THET Behavioural Science Toolkit for antimicrobial stewardship
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This toolkit is for anyone who is exploring health professional practice change with the aim to change or improve practice in antimicrobial stewardship (AMS). It will take you through defining behaviours to be changed, exploring the influences on those behaviours, developing interventions to change behaviour and having conversations with people about changing their practice.

The benefits of taking a behavioural approach start with having a common understanding of what any policy changes mean for them in their day-to-day working lives. In order to change behaviour, we need to understand what might be getting in the way of behaviour change and what might enable people to change. This knowledge then helps to develop interventions to change practice. Finally, health professionals’ knowledge of what to do and how to do it is related to how they feel and to what is going on in their working environment. Starting by understanding these influences on behaviours, can allow us to have meaningful conversations with health workers about change. Bringing people along with us, in a participatory way, is also likely to result in more meaningful and sustained change. Behaviour change interventions are more likely to be successful if they are embedded in good relationships, when people have control over their own practice and when communication is good between all parties.

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This toolkit contains the following brief, practical guides:

1. **Defining behaviours to change**
   Capturing health professional behaviours can add value to a project. Having information about practice at baseline can help projects develop tailored interventions to change practice. Monitoring change in practice can help projects to understand whether and how their work is making a difference.

2. **Exploring influences on behaviour**
   There are a range of influences on behaviour: those things that influence whether someone does or does not do something. We can usefully summarise these as capability, opportunity and motivation. Exploring the influences on behaviour of people whose behaviour is expected to change to improve AMS is important, because it is helpful to understand ourselves and others when we are trying to change. Exploring influences helps us to understand the wide variety of pressures, barriers and challenges health workers, and the general public, have in relation to improving AMS. This also helps us to move forward with health workers as collaborators.

3. **Linking outcomes, behaviours and influences in a theory of change**
   The more detailed a theory of change is, the more likely we are to understand what needs to change and what works in affecting change. The process of creating a good theory of change starts with stating what we specifically want to result from our intervention (the desired outcomes) and what indicators we can collect of those outcomes. Next, it is important to explore and specify who needs to do what differently and to explore influences on those behaviours. Finally, producing a diagram / document /logic model that is agreed with all stakeholders ensures that everyone agrees what you want to achieve and through which behavioural influences that is to be achieved.

4. **Developing interventions to change behaviour**
   Education and training are the most commonly used interventions to change behaviour in AMS and in health partnerships generally. Here, we will talk about ensuring education and training interventions align with behaviour change theories and evidence. Health partners might want to address the multitude of influences through other kinds of interventions like behaviour change campaigns, or implementing new systems and tools in the healthcare environment.

5. **Having behaviour change conversations**
   Sometimes, we can best influence change through having conversations with individuals about changing what they do. Behavioural science is clear that just telling someone what to do is often ineffective in changing behaviour. Someone is more likely to change if they are aware of the new behaviour(s), are motivated to change, make a plan and then have the plan supported with reminders / prompts.

6. **Assessing and evaluating behaviours**
   To understand if our interventions are targeting the right behaviours and having an impact, we need to be able to assess / evaluate behaviour. Observation of behaviour is the most reliable way to do this (either in person or through audits e.g. of prescriptions) but when observation is not possible, we can ask people a variety of different types of question to help us understand their behaviours before and after an intervention.
Who needs to do what differently?
Defining behaviours to change
Who needs to do what differently? Defining behaviours to change

Defining the behaviours that you want to change

The beneficial outcomes of practice change might already have been specified in the project. It is important to detail each of the intended behavioural outcomes (IBO) of the project. These detail what you expect a health professional to do or not to do in order for the project to be successful.

