A brief guide to effective audit and feedback

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Audit and feedback aims to monitor and drive improvements in healthcare delivery and patient outcomes. This brief guide to effective audit and feedback is largely intended for leaders of audit programmes but may be relevant for others responsible for wider quality improvement programmes. It recognises that many audit leaders already possess considerable experience and skills in designing and delivering audit programmes. The guide therefore aims to help audit leaders to review and identify opportunities for strengthening programmes. It is based upon research evidence as far as possible but also draws upon a range of suggestions informed by theory and experience.[1–3]

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Strengthening the whole feedback cycle

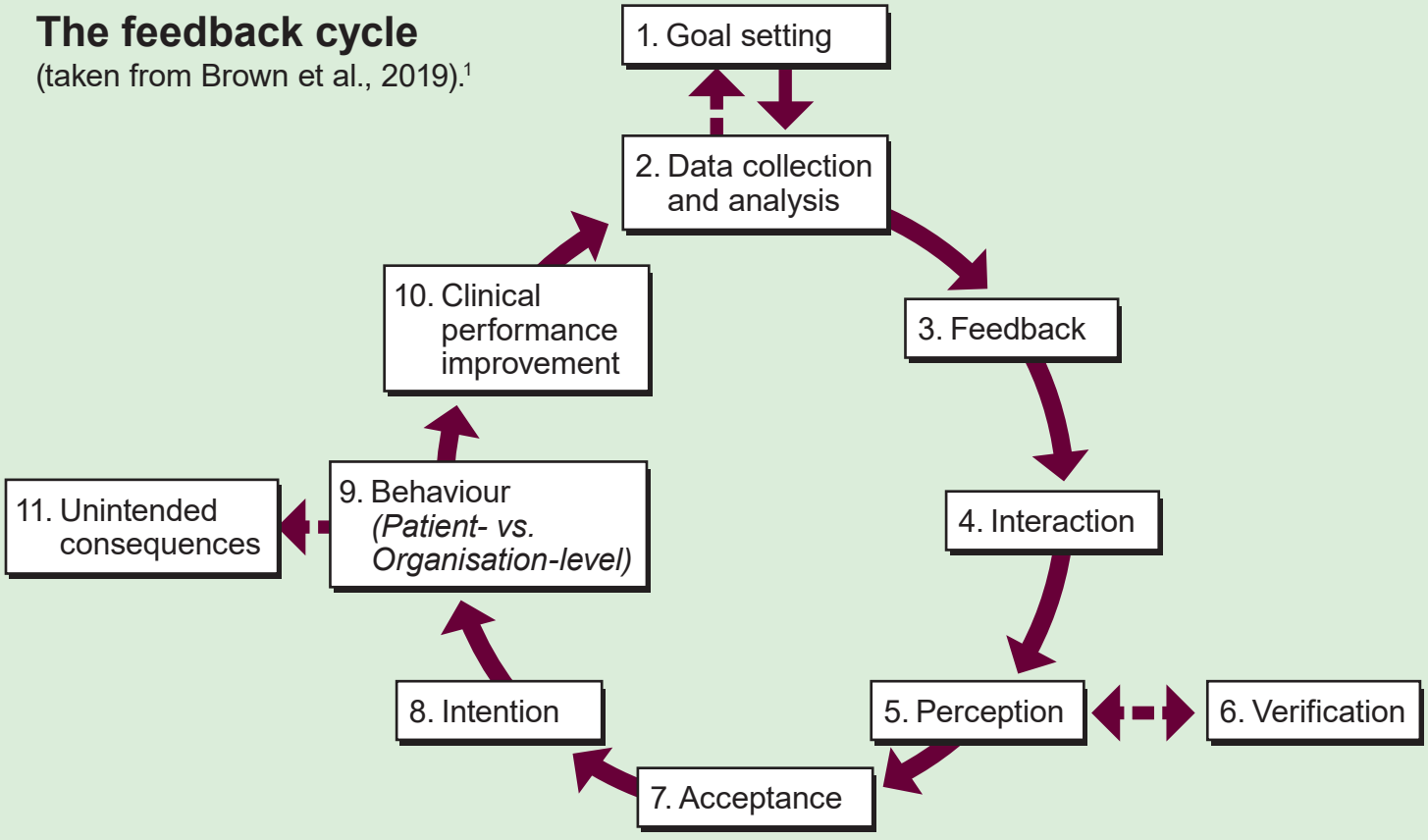
It is important to pay attention to all aspects of the feedback cycle to optimise the impact of audit and feedback.[4]

