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Appendix 3. Summary of TDF domains that are likely to inform whether senior leadership supports OR Black Box® research

TDF Domain	Specific beliefs	Representative quotations	Frequency out of 9
Knowledge	I am familiar with the OR Black Box®. *Enabler*	"Yeah, it's… it is, you know, if you take an airplane, the black box is pretty much a set of eyes that records everything that happens during the flight so that if something either occurs, the information from the black box can be used to understand what occurred during the event, or it can also be used for training purposes. So it's pretty much like an ongoing recording device. And in the OR, and I haven't physically seen how the setup is yet, but it's… my understanding is it's a very similar type of setup where it's a device that's part of the OR setup and it pretty much records both, I believe it's both visually and sound, so that you can get a full understanding of what the team is doing in the OR during the operation, and then you can use it for future training in terms of improving efficiency and effectiveness of the procedures."	9
		"So this is not the first time I've heard of this. There were colleagues down in Toronto that were doing this kind of work and I was about to get involved with that kind of work down there."	1
	I am not familiar with the OR Black Box®. *Barrier*	"To be honest, I'd never heard of it until I got that email, but I was thinking about it. I said this is… this is a pretty cool idea if done properly."	1
	I have questions about how the OR Black Box® will impact OR staff. *Barrier*	"Are people going to be comfortable or are they going to see that this is like, you know, the big black, you know, big brother kind of monitoring you?"	2
Beliefs about consequences	The OR Black Box® will improve patient safety	"I think we'd identify significant areas where we can improve communication and processes. And that would allow u to improve care as we move forward."	5

	culture/patient care/outcomes. *Enabler*	"If we actually have this technology that helps promote standardizing, improving productivity and efficiency, and the roles within everybody in the room and what's happening, in a positive manner, which makes the operation more effective, more comfortable, a little bit calmer, more standardized, that benefits the staff, it benefits the patients and it helps us financially."	3
	I anticipate cultural challenges to overcome when encourage OR Black Box® participation. *Barrier*	"However, I do see challenges we'll have to overcome. I mean there's nursing issues and unions and… like they… you… there is the potential that a group can say, you know, this is an invasion of my privacy. Like their culture has to be on board to say this is a good thing for patients, good thing for learning, and it's good to have all the stakeholder engagement. I think there are some surgeons, not in my department… at least… maybe there's some in my department that would feel very threatened by their, you know, interaction in the OR being recorded, particularly some of the less technically adept surgeons. I think the… you know, how long you keep the data file for, whether it could be subpoenaed would be important."	1
	If the OR Black Box® was not implemented, it would be a missed opportunity. *Enabler*	"I think the missed opportunity would be to actually be a leader in understanding whether or not this kind of modality is helpful in furthering the culture of safety and the just culture in the organization."	4
		"I think it's a huge risk for not implementing it because there's no question that the operating rooms in this hospital are no different from any other operating rooms I've ever worked in… there are deficits in communication in every operating room… and that's no fault of the people working in the room, it's just human nature and if we don't implement it at this hospital, we'll have lost a huge opportunity, both in terms of improving our own practice, but also in terms of being able to influence others."	2
	The OR Black Box® has the potential to be harmful if not introduced/used appropriately. *Barrier*	"Nothing's harmful in the tool. It's how the tool is used that can be harmful or beneficial… I would say that there would have to be a lot of thought on how to build the educational support to using this tool so that the faculty knew how to use it, so that the	1

		"resident trainee knew what was being told to them and digest it… If you just give people data, it'll scare the heck out of them."	
		"You know, if stuff is taken out of context, then you could certainly create a lot of problems for an individual or a group."	1
Memory, attention and decision processes	Supporting OR Black Box® research is an easy decision to make. *Enabler*	"Oh, it's a no-brainer."	6
	My decision to support the OR Black Box® is based on considerations from other locations using it. *Enabler*	"Part of the reason I don't have any concern about it is if we were the first ones on the planet doing it, I'd have concerns. In the States, they're not talking about, you know, do we try this in one OR. They're talking about… they've been doing it in one OR for a year. They're talking about rolling it out in all their ORs. So you know, there's some pretty bright people out there that go through the same thought process that we've just walked through. If they thought it was a problem they would have torn it out years ago."	1
		"So you know, with the black box project, it's not… it's not hard to get your head wrapped around it. You want to support the research and you want to get it done particularly as it's being done in other centres."	1
	My decision to support the OR Black Box® is based on a cost-benefit analysis. *Enabler*	"So on this one, there is an investment but it's not earthshattering. The other piece that we look at quite closely is what's the return on investment. So in this particular one, you can look at it and say okay, so it's going to cost whatever, let's say it's 100 grand to get this thing rolled out. So you look at it and you think okay, what's the return. You can't necessarily quantify that at the moment. So it becomes a risk assessment of is there a possibility for a strong return from both a quality and an operational and a financial perspective. And the short answer is yes. We just don't know specifically what it's going to be, but part of these when we look at them from a hospital perspective is, is that	1

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		assessment of… is it going to propel this organization forward and is it going to make a difference for patients and is it going to make a difference for academia. And this one, this one you tick the box on yes on all of them. "	
		"Because you're putting your own credibility on the line when you're saying this is the most amazing project that we need to do. Right? And for someone like me who's got lots of big projects that they'd like to do, I want to make sure that I'm picking a project that actually is based on sound principles and theory and has data to show that there's benefit before we… at least early data. It doesn't have to show huge P values but at least that people have thought through the process of what they're going to do with the data before they actually just go and run and put the black box in the OR."	1
Social influences	My colleagues support the OR Black Box®, so I support it as well. *Enabler*	"I look at this as a clinical tool that's going to help with the way they OR operates, being brought forward by an anesthesiologist as part of a research trial supported by a TOHAMO grant that's been endorsed as a priority by a number of the medical leaders."	3
	Others would not change my decision to support the OR Black Box®. *Enabler*	"It would take a lot to change my mind not to endorse this. I don't… I don't think they'd be able to change my mind about endorsing it, no."	2
	Others would change my decision to support the OR Black Box®. *Barrier*	"See, part of the problem is… and it's almost unfair to… if this… say this went to a vote, because the problem becomes if I vote against this, then it's construed as, you know, they're against patient safety…So I'll come across negative and people say, oh, he's against patient safety and whatever."	1