The Who of behaviour change

In a complex system issue like AMS, we all need to act together to help keep antibiotics working. The first task may be to work out who the most important groups are for your project to focus on. It may be that you already know this, e.g. if the brief is to develop training for prescribers, or you may have more flexibility to offer multi-disciplinary support. In that case, each professional group or sub-group will play its own important role, and multi-disciplinary communication practice (e.g. pharmacy staff challenging out-of-stock prescriptions) is crucial. It is worth spending time understanding which groups have the most influence on AMR in your setting and the structures which are in place already to facilitate this. For example, perhaps your work could achieve most by supporting the existing medicines committee in your hospital? What do they want to do differently in order to influence whose behaviour? Often there are layers of behaviour changes for different groups, meaning that each group may be both an ‘actor’ and a ‘target’ e.g. nurses (actor) giving information about adherence to carers (target), so that carers (actor) administer doses correctly to patients (target).

You should list the IBOs taking care to consider all aspects of the behaviour, namely AACTTI:

**Action:** WHAT and HOW is the action being performed?

**Actor:** WHO performs the behaviour (e.g., nurse, doctor, family member)

**Context:** WHERE is the behaviour being performed?

**Target:** WITH WHOM is the behaviour performed e.g., patient or colleague

**Time:** WHEN is the behaviour being performed e.g., after admission, before touching a patient.

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1 https://implementationscience.biomedcentral.com/articles/10.1186/s13012-019-0951-x
If you were trying to reduce antibiotic prescribing in primary care centres for upper respiratory tract infection you might have as an IBO:

The prescriber (Actor) in the primary care centre (Context) will counsel the patient and not prescribe antibiotics (Action) to a patient with an upper respiratory tract infection but no symptoms indicating bacterial infection (Target) during a consultation (Time).

Our research has shown that training interventions, in AMS and more generally, often aim to change around 50 practice behaviours. It would be impossible to create IBOs for each of these. Rather, we suggest that the team decide which ones are the most important to target. Importance might be because they are the hardest behaviours to change, or because they are the behaviours that would have the most impact if changed or even because they were the easiest to change and would therefore bring the most success. There may be many behaviours under an ‘umbrella’ overall behaviour e.g. ‘ensuring prescribers follow local AMS guidelines’, which could include several behaviours such as ‘ensure guidelines are reviewed by prescribers at the time of writing a prescription’ or ‘the medicines committee to produce guidelines that can be accessed at the time of writing prescriptions’, etc.

Our experience has shown that specifying IBOs and creating AACTT statements is hard for project teams. For more information see our elearning and our briefing.

We would suggest that specifying IBOs and creating AACTT statements is done in a focus group by the whole team, or iteratively during project scoping and, if possible, facilitated by a behavioural scientist.

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**Topic guide and cues for behavioural specification focus group**

What are the key outcomes for the project? Encourage team to list outcomes (they might have these already noted) and note these on flipchart / white board.

Taking each outcome in turn, can you think about what the health professionals would have to do if that outcome was to happen? Take outcomes one at a time, ask for practices. If teams give knowledge, skills, attitudes, ask them to restate these as behaviours – observable, things people do.

Can we take each behaviour and specify who, where, when and to whom each behaviour would happen? Create ACCTT statements for each behaviour.

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2 http://www.mcrimpsci.org/elearning/specifying-the-behaviours-you-want-to-change/
Exploring influences on behaviours
Exploring influences on behaviours

Influences on behaviour

For any behaviour to occur, an individual must have capability, opportunity and motivation (COM). These factors influence whether or not behaviour will occur in practice. Exploring these influences will identify potential barriers and strategies to promote behaviour change that supports antimicrobial stewardship.

There are two types of capability:

Psychological capability is having correct knowledge and information about the behaviour, e.g. “I know what the national guidelines are for prescribing antibiotics in this condition”.

Physical capability is having the skills required to carry out the behaviour, e.g. “I know how to complete a review of the patient to stop antibiotics”.

Opportunity is physical and social:

Physical opportunity relates to resources required to complete the behaviour such as time, equipment, staff support, e.g. “I have enough time to talk to the patient about not prescribing antibiotics for their condition”.

Social opportunity relates to influences from significant others beliefs towards the behaviour, sometimes described as social and cultural norms, e.g. “I have pressure from my patients and their families to prescribe antibiotics”.