Some audit programmes are better at some steps in the cycle (such as data collection and analysis) than others (such as interaction with feedback recipients). The audit cycle is only as strong as its weakest link; any breakdown at one or more points in the cycle undermines the ability of an audit programme to drive improvement.

Audit programmes should therefore consider opportunities to strengthen cycles in one or more of the following steps: goal setting; data collection and analysis; feedback content; feedback display; and feedback delivery.

The feedback cycle

(taken from Brown et al., 2019).[1]



Goal setting

Make audit criteria clinically meaningful.

Feedback recipients are more likely to accept and be motivated to act when feedback measures aspects of care they think are clinically meaningful. Audit criteria should ideally have an established evidence base, be consistent with national guidance, and demonstrate or lead to significant patient or population benefits if followed.[5]

Feedback should target goals within the control of recipients.

Feedback recipients are more likely to accept and be motivated to act when targeted goals are within their control and perceived as relevant to their role. This also helps ensure that audit criteria are sufficiently responsive to quality improvement activities.

Data collection

Automate data collection if feasible.

Feedback recipients may not have the time or skills for manual data collection, which is also more costly than automated data collection.

Data collection and analysis should produce a true representation of clinical performance.

Feedback recipients are more likely to accept data perceived as accurate and when feedback excludes any patients who do not fit the criteria for assessing performance measurement. Recipients are more likely to spend time verifying data perceived to be less accurate rather than improving care.

Feedback content

Minimise delays between data collection and feedback.

Feedback recipients are more likely to accept and act on more recent data.

Focus feedback on areas where there is most room for improvement.

Feedback recipients are more likely to change practice when feedback indicates their performance levels have room for improvement. Highlighting which aspects of performance require most attention can also reduce cognitive load for recipients and help prioritise quality improvement activities.

Link feedback to details of individual patients where feasible.

Feedback which allows recipients to review individual patients used in calculating performance helps recipients to understand how suboptimal care may have occurred, take corrective action (where possible) for those patients and learn lessons for the future. It also improves the transparency and trustworthiness of feedback methods.

Report performance at the lowest level feasible.

Feedback recipients are more likely to accept and act on individual feedback than feedback at higher team or organisational levels. In practice, giving individual-level feedback is often not feasible because most healthcare is delivered by teams. However, feedback should generally occur at the lowest level feasible, e.g. team rather than organisation, organisation rather than system.

Choose comparators that reinforce desired behaviour change.

Comparators can include one or more of recipient performance over time (trends), mean performance of similar individuals, teams or organisations (benchmarking), or formal standards, such as a target level of achievement. Avoid using too many comparators as this can send mixed messages to recipients who appear to perform well on one comparator and badly on another.

Feedback should emphasize positive change.

Recipients may reject feedback perceived as punitive, including feedback reported to external organisations or the public, because it does not align with their inherent motivation to improve care. It is also important to demonstrate benefits to recipients of participation in the audit programme.

Provide short, actionable messages followed by optional detail.

This allows recipients who only have the time or inclination to glean the main messages to do so. Other recipients may wish more detail to check data validity and relevance. The credibility of feedback can be enhanced if recipients are able to 'drill down' to better understand their data.

Incorporate 'the patient voice'.

