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ADVANCING OUR KNOWLEDGE ABOUT HOW TO OPTIMIZE AUDIT AND FEEDBACK

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CURRENT STATE OF KNOWLEDGE

- Cochrane 2012 review – 140 trials of audit and feedback, median absolute improvement +4%, interquartile range +1% to +16%
- Larger effects were seen if:
  - baseline compliance was low.
  - the source was a supervisor or colleague
  - it was provided more than once
  - it was delivered in both verbal and written formats
  - it included both explicit targets and an action plan

Ivers (2012) *Cochrane Library*

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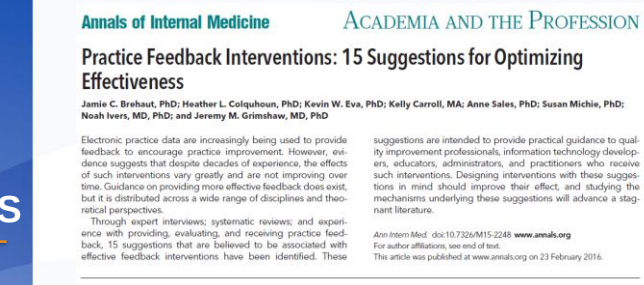
REMAINING UNCERTAINTIES

Audit and feedback – potential effect modifiers



Annals of Internal Medicine — ACADEMIA AND THE PROFESSION

Practice Feedback Interventions: 15 Suggestions for Optimizing Effectiveness

Jamie C. Brehaut, PhD; Heather L. Colquhoun, PhD; Kevin W. Eva, PhD; Kelly Carroll, MA; Anne Sales, PhD; Susan Michie, PhD; Noah Ivers, MD, PhD; and Jeremy M. Grimshaw, MD, PhD

Electronic practice data are increasingly being used to provide feedback to encourage practice improvement. However, evidence suggests that despite decades of experience, the effects of such interventions vary greatly and are not improving over time. Guidance on providing more effective feedback does exist, but it is distributed across a wide range of disciplines and theoretical perspectives.

Through expert interviews; systematic reviews; and experience with providing, evaluating, and receiving practice feedback, 15 suggestions that are believed to be associated with effective feedback interventions have been identified. These suggestions are intended to provide practical guidance to quality improvement professionals, information technology developers, educators, administrators, and practitioners who receive such interventions. Designing interventions with these suggestions in mind should improve their effect, and studying the mechanisms underlying these suggestions will advance a stagnant literature.

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For author affiliations, see end of text.
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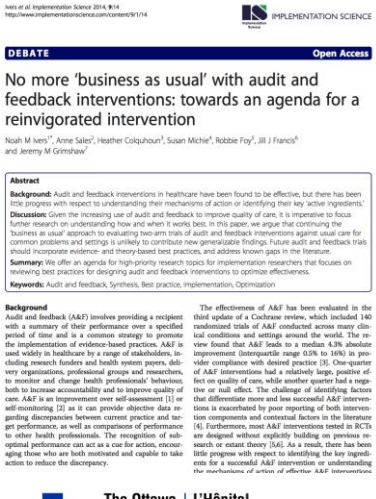
- Be provided multiple times
- Present feedback as soon as possible
- Provide individual rather than general data
- Include clear comparators that reinforce desired behaviour change
- Support an action perceived to be a priority for recipients
- Recommend actions that can improve and are under control of the recipient
- Recommend a specific action
- Tailor feedback interventions based on situation-specific barriers
- Closely link visual display and summary message
- Be presented in multiple ways
- Minimize cognitive load
- Address barriers that prevent use of the feedback
- Provide short, actionable messages followed by more detail
- Address credibility of the information
- Increase motivation to change practice
- Encourage social construction of feedback rather than passive delivery

‘NO MORE BUSINESS AS USUAL’



Ivers et al. Implementation Science 2014, 9:14
http://www.implementationscience.com/content/9/1/14

IMPLEMENTATION SCIENCE

DEBATE — Open Access

No more ‘business as usual’ with audit and feedback interventions: towards an agenda for a reinvigorated intervention

Noah M Ivers[1*], Anne Sales[2], Heather Colquhoun[3], Susan Michie[4], Robbie Foy[5], Jill J Francis[6] and Jeremy M Grimshaw[7]

Abstract

Background: Audit and feedback interventions in healthcare have been found to be effective, but there has been little progress with respect to understanding their mechanisms of action or identifying their key ‘active ingredients.’