Motivation is reflective and automatic:

Reflective motivation involves conscious decision-making such as weighing up the pros and cons of the behaviour including whether the behaviour is considered easy or difficult and thought to have a good result or not, e.g. “I don’t agree with the national guidelines about how long to prescribe antibiotics for”.

Automatic motivation is habitual, and it involves behaviour occurring without thinking about it too much, e.g. “I have always prescribed this way and so I do it automatically”.
The process of exploring the COM of each behaviour

Exploring the influences on behaviours is important because interventions are more likely to lead to behaviour change if they address the key influences on behaviour. Improving knowledge and skills is often a key focus of health partnership interventions. Education and training are most useful interventions when they help people put their knowledge and skills into their real life working environment. This means that to design good training, we should explore the influences on people’s practice i.e., what helps and stops them from doing the IBOs. Then we can design our training to help overcome barriers and make the most of the things that help.

It is important that we do not assume what the influences are on others’ behaviour, even if we are from the same profession or department or we are working with one team. Influences on behaviour can be explored in different ways depending on the time and resources available. These include:

One-to-one interviews
Often these are ad hoc interviews conducted with health professionals in their place of work. See the topic guide for the types of questions to ask.

Focus group discussions
Focus groups are a useful way to make behavioural interventions participatory, i.e., they can be a great way to involve your learners right from the start. Gathering a group of people whose behaviour would be expected to change after your partnership work, and asking them honestly about what the barriers and helpers of change are, for them, is a way of ensuring that you get good information but also that people understand that the intervention is to help them, as well as improve AMS.

Questionnaires
It is tricky to create a good questionnaire, that is easy-to-use but also scientifically robust. There is a short questionnaire that has been validated in the UK for exploring the COM of health professionals, but so far this has not been validated in other countries. You can read more about it and see the questions here: https://bpspsychub.onlinelibrary.wiley.com/doi/epdf/10.1111/bjhp.12417

Observations and field notes
Sometimes just spending time in a location, shadowing colleagues with their permission particularly whilst observing intended behavioural outcomes, can give insights into what the barriers might be for AMS. This is usually as part of an overall scoping or implementation activity.

Tips: making a focus group participatory
It is good to share with your group that you are exploring COM and why. You can help embed an understanding of COM whilst you are conducting a group discussion. Every time something someone says makes you think about capability, opportunity or motivation, you can reflect that back e.g., “so you said that you weren’t sure of the guidelines for all the conditions because there were so many, that makes me think that you are motivated to use the guidelines but perhaps we need to support your opportunity to access the guidelines at the right time in the right place.”
If you are unable to explore COM fully for each IBO, then see the part of the toolkit about designing training for practice change, which has activities to explore COM as part of a training intervention.

**Tips: Examples of points to make discussion groups work well**

If you know the people and some are usually quiet in group discussions, position them opposite you if you can. Research has shown that people facing a facilitator are more likely to speak.

When someone makes a comment, summarise by saying ‘that’s a really interesting point, what do others think about that’ and then catch people’s eyes to draw them into the conversation.

Watch out for people making non-verbal cues that they agree, disagree or have an idea. This might be a slight nod or shake of the head, or an intake of breath (this is often a signal that someone is getting ready to speak). When you spot these, bring that person into the conversation by inviting them to say what they were thinking e.g., ‘you looked like you [agreed / disagreed] with that – did you or did you have something else you wanted to say?’

People are naturally dominant or quiet in a group and that is normal and OK. If you want to bring in a quieter person, sometimes lifting eyebrows whilst looking at them, helps them to feel invited into the conversation.

Try to keep your own non-verbal reactions in check. It is important that people don’t feel judged and that they feel that their opinions are valuable. Try not to show emotions like surprise or shock. Do try to show emotions like curiosity, interest and gratefulness.

**Summary**

Defining intended behavioural outcomes will support teams to develop appropriate interventions.

Exploring the influences on behaviours are important because interventions are more likely to lead to practice change if they address all the influences on behaviour, not only knowledge and skills.