Patient and public involvement can help ensure relevance of audit programmes to patient and public needs and provide alternative perspectives to those of healthcare professionals. Incorporating the patient voice may highlight the importance of providing high quality care to feedback recipients, and hence increase their motivation to improve practice.

Feedback display

Closely link the visual display and summary messages.

Summary text can be accompanied by graphical elements in close proximity, with both reinforcing the same message.

Provide feedback in more than one way.

Feedback may be more effective when it combines both written and verbal communication rather than one of these alone.

Minimise extraneous cognitive load for feedback recipients.

Feedback recipients are generally time poor and need to cope with competing priorities for attention. Poorly presented and excessively complex feedback risks being misunderstood, discounted or ignored by recipients. Reducing cognitive load entails minimising the effort required to process information and can be supported by prioritising key messages, reducing the amount of data presented, improving readability, and reducing visual clutter.

Feedback delivery

Actively 'push' feedback to recipients.

Recipients are more likely to interact with feedback which is 'pushed' to them (e.g. via email) rather than feedback they are expected to retrieve themselves (e.g. from a central source).

The organisation or person delivering feedback should be perceived as clinically or methodologically credible.

Recipients are less likely to accept feedback delivered by a person or organisation perceived to have an inappropriate level of knowledge or skill.

Provide multiple instances of feedback.

Multiple rounds of feedback encourage a feedback loop, wherein the recipient can receive the initial feedback, attempt a change in practice, and then observe whether the change has been effective. Consistency in feedback format over time fosters familiarity with the data format, increasing the likelihood of engagement where the data are considered useful.

Include specific suggestions for action at clinician and organisational levels.

Whilst clinicians are responsible for improving care for individual patients, an organisational response may be necessary to improve healthcare delivery systems. Consider using the AACTT framework[6] to specify suggested actions:

- Action required ('what' needs to be done)
- The *actor(s)* performing the action ('who')
- The *context* in which the action is taken ('where')
- The *targeted* individuals or population the action is taken for or with ('whom')
- The required *timing* (period and duration) of the action ('when')

Engage with organisations to confirm their arrangements for responding to feedback.

Organisations should have robust arrangements in place for receiving and acting on feedback. Effective local responses to feedback depend on organisational capacity and coordination of clinical, management and quality improvement activities.

Suggested priorities for national clinical audit programmes

Many factors influence the success of audit programmes, such as resource constraints in targeted services or the complexity of the targeted clinical field. However, there is growing evidence that how audit programmes are organised and function themselves can determine success over and above these factors. Analyses of national clinical audit programmes in the UK[7] generally suggest scope for strengthening their methods across a number of areas:

- Reducing the time lag between data collection and feedback;
- Identification and targeting of feedback recipients;
- Incorporating specific suggestions for action within feedback to guide improvement activities;
- Incorporating motivating comparators and targets for change rather than national averages;
- Providing evidence that the audit has had demonstrable impacts on patient care and outcomes;
- Including accessible summaries of key findings and priorities for change.

Self-Assessment Report Card for Audit Programmes

Health warning!

This self-assessment report card aims to help leaders of audit programmes identify areas for improvement. Applying the criteria inevitably involves making subjective judgements. It is unlikely that any one audit programme can attain maximum scores across all assessment criteria because trade-offs may be required between certain criteria or because full attainment is not possible (e.g. when feedback is 'pushed' to recipients, data protection may require them to log into password protected websites.) Therefore, some of the 'green' ratings may represent longer-term aspirations, especially as clinical information systems continue to evolve.

Suggestion for effective audit and feedback	Criteria for rating		Self assessment notes
Goal setting			
Make audit criteria clinically meaningful	Green	Audit criteria developed with targeted recipients AND are evidence-based AND are consistent with national guidance AND demonstrate or lead to significant patient or population benefits if followed	
	Amber	TWO TO THREE of the above.	
	Red	ONE OR NONE of the above.	
Feedback should target goals within the control of recipients.	Green	Audit criteria explicitly state targeted recipients or organisational level AND are convincingly amenable to change through specified actions.	
	Amber	Audit criteria explicitly state targeted recipients or organisational level OR are convincingly amenable to change through specified actions.	
	Red	Neither of the above.	

