Which approaches can help us change?

This is about…	Evidence-based approaches to improve practice		
Applicable to level(s)	Single practice	Network of practices	Regional or national networks
Likely skills and resources needed	Clinical Management		
Likely difficulty			
Likely time commitment			
Do…	Accept that most approaches to improvement practice have modest effects which can accumulate if used consistently over time to produce a significant impact		
Don't…	Waste time on complicated and costly improvement fads		
Illustrations	Education, informatics, and financial incentives for safer prescribing. Pharmacist-led feedback, educational outreach support for safer prescribing. Feedback to high antibiotic prescribers. Posters 'nudging' patients against antibiotics. Brief educational messages for diabetes. A review of computerised decision support. A review of audit and feedback. A review of educational meetings.		
Helpful resources	Cochrane Effective Practice and Organisation of Care. Recommendations on audit and feedback. Examples of audit and feedback.		

A range of approaches can support changing practice. You will be familiar with most if you are on the receiving end of initiatives to improve practice. They include approaches like education, computerised prompts and reminders and financial incentives.

Considerations in selecting approaches:

- **Strength of evidence**. Some approaches have a stronger evidence-base than others. For example, audit and feedback has been tested in randomised trials many times across a range of settings and clinical topics. Whilst there are no guarantees it will work consistently for a given problem, there are ways to improve the chances of success – such as providing repeated rather than one-off feedback and including explicit action plans with feedback. In contrast, there is a much more limited evidence base on financial incentives, suggesting that you should use this approach with caution.
- **The nature of the implementation problem**. You need to apply some judgment in deciding which improvement approaches may work best for a given clinical problem. For example, computerised prompts can reduce errors of omission in prescribing decisions.

However, they are less likely to work when tackling more complex issues, such as counselling patients or reducing emergency readmissions.

- **Fit with available resources and skills**. You need to make the best use of existing resources, such as practice pharmacists in auditing prescribing and educating the team.
- **Unintended consequences**. Some approaches may not work as intended or even have undesired side effects. For example, feedback on clinical performance showing a large gap between actual and recommended practice can be demotivating, or prescribing safety prompts which appear on-screen after you have made a clinical decision and counselled a patient on treatment can de-rail a consultation.
- **The balance of costs and benefits**. The effects of interventions may not always pay for themselves. For example, for educational outreach visits to reduce prescribing, the costs of educator and staff participation time may eclipse any savings. However, if the same approach of education outreach was even only modestly successful in improving your practice's use of clinically effective strategies to promote weight loss or reduce smoking, the longer term population health benefits could outweigh the upfront costs.
- **Single versus combined approaches**. It is often possible to combine different approaches to improve practice, for example, educational outreach with audit and feedback. In some cases this can make sense if the approaches are complementary, e.g. if the outreach meetings aim to reinforce action planning following feedback. However, combined approaches can be more costly. Furthermore, there is no convincing evidence that combined approaches are more effective than single approaches – although this may be because evaluators have 'thrown in the kitchen sink' in efforts to address more difficult improvement problems.

Table 3 summarises some key evidence and considerations in choosing improvement approaches. Table 4 sets out 15 suggestions for effective feedback based upon evidence synthesis and interviews with experts.[9] Approaches to improve practice generally have modest impacts. Such modest impacts might be worthwhile because:

- Effects are in the range, if not better, than those of many recommended clinical treatments.
- Effects can be worthwhile in relation to costs of improvement approaches.
- Effects of improvement approaches can be complementary and cumulative over time.

Table 3. Key evidence from systematic reviews for a selection of improvement approaches.