It is sometimes not possible to fully explore COM for each IBO, in which case, ensure that you explore COM during any training interventions.
Linking outcomes, behaviours and influences in a theory of change
A workshop to discuss a ‘theory of change’ might be useful. A theory of change is a very specific description of what changes you are expecting and how the activities you will do will lead to those changes.

A workshop allows stakeholders / project leads to spend some time as a group agreeing a set of outcomes and relating these to things they expect to change and the activities they are doing to change them. It is not unusual for project team members to actually have quite different expectations of what a project will accomplish and how.

It can be challenging to have these types of conversations online. If you can do this face to face it can often be easier. If you do have to do it online then getting people to talk in breakout rooms in pairs and then bringing them back together can be useful, as can asking people to write their thoughts down either on a shared whiteboard or by themselves with their camera off.

**Defining the outcomes and indicators**

To define the outcomes, you can present quite an open question to the stakeholders, for example: ‘write down / discuss what you think are the specific outcome(s) from [insert project]. Try to be as specific as possible – who will benefit, how, by when.

It is important that stakeholders agree on the outcomes for the project. Sometimes, this has been done prior to thinking about behaviour, but sometimes not.

For example, you might say that you want to reduce prescriptions for a specific antibiotic for a specific condition (outcome). So, you might suggest a point prevalence survey or other audit (indicator).

**Defining who needs to change to reach the outcomes**

When the outcomes are agreed, we then think about who needs to change to achieve the desired outcomes. Start by discussing who they are and what the context is.

Then work on specifying their behaviours using the defining behaviours section.

**Exploring the influences on the specific behaviours**

You can learn more about the influences on behaviours in our elearning [www.mcrimpsci.org](http://www.mcrimpsci.org). It could be that the project leads who are involved in defining the long-term outcomes don’t know what the influences are on specific behaviours. The guide to exploring influences will be helpful at this point, if you can access the people whose behaviour(s) need to change. If you can’t, make sure you explore influences in any training intervention (see ‘developing interventions’ section).
Designing training to change behaviours
Designing training to change behaviours

The process of creating behaviourally informed training

Often education and training will explicitly focus on developing knowledge and skills. Good educators will include other things in their training. For example, an activity that helps to build confidence in a behaviour, but these might not be explicit or specific. You can follow a pattern for developing training that explicitly focuses on exploring and developing opportunity and motivation, in addition to capability.

Taking each IBO in turn, you can:

1. Establish what the learners already know/already do
2. Explore what might be difficult for the learners to put the specific IBO in practice
3. Develop capability, opportunity and motivation around that IBO through interactive activities in training.

We’ve all likely been on hundreds of training courses. If you think back to the ones where you learned the most, or really stuck with you, were these perhaps the ones where you were more actively involved? There is plenty of evidence that active learning techniques help us process new learning more deeply. Sometimes educators are worried about using active or playful learning because they worry learners will think these ‘childish’ or it will be awkward if an activity ‘lands flat’. We have found that, after an initial surprise that the learning is not all instructional, health professionals in higher- middle- and lower-income countries accept (and often enjoy!) the interactive way of learning. One of the most important active learning techniques is practice and rehearsal. Psychology research tells us that if we want to be able to put something new in practice even when it’s difficult, like back in our busy work setting, we should ‘over-rehearse’ in training, so that it becomes automatic. Rather than the dreaded term ‘role play’, we’d recommend calling activities ‘practice tasks’ and using people’s real experiences or real case studies where possible.

Take each IBO in turn and go through the following process.

You could use the cards for change to help choose activities.
Explore capability

Design an activity that will establish what learners already know (knowledge) and already can do (skills). It is important to remember that what someone can do is not the same as what someone will do, which is influenced by other factors. This could be as simple as a quiz (consider that some people may not be comfortable sharing scores) or a self-assessed checklist where people are encouraged to identify their learning needs. But first you might want to demonstrate and play with this idea by drawing a bike on a large flipchart or an appropriate example for the country you are working in. Many people KNOW HOW to ride a bike but not everyone CAN ride the bike. By using an example that is not related to work, people feel less worried about sharing their scores and it can help to lead to discussions about work related skills and knowledge.