Suggestion for effective audit and feedback	Criteria for rating		Self assessment notes
Data collection			
Automate data collection if feasible.	Green	All audit data are extracted from data which is routinely recorded and coded for patient care.	
	Amber	Audit data combine data which is routinely recorded and coded for patient care AND additional manually collected data.	
	Red	All data are manually entered only for the purpose of the audit.	
Data collection and analysis should produce a true representation of clinical performance.	Green	There are robust procedures in place for assuring data accuracy AND recipients are able to verify their own data.	
	Amber	There are robust procedures in place for assuring data accuracy OR recipients are able to verify their own data.	
	Red	Neither of the above.	
Feedback content			
Minimise any delay between data collection and feedback.	Green	Feedback data are available in 'real time' or as near to this as feasible.	
	Amber	There is a gap of up to 6 months between data collection and feedback.	
	Red	There is a gap of over 12 months between data collection and feedback.	
Focus feedback on areas where there is most room for improvement.	Green	Feedback highlights audit criteria where performance can be most improved tailored to each recipient.	
	Amber	Feedback highlights audit criteria where performance can be most improved generally across all sites.	
	Red	Neither of the above.	

Suggestion for effective audit and feedback	Criteria for rating		Self assessment notes
Link feedback to details of individual patients where feasible.	Green	Recipients are able to identify and review individual patients whose care may or may not be consistent with audit criteria.	
	Amber	Feedback highlights characteristics of patients whose care may or may not be consistent with audit criteria.	
	Red	Neither of the above.	
Report performance at the lowest level feasible.	Green	Feedback is reported at individual professional or team level.	
	Amber	Feedback is reported at organisational level.	
	Red	Neither of the above.	
Choose comparators that reinforce desired behaviour change.	Green	Feedback comparators include TWO of recipient performance over time (trends), mean performance of similar individuals, teams or organisations (benchmarking), or formal standards, such as a target level of achievement.	
	Amber	Feedback comparators include ONE of recipient performance over time (trends), mean performance of similar individuals, teams or organisations (benchmarking), or formal standards, such as a target level of achievement.	
	Red	Feedback compares performance against a national average.	
Feedback should emphasize positive change.	Green	Feedback focuses on positive changes in recipient performance AND highlights benefits to patient care and outcomes of further improvements in performance AND demonstrates overall benefits to patient care and outcomes of the audit programme.	
	Amber	Feedback focuses on positive changes in recipient performance OR highlights benefits to patient care and outcomes of further improvements in performance OR demonstrates overall benefits to patient care and outcomes of the audit programme.	
	Red	None of the above.	

Suggestion for effective audit and feedback	Criteria for rating		Self assessment notes
Provide short, actionable messages followed by optional detail.	Green	Feedback includes short, actionable messages AND the option of more detailed analyses AND further information on the validity and relevance of the data.	
	Amber	Feedback includes ONE OR TWO of short, actionable messages AND the option of more detailed analyses AND further information on the validity and relevance of the data.	
	Red	None of the above.	
Incorporate 'the patient voice.'	Green	Feedback includes patient-reported outcome measures (PROMs) OR a patient or carer-authored narrative describing their experience of care directly related to one or more audit criteria, stating benefits from clinical care consistent with recommended clinical practice (or harms from omission of recommended care) and offering praise where recommended care has been given.	
	Amber	ONE OF PROMs or a patient or carer-authored narrative as above.	
	Red	Neither of the above.	
Feedback display			
Closely link the visual display and summary messages.	Green	Summary text is in close proximity to graphical or numerical data AND both communicate the same message.	
	Amber	Summary text is in close proximity to graphical or numerical data OR both communicate the same message.	
	Red	Neither of the above.	