Discussion: Given the increasing use of audit and feedback to improve quality of care, it is imperative to focus further research on understanding how and when it works best. In this paper, we argue that continuing the ‘business as usual’ approach to evaluating two-arm trials of audit and feedback interventions against usual care for common problems and settings is unlikely to contribute new generalizable findings. Future audit and feedback trials should incorporate evidence- and theory-based best practices, and address known gaps in the literature.

Summary: We offer an agenda for high-priority research topics for implementation researchers that focuses on reviewing best practices for designing audit and feedback interventions to optimize effectiveness.

Keywords: Audit and feedback, Synthesis, Best practice, Implementation, Optimization

Background

Audit and feedback (A&F) involves providing a recipient with a summary of their performance over a specified period of time and is a common strategy to promote the implementation of evidence-based practices. A&F is used widely in healthcare by a range of stakeholders, including research funders and health system payers, delivery organizations, professional groups and researchers, to monitor and change health professionals’ behaviour, both to increase accountability and to improve quality of care. A&F is an improvement over self-assessment [1] or self-monitoring [2] as it can provide objective data regarding discrepancies between current practice and target performance, as well as comparisons of performance to other health professionals. The recognition of suboptimal performance can act as a cue for action, encouraging those who are both motivated and capable to take action to reduce the discrepancy.

The effectiveness of A&F has been evaluated in the third update of a Cochrane review, which included 140 randomized trials of A&F conducted across many clinical conditions and settings around the world. The review found that A&F leads to a median 4.3% absolute improvement (interquartile range 0.5% to 16%) in provider compliance with desired practice [3]. One-quarter of A&F interventions had a relatively large, positive effect on quality of care, while another quarter had a negative or null effect. The challenge of identifying factors that differentiate more and less successful A&F interventions is exacerbated by poor reporting of both intervention components and contextual factors in the literature [4]. Furthermore, most A&F interventions tested in RCTs are designed without explicitly building on previous research or extant theory [5,6]. As a result, there has been little progress with respect to identifying the key ingredients for a successful A&F intervention or understanding the mechanisms of action of effective A&F interventions

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Head-to-head arm trials evaluating:

- alternative ways of designing and/or delivering audit and feedback
- audit and feedback vs audit and feedback plus co-interventions
- audit and feedback versus alternative interventions

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IMPLEMENTATION LABORATORIES TO OPTIMISE AUDIT AND FEEDBACK

- Head to head trials need large sample sizes that are unlikely to be realised in one-off research projects
- Increasing delivery of large scale audit and feedback programs within healthcare systems
- Opportunities to collaborate with these programs to efficiently advance implementation science about how to optimise audit and feedback

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IMPLEMENTATION LABORATORIES TO OPTIMISE AUDIT AND FEEDBACK

Reducing research waste with implementation laboratories

The Lancet REWARD (REduce research Waste And Reward Diligence) campaign has encouraged researchers to examine how they work and make efforts to reduce waste and maximise efficiency. Research waste is undermining efforts to improve the effectiveness of health systems. A consistent finding in health services research is inappropriate variations in care and evidence-practice gaps. Implementation science—the study of methods to promote the systematic uptake of clinical research findings and other evidence-based practices into routine practice[1]—can inform health systems on how to reliably improve care and outcomes. However, the potential for implementation science to improve the effectiveness of health systems will not be realised until research waste in the field is systematically addressed.

A solid evidence base shows the effectiveness of common implementation strategies—eg, audit and feedback,[2] point of care reminders,[3] educational meetings,[4] and educational outreach[5]—but with substantial unexplained heterogeneity. Yet many current studies that evaluate implementation strategies against control create research waste because they do not build upon the current evidence base or address the key questions to advance the field. For example, for more than a decade we have known that audit and feedback is an effective way to improve care,[2] but researchers continue to undertake trials of audit and feedback versus usual care, testing whether a particular version of audit and feedback can work in a particular setting and for a particular purpose. Such evaluations rarely incorporate relevant theory or best practices[6] in the design and delivery of the intervention and do not address the question of how to optimise the effectiveness of audit and feedback. As a result, there is insufficient evidence on how best to design a new audit and feedback intervention; the same is true for many other implementation strategies.[7,8] Such failures represent substantial waste of scarce implementation research resources and promulgate evidence-practice gaps that incur individual and societal harms.