Approach	*Key findings*	***More** likely to be useful when…*	***Less** likely to be useful when…*
Printed educational materials - Distribution of published or printed recommendations for clinical care, including clinical practice guidelines, audio-visual materials and electronic publications.[10]	When used alone and compared to no intervention, printed educational materials may have a small beneficial effect on professional practice. Effect on patient outcomes not known.	Limited resources available Large target audience Using persuasive communication methods to make content, language and presentation more engaging	Recommending challenging or complex changes in clinical behaviour
Continuing education meetings and workshops - Participation of healthcare providers in conferences, lectures, workshops or traineeships.[11]	Educational meetings alone or combined with other interventions, can improve professional practice and patient outcomes. Effects most likely to be small and similar to other approaches, such as audit and feedback, and educational outreach visits.	Using strategies to increase attendance at educational meetings Using mixed interactive and didactic formats Focusing on outcomes that are likely to be perceived as serious	Used alone to change complex behaviours
Educational outreach visits - Use of a trained person who meets with providers in their practice settings to give information with the intent of changing the providers' practice. The information given may have included feedback on the performance of the provider(s).[12] Also known as academic detailing.	Used alone or when combined with other approaches, effects on prescribing are relatively consistent and small, but potentially important Effects on other types of clinical practice vary from small to modest improvements		
Local opinion leaders - Use of providers nominated by their colleagues as educationally	Opinion leaders alone or in combination with other interventions may successfully	Existence of intact and relatively stable social networks	

influential. [13]	promote evidence-based practice, but effects can vary a lot. Roles of the opinion leader seldom clearly described in most studies. It is therefore not possible to say what the best way is to optimise their effects.	Condition-specific opinion leaders available	
Audit and feedback - Any summary of clinical performance of healthcare over a specified period of time.[14]	Generally leads to small but potentially important improvements in professional practice	Resources available for data collection and analysis Meaningful routine data available for feedback Baseline performance is low, source a supervisor or colleague, provided more than once, delivered in both verbal and written formats, and includes both explicit targets and an action plan – more effective	
Computerised reminders - On screen point of care computer reminders designed or intended to prompt a health professional to recall information.[15]	Generally achieve small to modest improvements in clinical practice Most studies examined the effects of relatively simple reminders	Computerised decision support systems providing advice for patients in addition to clinicians – three times more likely to succeed[16] If requiring clinicians to supply a reason for over-riding advice – over 11 times more likely to succeed	More complex decision support less successful, especially for chronic disease management
Financial incentives – Changes in the level or method of payment to improve the quality	Mixed effects although evidence has serious methodological limitations and needs judged	Improving processes of care, referrals and admissions, and prescribing cost outcomes –	Improving compliance with guidelines – generally ineffective For improving patient outcomes -

of care.[17]	with caution.	generally effective	no evidence of effects
Patient-mediated approaches - Aimed at changing the performance of healthcare professionals through interactions with patients, or through information provided by or to patients[18]	Mixed effects on clinical practice with variable quality of evidence.	For patient-reported health information (e.g. information obtained from patients about patients' own health, concerns or needs before a clinical encounter) and patient education (e.g. increasing patients' knowledge about their condition and treatment options) - probably small to modest effects on clinicians' adherence to recommended practice For patient information (e.g. informing or reminding patients to attend recommended care) - may also improve clinical practice	For patient decision aids providing patients with information about treatment options including risks and benefits - may make little or no difference to clinical practice
Reducing medication errors in primary care[19] - Professional approaches (e.g. computerised decision support) and organisational (e.g. medication reviews by pharmacists)	Based on moderate- and low-certainty evidence, approaches in primary care for reducing preventable medication errors probably make little or no difference to the number of people admitted to hospital or the number of hospitalisations, emergency department visits, or mortality.		

Table 4. Fifteen suggestions for effective feedback.[9]

Nature of the desired action
1. Recommend actions that are consistent with established goals and priorities 2. Recommend actions that can improve and are under the recipient's control 3. Recommend specific actions
Nature of the data available for feedback
4. Provide multiple instances of feedback 5. Provide feedback as soon as possible and at a frequency informed by the number of new patient cases 6. Provide individual (e.g. practitioner specific) rather than general data 7. Choose comparators that reinforce desired behaviour
Feedback display
8. Closely link the visual display and summary message 9. Provide feedback in more than one way 10. Minimize extraneous cognitive load for feedback recipients
Delivering the feedback intervention
11. Address barriers to feedback use 12. Provide short, actionable messages followed by optional detail 13. Address credibility of the information 14. Prevent defensive reactions to feedback 15. Construct feedback through social interaction