Model for Improvement

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RCVS Knowledge:

Welcome to the Quality Improvement Boxset by RCVS Knowledge, a series of webinars, podcasts, and video interviews for practices and practitioners.

Laura Playforth:

What is a model for QI projects? It's essentially a project planning document. It's a framework which we can use to structure what we're doing, why we're doing it, and how we're doing it, and why do we need a model at all. Now so many of you have been through the various courses and resources we have at RCVS Knowledge, I know a lot of you have a really good grounding in the basics of what Quality Improvement is, what the tools are, and how you can develop your own tools. As you'll know, there are some really great templates for how to develop a checklist, for example. There are walkthrough guides when you're developing your tools and numerous real-life examples which are in use. So in other words, you are ready to start your own project, and where many of us have limited time within the team and are very keen to get started and make changes, why would we waste time on doing additional paperwork? So surely this is like spending all your study time on writing a study timetable.

Laura Playforth:

Well, let's start with an example. So the team at QI Vets are wanting to start a project. They start off really well by having a team meeting with representatives from all roles within the practice team. They discuss what matters to them, what matters to their clients, and where they feel care could be improved for their patients. During the meeting, one of the clinical team mentions that they've been on a CPD course on analgesia and pain scoring in acute pain in dogs and cats. As they're discussing what they've learned, one of the reception team brings up the fact that there seem to have been quite a number of post-operative neutering cases that have come back unexpectedly saying that they felt their pets were still in pain. So this brings the team on to discussing pre and post-op analgesia, and they decide that this would actually be a great topic for an audit and perhaps a clinical guideline. So far so good. They're really eager to get started and they agree that the next Monday morning would be a great time to start. They're going to measure which surgical patients are pain scored and which have analgesia and how many with and without analgesia return for additional analgesia. They agree to review the data monthly to give them a chance to gather enough data for an initial review.

Laura Playforth:

When the team comes back for their review meeting after a month and looks at the data, the results they have are a bit tricky to interpret. So it turns out that some of the team thought they were looking at all surgical cases and some thought they were just looking at elective neutering cases in dogs and cats as this is how the conversation started. It didn't matter so much, they just focused on the data for the neutering cases, but then they discovered that more than half the team had been recording the pain scoring manually using a paper sheet, but not entering a code into the practice

management system. Unfortunately, the paper sheets were discarded after the procedure, so they didn't have accurate data for pain scoring. Then there was a bit of a heated debate about what exactly they were measuring in terms of the analgesia given, whether it was given pre-operatively or whether any post-operative analgesia should be included.

Laura Playforth:

Sadly, it seems that the team was at cross purposes. They all had slightly different understandings of what they were doing and why. Some of them actually had quite radically different ideas, and this isn't uncommon in the early stages of planning. It's much better to iron these things out before we actually get the projects underway. The team decides that actually, they're going to have to abandon the data collected so far and agree their plans in more detail to avoid the same happening again. This is where a model can really help. When planning a project, using a model can help avoid the situation the team found themselves in. As with these climbers, we need to have a good plan from the start to avoid as many issues as we go along as possible. Although the stakes aren't as high on a QI project as they are if you're climbing a rock face, misunderstandings can lead to wasted time, having to restart projects, and can lead to unhappiness and disagreements in the team. Like a checklist or a clinical guideline,

Laura Playforth:

the idea of a model is to have a supportive framework to prompt the team to discuss and decide on the level of detail they need to make the project successful. It should also speed up the process as well as avoid common pitfalls and therefore use the team's time to maximum effect. If we decide a model is going to be beneficial to help us use our time efficiently and avoid misunderstandings, then there's the question of which QI model to use when there are a number of them which are evidence-based and seem to work well. When you listen to the experts, it seems models like toothbrushes, lots to choose from, but everyone prefers their own. The one we'll talk about today is the Model for Improvement, and this is because it fulfils many of the important criteria that we need. It's simple, it's accessible, it's supported by a wealth of evidence to show that it can achieve rapid, effective, and sustainable solutions. One thing we do need to be careful of is that evidence shows that consistency of the model is important within a team. There are lots of models that are effective, but if we start to use different models for different projects, we can end up in confusion. So the consistency of the model is much more important actually than which model we end up choosing.

Laura Playforth:

The Model for Improvement is essentially three questions followed by our PDSA cycle; Plan, Do, Study, Act, which we've talked about a lot in relation to clinical audit. These are the three questions that a team must answer and come to an agreement on, which can be easier said than done. It was developed by the Associates in Process Improvement, and it's been adopted and used extensively in human healthcare by the IHI, the Institute for Healthcare Improvement, which is an international organisation which has been applying QI methods to meet current and future challenges in healthcare for over 30 years. So it's a really well-evidenced framework. It's important to keep a written record that the team will refer back to as the project progresses to keep everyone on track and avoid distractions and disagreements. It's also invaluable when it comes to planning the next project and sharing this project with others. So the three questions which we will talk about in a bit more detail are what are we trying to accomplish? So our aims. How will we know that a change is an improvement? Our measurements, and what change can we make that will result in an improvement?

Laura Playforth:

We first need to decide what we want to achieve. This does sound a bit simpler than it actually is. We need to make our aims into SMART goals, which we've talked a lot about previously. So a SMART goal is one which is specific, measurable, we'll come onto that next, achievable, relevant, and time-bound. I'm sure many of you are familiar with SMART goals, so we won't labor the point, but saying that we want to improve postoperative analgesia in our patients as per our previous example, is not really a smart goal. By agreeing on our aims very specifically, this is where we've got our first preventative process to avoid misunderstandings and mission creep as we go along. We want to agree on what we're trying to improve, how much we want to improve it by and when, and we also need to decide which population of patients this applies to.