Health systems have a need for generalisable evidence about how to achieve the greatest possible impact with their quality improvement initiatives.[7] Implementation intervention developers must make many decisions about content, format, and delivery of their intervention; even small modifications in these areas could influence the effectiveness of the intervention.[8] Since the question of whether many common implementation strategies can work has been answered, the time has come for a shift to a comparative-effectiveness model for implementation research.[9] Head-to-head trials that test different ways of designing and delivering implementation strategies are needed to provide the evidence base for health system decision makers. Direct comparisons of implementation interventions will more efficiently move the field forward than the current approach invoking cumulating evidence from fairly small trials for indirect analyses in systematic reviews. However, the required sample sizes for such research are difficult to achieve unless the research is embedded within existing, large-scale initiatives.

A promising solution is to develop implementation laboratories that involve close collaboration between health systems delivering implementation strategies at scale and research teams. Implementation laboratories provide an opportunity to kick-start the field by ensuring that scholars meet both applied and scientific goals of understanding what works better and why. Such research can address health systems' priorities and produce generalisable knowledge about factors—context,

For more on the Lancet REWARD campaign see http://www.thelancet.com/campaigns/efficiency

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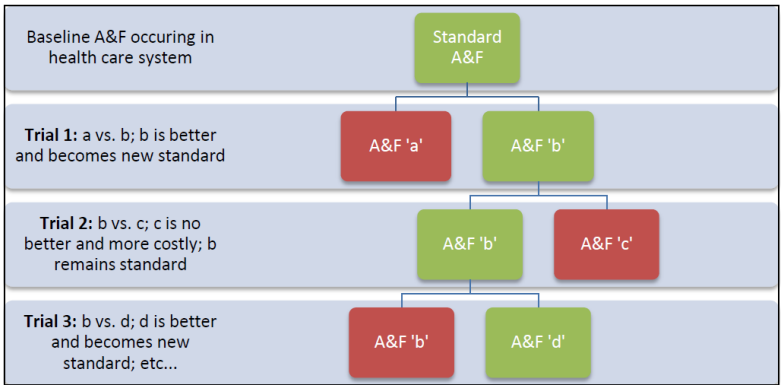

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A LEARNING HEALTH QUALITY SYSTEM

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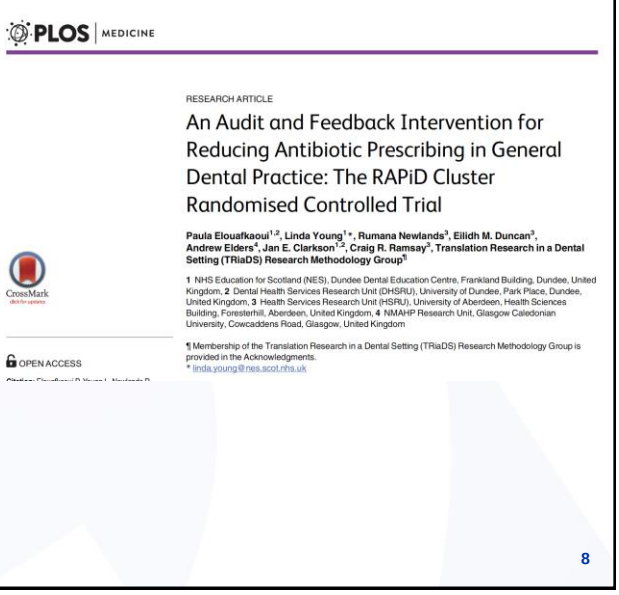

PLOS | MEDICINE

RESEARCH ARTICLE

An Audit and Feedback Intervention for Reducing Antibiotic Prescribing in General Dental Practice: The RAPiD Cluster Randomised Controlled Trial

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¶ Membership of the Translation Research in a Dental Setting (TRiaDS) Research Methodology Group is provided in the Acknowledgments.
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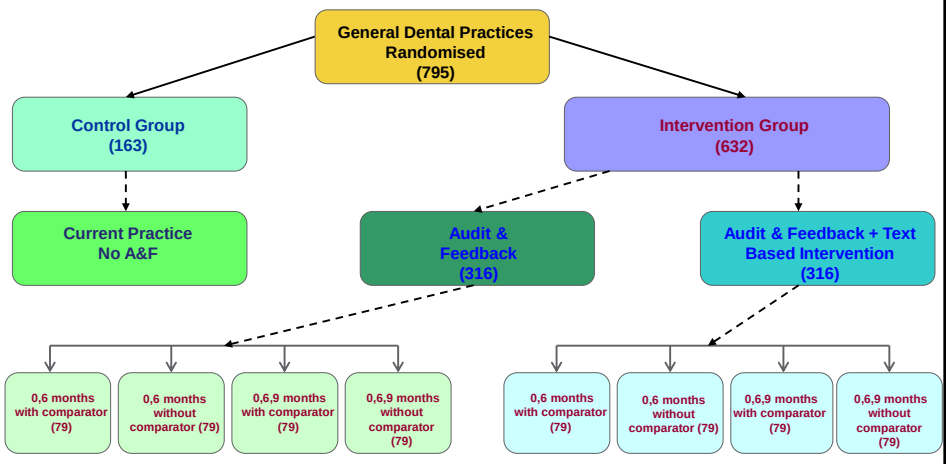
8