After an exercise where learners have self-identified their learning needs, collate the scores to avoid any person feeling vulnerable about being exposed as someone who knows less, then note the differences between what learners know and can do and the IBO. You consider sharing the with the learners, as it is often useful for learners and you to have the same understanding about their knowledge and skills in order to prepare the learners to develop necessary knowledge and skills.

Develop Psychological capability

Design activities that will develop necessary knowledge. These are the typical activities included in education and training e.g., lectures, workshops etc. When doing this:

- Situate the knowledge in realistic contexts
- Use stories and case examples
- Consider whether you should translate into different languages.

Develop Physical capability

Design activities that will develop necessary skills. When doing this follow the pattern:

- An expert models the skill
- Learners practise the skill, repeatedly if possible
- Self-evaluation then peer-evaluation then expert-evaluation. Ensure there is enough time for this and that the feedback is behavioural and feels supportive (e.g. 2 things the learner did well and 1 suggestion for next time).

Explore and develop Physical opportunity

Design an activity in which learners will reflect on what would get in the way of them doing that IBO in practice (defining barriers) thinking specifically about time, equipment, other people.

Ask the group if they have any solutions for these issues. Share these solutions and discuss them. Then move the group to creating coping plans.

Coping plans are if-then statements where you specify what you will do if a particular barrier arises. For example, if a group identify that prescribing the indicated antibiotic for a particular condition is difficult because they don’t have access to the national prescribing guidelines on their ward, they might identify that carrying the guidelines with them as they go on their ward round might be a solution. Their if-then statement might then be:

“If I am beginning a ward round, then I will pick up the national prescribing guidelines from the office and keep it with me as I see patients.”

Action plans and coping plans are discussed in the ‘Having behaviour change conversations’ module.
Explore and develop social opportunity

Because the views of others may influence whether and how someone does things, it is important to ask learners to reflect on this and share solutions about how to address any barriers. You could start this by asking learners what other people would think of them doing the IBO in practice. You might like to do this by creating a story in which someone similar to the learner did the IBO and asking them to think about what the other team members, patients, families etc. might be thinking in the story. Identify any social opportunity barriers at this point and reflect them back to the learners.

Ask the learners to make coping plans about what they would do if anyone expressed those opinions. They could also make action plans about what they might be able to do to prepare others for them using the IBOs in practice, for example explaining to others in advance and discussing reasons for the IBO.

In our research we have found that experienced professionals in the same field can play a vital role here in sharing how they have negotiated tricky situations (e.g. “I decided to go to the ward lead and say ‘we must do better for our patients, I need to have locks on these cupboard doors to keep our antibiotics secure’

Explore and develop reflection motivation

Three issues seem to affect reflective motivation about IBOs: outcome expectancies, self-efficacy and behavioural attitudes. There may be others specific to your IBOs and there might be literature or anecdotes about these, but these three seem to cover many of the issues raised in many situations.

Outcome expectancies

In order to be motivated to do the IBO, learners need to believe that if they do it, there will be a better outcome for someone. Ensure that you articulate what these better end points are, in other words explain who will benefit from the IBO and how and why. Studies show that communication containing both statistics and individual stories can help people understand why something is beneficial and to whom; and that the story should be told, or be about, someone who is credible: often a leader or someone like the learners themselves. Create some stories, slides, handouts etc. about the positive endpoints of each IBO.

You might also consider asking the learners what they think might improve if they do this IBO and to create their own stories.

Self-efficacy

Learners might not believe that they can do the IBO – we call this having low self-efficacy about the behaviour. If you don’t think you can do something, you’re unlikely to put much effort into it! Ensure that you build self-efficacy as you go along.

This can be done in a session by using feedback about how others have built their confidence. You could use phrases like ‘other people have found this hard before, but they found that they were able to do this after practising’.