Suggestion for effective audit and feedback	Criteria for rating		Self assessment notes
Minimise extraneous cognitive load for feedback recipients.	Green	AT LEAST FOUR OF key messages are prioritised AND the minimum amount of data necessary to understand performance are displayed AND there is no visual clutter AND plain, direct English is used AND a standardised format is used throughout.	
	Amber	TWO TO THREE of the above.	
	Red	ONE OR LESS of the above.	
Provide feedback in more than one way.	Green	Feedback is delivered via ALL THREE of text and numbers AND graphically AND verbally	
	Amber	Feedback is delivered via TWO of the above.	
	Red	Feedback is delivered via ONE of the above.	
Feedback delivery			
Actively 'push' feedback to recipients.	Green	Feedback is sent directly without the need for recipients to log into password protected websites.	
	Amber	Feedback is notified and recipients need to log into password protected websites.	
	Red	Recipients need to actively seek feedback.	
The organisation or person delivering feedback should be perceived as clinically or methodologically credible.	Green	The source of feedback has recognised clinical authority AND recognised methodological skills.	
	Amber	The source of feedback has recognised clinical authority OR recognised methodological skills.	
	Red	Neither of the above.	

Suggestion for effective audit and feedback	Criteria for rating		Self assessment notes
Provide multiple instances of feedback.	Green	Feedback is delivered on multiple occasions in a consistent format AND at a frequency informed by the number of new patient cases.	
	Amber	Feedback is delivered on multiple occasions.	
	Red	Feedback is delivered only once.	
Include specific suggestions for action at clinician and organisational levels.	Green	Feedback includes specific suggestions for action AND these are detailed using the AACTT framework: action required ('what' needs to be done); the actor(s) performing the action ('who'); the context in which the action is taken ('where'); the targeted individuals or population the action is taken for or with ('whom'); and the required timing (period and duration) of the action ('when')	
	Amber	Feedback includes specific suggestions for action WITHOUT adhering to the AACTT framework.	
	Red	Neither of the above.	
Engage with organisations to confirm their arrangements for responding to feedback.	Green	The audit programme has regular two-way communications with all or most recipient organisations to confirm arrangements for receiving and acting on feedback.	
	Amber	The audit programme has occasional two-way communications with some recipient organisations to confirm arrangements for receiving and acting on feedback.	
	Red	The audit programme has no two-way communications with any recipient organisations to confirm arrangements for receiving and acting on feedback.	

Ten Top Tips for successful collaborations between researchers and audit programmes

There are opportunities to increase the impact of national audit programmes by embedding randomised trials comparing different feedback content, displays and delivery methods. Implementation laboratories entail embedding sequential trials evaluating different audit and feedback methods; changes to feedback identified as more effective than the current standard become the new standard; those that are ineffective are discarded.[8] This offers a means of enhancing the impact of audit and feedback while also producing generalisable knowledge about how to optimise effectiveness.

Establishing an implementation laboratory depends on close collaboration between audit programmes and researchers as well as an appreciation of benefits, risks and costs. The following tips may help successful collaboration.[9]

Resources

1. Consider what extra resources the audit programme(s) will need
2. Agree timelines with both research and audit team

Logistics

3. Review and agree processes for data extraction, sharing, checking and cleaning

Leadership

4. Identify an enthusiastic leader to engage audit team and healthcare providers
5. Promote an understanding of equipoise to ensure that negative trial results are not misrepresented as research failures or lack of audit impact

Relationships

6. Ensure and agree shared priorities for research and clinical audit programme
7. Start with small changes to avoid alienating end-users before tackling more complex or larger changes

Perceived risks

8. Choose audit standards carefully for feedback research, ensuring they are underpinned by a strong evidence base and that there is scope for improvement
9. Balance research ambitions with pragmatic actions

Opportunities and benefits

10. Recognise small improvements may have significant population benefits – this message needs to be heard by funders, commissioners and health care systems

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