ONE OF THE MOST AMBITIOUS AND INFORMATIVE TRIALS OF FEEDBACK



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ONE OF THE MOST AMBITIOUS AND INFORMATIVE TRIALS OF FEEDBACK

Primary Analysis

- Prescribing rate in the A&F group 6% lower than control
  - extrapolated decrease: 20,000 antibiotic items across Scotland

Comparing Intervention Components

- Prescribing rate lower for dentists:
  - receiving BC message (-6%)
  - provided with a HB comparator (-4%)
- Frequency of feedback did not make a difference

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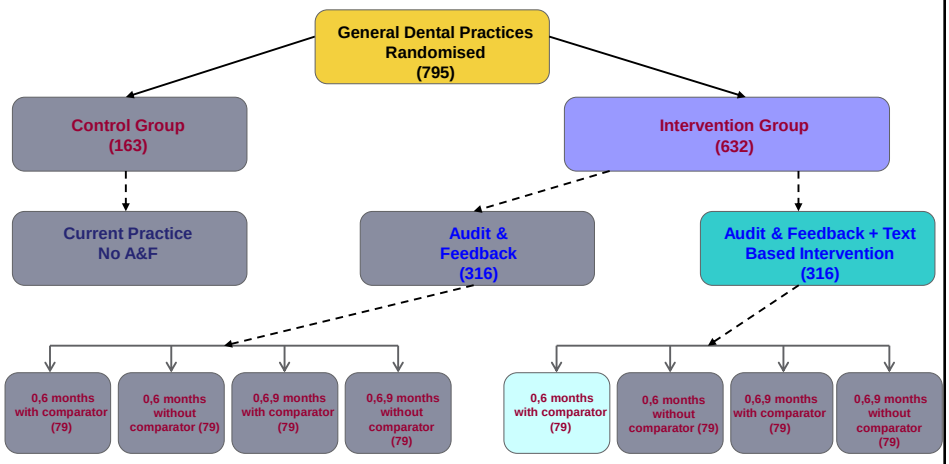
ONE OF THE MOST AMBITIOUS AND INFORMATIVE TRIALS OF FEEDBACK



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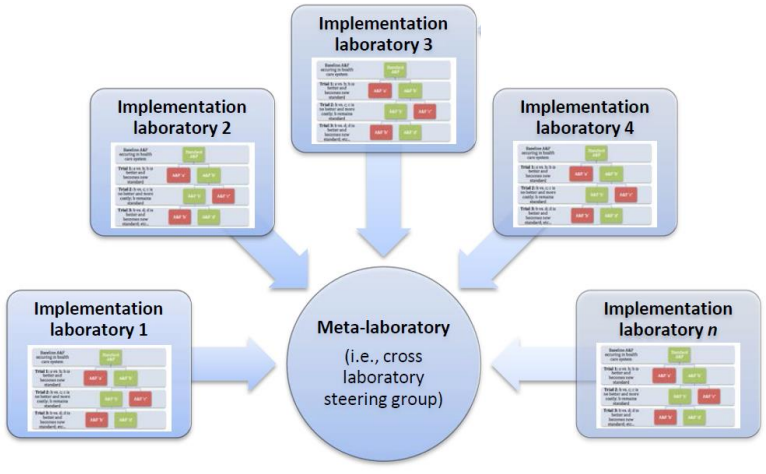
IMPLEMENTATION META-LABORATORIES



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SUMMARY

- A&F effective way to change physician behaviour and improve quality of care
- Substantial uncertainty about how to optimise A&F to maximise its effects
- Opportunities for collaborative partnerships between healthcare organisations providing A&F and researchers to improve current feedback and our understanding of effect modifiers

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