Consider including a story of people, similar to the group of people you are training, who believed they could not do the IBO but then learnt and now are doing it in practice. Again, it can be a good idea to ask your learners if they can remember a time when they didn’t think they could do something but then were able to do so. Ask them what helped them and how they felt when they succeeded.
**Behavioural attitudes**

Attitudes about actually doing the new behaviour (not just about the end points) will also influence reflective motivation. Design an activity in which learners discuss what it would be like to do the IBO in practice (or what it is like if they have done it before) and ask them to think about whether there is anything they can do to make it easier or more acceptable. Sometimes asking people to brainstorm ideas together in small groups can help them to come up with some useful solutions.

**Explore and develop automatic motivation**

Prompts and cues are really powerful drivers of behaviour. We tend to think we are in control and making decisions about what we do but actually a lot of our behaviour is automatic and done with little conscious effort. Design an activity in which the learners can think about whether there is anything they can put in their place of work which will prompt or cue them to do the IBO. This might be a poster, or it might be moving where equipment is kept.

Making if-then plans can also support automatic motivation but this time instead of coping with something that might get in the way, you can encourage them to use if-then plans to make a plan that prompts a specific behaviour if they see a particular cue in the environment.

For example, if you wanted someone to follow the 5-moments of hand hygiene, you might get them to make an if-then plan which was something like:

“If I approach a patient’s bed, then I will take the hand gel from my pocket and sanitise my hands.”

This could be in the form of a verbal plan made in small groups or even by making a written pledge as part of becoming an antibiotic guardian [https://antibioticguardian.com/](https://antibioticguardian.com/)

**On a final note**, if you know what the influences are on the specific behaviours you are trying to change, you can plan the specific interventions (that can include training) that theoretically change those influences. As a group exercise, this is really useful, as it brings partners together to focus on the multiple influences on each key behaviour. You can even do this in a totally participatory way by holding a session in which the people whose practice you are seeking to change are involved in the planning. We find that people are often more receptive to change that they have some control over than change that is imposed.
Having behaviour change conversations
Having conversations with individuals in which you come to a shared understanding of AMS behaviours and the influences on them is a very important part of the behavioural science of AMS.

In fact, our communication skills come into everything we do to change practice in AMS. Whether you’re leading a training, or speaking at a committee meeting or feeding back the results of an audit, our specific questions, phrases and style can have a huge impact on others around us.

Sometimes, we need to explore the influences on and behaviours of, a large group of people and develop interventions to change those behaviours. But often, we are speaking to a single individual about their practice. It is useful in these situations to gather information about their own capability, opportunity and motivation for practices related to antimicrobial stewardship. There are lots of things that might influence whether a single person behaves in a way that supports stewardship. They might not know what they should be doing differently, they might know but not agree with the new way of working. They might agree and for some reason never seem to get round to it. Finding out how an individual person thinks and feels will help you to have a meaningful conversation about change.

Using open questions

During training or other kinds of conversations, it can be useful to use open questions – questions that can’t be answered with a ‘yes’ or ‘no’ or with a one-word response, because we are trying to get the person to do most of the talking and thinking. We want the person to have a conversation with us that is open, curious and participatory, bringing out their own ideas for change. So for instance ‘what do you think we could do in this situation?’ rather than ‘this is what you should do in this situation’. This is of course especially important where we are not familiar with the environment or culture of a new place.

If you think back to conversations that you have enjoyed, these are often where people have asked you questions and listened to your opinions. Generally, open questions lead to better, more satisfying and more useful conversations. If this is new to you, you can practise talking to people in a closed or open way and reflect on the time taken, effort of the interviewer and interviewee and general satisfaction with the conversation.

Providing the right information when it’s asked for

Motivational interviewing communication style suggests we provide information when it’s asked for, in chunks, and checking back to see what people make of it. They suggest to provide information using:

Elicit – Ask them what they already know about the topic, ask what they’d like to know, and/or ask their permission to provide information

Provide – 1 tailored chunk of information, perhaps with ‘others in your situation have found X useful’, or ‘in our setting, we tend to …’

Elicit – Ask ‘what do you make of that?’ to guide your conversation further and give you a guide on whether more details or other bits of information are needed.

