidelines.

In relation to behavioural interventions that might be used to improve implementation of evidence there are a wide range to choose from, but until recently there have not been particularly appropriate methods of characterising the interventions and linking them to an analysis of the behaviour being targeted. Recently Michie *et al.*[3] have proposed a new framework derived from a systematic review of the literature and consultation with behaviour change experts. This has resulted in a proposed 'behaviour system' that involves three essential conditions; capability, opportunity and motivation that interact to generate behaviour that in turn influences these components. This they term the COM-B system. The COM-B system which provides the sources of behaviours was then used as the core of a new framework to which is added a range of nine intervention functions (eg education, persuasion, training, modelling) and seven policy functions (eg guidelines, regulation, legislation). These are combined to form a behaviour change wheel with the hope that this will be a basis towards the design of more effective interventions.

With the significant amounts of resources that have gone into various initiatives to improve the effectiveness and quality of care provided and reduce the variation in practice over the years it is to be hoped that this increase in interest and research in this area will lead to more effective change and implementation of the best evidence in the future in order to improve outcomes for patients.

1. Richards D. Prevention, prevention, prevention. *Evid Based Dent.* 2013; **14:** 66.
2. Glasziou P, Haynes B. The paths from research to improved health outcomes. *ACP J Club.* 2005; **142:** A8–10.
3. Michie S, van Stralen MM, West R. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implement Sci.* 2011; **6:** 42. doi: 10.1186/1748-5908-6-42. Review. PubMed PMID: 21513547; PubMed Central PMCID: PMC3096582.

Evidence-Based Dentistry (2013) **14**, 98. doi:10.1038/sj.ebd.6400961