Laura Playforth:

And as we've seen from our QI Vet's example, that's really important to get that defined. We want to be really ambitious with our goals, but also keep them achievable or it's very easy for the team to get disheartened. So it's much better to start small and build on early successes than to start too big and get overwhelmed. When choosing our aims, we want it to be something which is really important to the team and will have a positive impact on animals and on their owners if possible. As these projects take time and effort, we want it to be something which will impact a really significant number of our patients and improve fundamental aspects of care such as safety, patient welfare, and clinical outcomes. We need to think about the practicalities of achieving the aims and resources involved, such as time, money, and expertise to make sure we keep it achievable.

Laura Playforth:

Once we've got our aim, we need to determine exactly how we'll measure it. There are a number of different types of measures we can use. The first one is outcome measures, and they're really the holy grail. This is the impact on the patient. Are there measurable impacts on their health and well-being? That's what we really want to know. Unfortunately, we can't always directly measure clinical outcomes for a variety of practical reasons. So what we can do is use proxy measures such as process measures. For example, we know that there's strong evidence that checklists increase patient safety. So if we're introducing a checklist, our first step might be to measure how often it's getting completed, when we want to be looking at the process of completion and getting feedback on that so it can be improved. We can also use structure measures, assessing access to equipment or resources for example.

Laura Playforth:

The final type of measures we can use are balancing measures, and this is where we identify specific adverse consequences and measure them to make sure that our change isn't unintentionally making things worse for patients and teams. If we stick with the checklist example, a good balancing measure might be the time the checklist takes or whether another specific part of care was getting missed to complete the checklist instead. It can be a bit frustrating working out how to measure the impact of a project if you aren't able to measure exactly what you want to because the data is not in the system or you can't get access to it. But as a team, you can come up with really inventive ways of getting around this to get some useful results. The team will also be best placed to know how to do the measuring without adding much, if any, ideally, additional workload.

Laura Playforth:

They can also choose who would be best placed to take the measurements and what time fits best with other activities. These are really important practical considerations that we need to decide on before we start the project. This is also a really good time to sense-check that what we are planning is actually a QI project and that we aren't unintentionally veering into research, which can be easy to do. If the team wants to do a research project and they've got the capacity to do it, that's great, but

it is very different to a QI project. So for example, if we find ourselves looking to discover new knowledge, for example, is drug X better than drug Y? If we're starting to control variables or planning one large, blinded test instead of many sequential measurements, then we're moving into research territory. So we need to be careful that we know exactly what it is that we're intending to do.

Laura Playforth:

As we've mentioned for QI projects, we want to plan for a number of sequential measurements over time and plotting them onto a run chart, which is essentially having time on the X axis and the data points on the Y axis, we can see the fluctuations in the data points as the time in the project progresses, as you can see on the illustration that we've got up on the slide. And we can then add notes to the chart to show where we've made the changes, so we can look at the impact of the change on the data points. We've got a really excellent webinar on run chats that will go into them in more detail, so I won't cover that ground just now.

Laura Playforth:

Now we know what we're aiming for and what we're measuring, we need to decide on what we're going to change that we think will result in the improvements that we're aiming for. So here we can choose from the available Quality Improvement tools such as checklists, benchmarking, clinical guidelines, et cetera, and the team that are providing care to the patients will have a good idea of what it is they need and what tools might help. It's also really good to look at examples of what others have done in a similar situation to get inspiration. We've got lots of great examples at RCVS Knowledge on the website, and you can also look at previous Knowledge Award winners, and also you can look to human healthcare if you don't find anything that you want in the veterinary examples. So a lot of projects won't be an exact fit to the way that your teams work, so don't forget to include the discussions of these details with the team and how you going to adapt these projects to fit the way that you work.

Laura Playforth:

Once we've got the answer to our three questions in the Model for Improvement, we're ready for action. Now comes the time for testing the changes that we've made. So as we've discussed in our audit materials, PDSA cycles are repeated cycles of iterative change and changing, tweaking what we do based on our results and feedback from the team. So what this involves is planning exactly what we're going to do, carrying it out or doing it, studying our data, and making decisions on what, if anything, needs to change, and then we change it and go through the cycle again. So once we're happy that we've been through the cycle, we then need to decide whether we're going to make the change a permanent part of the process and adopt it, whether further changes are needed, so we need to adapt it or whether we feel that the process just isn't going to result in the changes we want, even if we tweak it, in which case we abandon it. So the outcome of the PDSA cycles is adopt, adapt, abandon. Once we're ready to make the changes permanent, then we need to plan the implementation, and that's another story altogether, not one that we're going to cover today.

Laura Playforth:

Think big, start small, learn fast. That's the Model for Improvement in a nutshell. It helps us to plan large-scale significant changes by breaking them down into smaller achievable steps. By moving through small iterative cycles of change rapidly, we can make really significant progress surprisingly quickly. If you'd like to find out more about any of the things I've talked about in this webinar, please do check out the other RCVS Knowledge resources. As we've mentioned, there's a brilliant new webinar on run charts that you might want to look at. We've also got resources on the PDSA cycle in our audit course and more about SMART goals if you're interested in that. If you'd like to look at

more on the Model for Improvement, the Institute for Healthcare Improvement website contains more details on that, some different examples, and also some short videos. We'd love to hear about your projects, and please do submit them to the R CVS Knowledge Awards. Thank you very much for listening.

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For further courses, examples, and templates for Quality Improvement, please visit our Quality Improvement pages on our website at rcvsknowledge.org.