Practising conversations

Behaviour change conversations can be difficult so you might want to practise. In the vignettes handout, there are some typical scenarios that people might experience when thinking about practice change related to AMS. You can use these scenarios to do some practise.

Noticing positive change and progress

Our brains are wired to notice problems, threats and dangers – if we were not so good at this, our cave man ancestors would never have survived to pass on their genes to us today! Our governance systems in healthcare are set up the same way – to check for problems, moving from one problem to another to rectify issues and ensure quality and safety. However, this means we don’t always have the time and headspace to notice positive change and progress in a positive direction – our own and other people’s. It can be useful to add ‘what’s going well’ to team meetings in AMR projects, and taking time to notice and remark on progress towards the team’s AMR goals in a genuine, empowering way (‘we got that report in to the chief medical officer, what a huge and determined effort from everyone, thank you for your commitment to this project’).

Using behaviour change techniques

Research findings suggest that conversations are more likely to be effective in changing behaviour if they include certain techniques that we call ‘behaviour change techniques’. There are almost 100 different techniques, the ones we are suggesting here are the ones that have good evidence for their simplicity to use and their effectiveness in supporting behaviour change.

Reflective motivation conversations

Focusing on the pros of changing or not changing

You can ask people to talk about the pros of changing practice and the pros of not changing practice. Remember that communication is better and more effective if the person thinks of their own reasons, but you can prompt them to think about different things too. In this situation, you need to be neutral, helping the person weigh up their own pros and cons rather than ‘jumping on’ one side or another. There is some evidence that, for some behaviours, pulling out the cons for NOT changing can increase the salience of the changes. MI recommends that questions like ‘what worries you about the way things are now?’ and ‘what difficulties have arisen from the current practices?’ are useful. You can then follow this with ‘what might be the advantages to changing?’

Looking to the future

As part of this, you could ask people to imagine things in a future timeframe e.g. 1 or 5 years if they did or did not change things in their team or hospital setting. This can gently encourage them to generate their own reflective motivation for changing, but be careful to adopt a curious approach there rather than a ‘telling them’ approach.

Automatic motivation conversations

Behaviours are more likely to be sustained if they become the usual or habitual way you do things.

If-then plans

If-then plans are those plans we make where we identify the ‘if’ and we make a plan about what to do in that situation, which is the ‘then’. We can make two types of if-then plans: an action plan (what you are going to do in a specific situation) and a coping plan (anticipating barriers and planning what to do if they happen). You can ask people to make two plans, an action plan and a coping plan. But first, ask them to prioritise what the first thing they might need to do to start to change and focus on that.

Monitoring and adapting

Self-monitoring is about noticing and recording your behaviours. Adapting the environment is about looking at where you work and changing things around you to support you doing the behaviour. These are both interventions to support automatic motivation and generate habits.
Assessing and evaluating behaviours
Assessing and evaluating behaviours

Assessing behaviours

Assessing behaviour is when we measure behaviours as a particular time point. We can then compare these assessments over time to evaluate whether change is happening.

Developing and using a behavioural checklist

A behavioural checklist is useful to see if your partnership work is changing important practices. It is usually easiest if someone who understands the clinical situation is completing the checklist (unless the IBOs are very simple) so that they can make a judgement about the appropriate standard. The checklist, of course, must be completed ethically, with full knowledge of those being observed. Sometimes these can be completed as part of a supportive visit, where people are offered support after the checklist with any situations they found difficult.

Create a behavioural checklist with each of the IBOs, and three columns a) if the behaviour was expected; b) if it was observed and c) if it met the appropriate standard.

Discuss with the team who will be conducting the observations and completing the checklist. Make a plan about when and where the observations will take place. Sometimes, this will be observing people who will be attending training, sometimes it will be observing a whole ward, outpatient clinic or other physical area.

Observations should take place before and after interventions to fully understand any impact that interventions are having on health professional practice.

Example observation checklist

<table>
<thead>
<tr>
<th>Behaviours</th>
<th>Expected behaviour</th>
<th>Observed behaviour</th>
<th>Was behaviour performed to optimal standard according to the course?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tick if you would expect this to happen in this situation. If not applicable in this case, leave row blank.</td>
<td>Tick if the team attempted this in the left column and tick which team member took part in the right column.</td>
<td>Yes (Y) or No (N). If No, provide further detail in unstructured/free text section.</td>
</tr>
<tr>
<td>TEAM BEHAVIOIRS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perform team brief</td>
<td>□ Anaesthetist</td>
<td>□ Surgeon</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Obstetrician</td>
<td>□ Nurse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Medical Officer</td>
<td>□ Other</td>
<td></td>
</tr>
<tr>
<td>Check patient ID before induction of anaesthesia</td>
<td>□ Anaesthetist</td>
<td>□ Surgeon</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Obstetrician</td>
<td>□ Nurse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Medical Officer</td>
<td>□ Other</td>
<td></td>
</tr>
<tr>
<td>Check consent for procedure</td>
<td>□ Anaesthetist</td>
<td>□ Surgeon</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Obstetrician</td>
<td>□ Nurse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Medical Officer</td>
<td>□ Other</td>
<td></td>
</tr>
</tbody>
</table>

Example of additional information you might include on checklist

<table>
<thead>
<tr>
<th>Date of observation</th>
<th>Time of observation</th>
<th>Duration of observation</th>
<th>Name of hospital</th>
<th>Setting: □ OR  □ Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR team: Anaesthetist:</td>
<td>□ Consultant  □ Resident  □ Anaesthetist officer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgeon:</td>
<td>□ Consultant  □ Resident</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obstetrician:</td>
<td>□ Consultant  □ Resident</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Officer:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse:</td>
<td>□ Scrub nurse  □ Circulating nurse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Brief description of case and the patient (e.g., elective C section in a 20-year-old G1P2 with no medical history or emergency C section in a 22-year-old with pre-eclampsia)
Self-report behaviours

Sometimes, it is not possible to observe people in their own environment. In these cases, it is possible to ask people to self-report their behaviours. This is not perfect because sometimes people will forget and sometimes people will over or underestimate their behaviours. It can give some indication in the absence of being able use a checklist, for example, before and after training and perhaps in a three-month follow-up. You will need a way of matching up participants e.g. by a code.

You can ask:

How many times in the last week could you have done [insert behaviour]?

How many times in the last week did you [insert behaviour]?

Or

How many people did you see last week who [insert the situation in which the behaviour should / should not be done]?

With how many of these people did you do [insert behaviour]?

For example, if you were interested in doing an antibiotic review 48 hours after surgery, you would say:

How many people did you see last week who were 48 hours after surgery?

With how many of those people did you do an antibiotic review?

You can vary the time frame to fit, bearing in mind people are more likely to remember things that have happened fairly recently.

Behavioural expectation

Sometimes, you want to get an idea of how an intervention might change someone's intention or expectation of doing. This is usually because you are assessing them before they have had a chance to go back to work after your intervention. This might be at the start and end of a training session, for example. Expectation has been shown to be a good predictor of behaviour, although it is obviously not as strong evidence of change as observed or self-reported behaviour.

We usually ask a behavioural expectation question in the following form, with the answer being between 0 and 10:

For every 10 [insert situation/ context] in how many would you expect to do [insert behaviour].

For example:

For every 10 people you see with a upper respiratory tract infection in how many would you expect to prescribe an antibiotic.

For information about how to explore behavioural influences, see Qualitative evaluation methods?

Routinely collected data

It helps if routinely collected data can be used to understand behaviour. For example, the number of prescriptions for a particular antibiotic would help us to understand the behaviours of prescribers. The benefit of these types of data is that they are collected routinely and therefore can be less time consuming to collate.
Worksheets

This toolkit was developed to help promote AMS good practice by using a range of theory-based techniques that have been shown to be helpful in changing health professionals’ behaviours. In the last section we have provided a set of worksheets to help you to develop skills in using these techniques.