

Appendix 1. Summary of TDF domains that are likely to inform whether patients would participate in OR Black Box® research

TDF Domain	Specific beliefs	Representative quotations	Frequency out of 15
Knowledge	I am aware of how the OR Black Box® would be used in healthcare. <i>Enabler</i>	“So you can reconstruct what happened during a particular event with more information than just the, maybe subjective information you may get from the participants themselves. It’s maybe more objective data.”	9
		“Exactly the same purpose as [the airline industry], but I believe every industry is going in that direction anyway.”	6
		“I think one [purpose] would be the safety of the operation. I think that doctors are really good... but I think that it also puts them on a different level knowing that they’re being taped and watched. So they’re probably more careful, I would think so.”	3
	I am not aware of how the OR Black Box® would be used in healthcare. <i>Barrier</i>	“I thought the [OR] Black Box® was already in use.”	3
		“I don’t know about all the big picture of an operating room, whether [the OR Black Box®] would interfere with anything. So, you know, maybe a camera has to be... on a doctor’s head while he’s leaning over doing the surgery. I have no idea what they’re talking about.”	3
		“I’m not sure how you’d capture everything.”	2

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Social/professional role and identity	OR Black Box [®] research is part of my role as a patient. <i>Enabler</i>	<p>“I think every patient, we have to play a [role in] safety for everybody.”</p> <p>“I just think it’s [OR Black Box[®] research] part of a process [of being a patient]. Really, to me, it’s part of my process.”</p>	4 2
	OR Black Box [®] research is not part of my role as a patient. <i>Barrier</i>	<p>“...I see it more for surgeons and medical staff there, for them to use as they... as a tool and help with the research, help them to understand better ways to improve health care for the patients. But for me, I don’t think so.”</p>	3
	Because of my professional role, I view OR Black Box [®] research as valuable. <i>Enabler</i>	<p>“Yes I would like too [participate]... Because I’m also a statistician, I do a lot of research and nobody participates...”</p>	2
		<p>“Because of my job as an insurance broker... we take several measures to make sure we are protecting ourselves from errors and omissions... So to me, this is very similar to that... I think it protects the professional and it protects the patient. So I do think that’s a good idea, because of my job.”</p>	1
		<p>“Well I’ve worked in engineering for much of my life, so the quality control, the data collection aspects are of interest to me. I’ve worked on systems involving aircraft, so somewhat familiar with the need to be able to reconstruct events and, you know, writing software to actually record that information in the first place, and then also writing the software to be able to retrieve that information afterwards to actually make sense of it... That’s sort of my interest anyway.”</p>	1
		<p>“Well, as I said, I spent quite a while as a hospital trustee and the very fact of advancement in knowledge and so forth... I mean anything which is going to enhance the quality of medicine, the surgeries yes.”</p>	

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Beliefs about consequences	Using the OR Black Box® for research will lead to improvements in surgical patient care at the hospital. <i>Enabler</i>	<p>“... there’s always room for improvement, right. So I think... there will be lessons learned. I think there will be changes potentially implemented to processes, whether it be the surgical process or the prep process or the post-surgery process... I think everyone will benefit.”</p> <p>“...because in aviation that’s how they fix the problem that happens before... Okay, we did this wrong. Next time we go do it in the better way.”</p> <p>“...it’s there to help and it’s not there to lay blame... it’s not something that somebody should be worried about. Like I said, it’s there to help everybody else. It’s another tool.”</p>	7 2 1
	Using the OR Black Box® for research will affect the skills of clinicians. <i>Enabler and Barrier</i>	<p>“I think... if you know you are being recorded in any way, it’s... you’re going to sort of live up to that, yeah.”</p> <p>“...there would be research associated with the collection of the data and that research... would be... made available to the surgeons to allow them to understand things that might be of use to their own practice that maybe they hadn’t thought of.”</p>	7 3

	Using the OR Black Box [®] for research will not affect the skills of clinicians. <i>Enabler and Barrier</i>	<p>“They’re human beings. Everybody gets nervous... And when [surgeon name] is doing what he’s doing on someone like me, I don’t want him to be nervous.”</p> <p>I: “Would you expect your surgeon to perform better or worse knowing there’s a black box?”</p> <p>R: “Better.”</p> <p>“You know, honestly, I expect that my surgeon would be practicing at his most competent level at all times regardless if there’s a box or not. So it’s... I don’t think the box would influence his performance or her performance.”</p> <p>“I don’t know. I don’t know what affects their skill. I don’t know why a doctor would suddenly be better at being a doctor or a surgeon because there’s a camera there than if there’s no camera there. So I can’t comment on that I guess.”</p>	3 2 3 2
	If the OR Black Box [®] was not used for research, the hospital would not make progress. <i>Enabler</i>	<p>“Why don’t you live up to the times? How come that hospital does and you don’t? And how come... it says in the Lancet that this is a good discovery for medical purposes so why are you hold[ing] back?”</p> <p>“I think progress would still be made. Maybe it might not happen as fast.”</p> <p>[If the OR Black Box[®] was not used] “Well I guess we’d be the same as... the same as we are now.”</p>	1 1 1
	Using the OR Black Box [®] for research would send a positive message to patients about the hospital. <i>Enabler</i>	“Okay, so I think the effect would be on the image of the hospital as being transparent. As willing to say we have nothing to hide. We are willing to record things... I think it sends a good message of we have oversight here and are serious about it and we fund the research to support it, and it’s good quality data... We are transparent. We are looking at trends. We are looking at ways to improve our operating suites. So I think that’s a very good message that	1

		would be sent... In terms of we don't have anything to hide... and we are reflecting on our practice to improve. I think it sends a good message in the transparency.”	
Reinforcement	I would not require any monetary compensation to participate in OR Black Box® research. <i>Enabler</i>	“No, there should be no incentive.”	5
	I would require any monetary compensation to participate in OR Black Box® research. <i>Enabler</i>	“I want to say knock a few dollars off the expenses of a bed.”	1
	Helping others in the future is incentive enough for me. <i>Enabler</i>	“Yeah, I wouldn't need any other incentive than to know that someday down the road somebody might benefit from the fact that I was in a study that brought the black box into Ottawa.”	6
	Participation in OR Black Box® research has to be optional for me to consider it. <i>Enabler</i>	“If it was mandated, then I would be totally against it.”	1
		“Since it hasn't been a dominant thing in surgery up to this point, I don't know if you can insist on it being used right now... So I think the patient should probably have the right to decline.”	1
Environmental context and resources	The hospital environment would play a role in my decision to participate in OR Black Box® research. <i>Enabler</i>	“...we know this is a learning hospital. When we come here we're aware that's the case. I've experienced that, again like I mentioned, with both my babies. So there was learning happening all the way through there, so I kind of expect it here, that there'd be things like that.”	2
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	The hospital environment would not play a role in my decision to participate in OR Black Box® research. Barrier	<p>“Professionalism, protocol, procedure. I think if I have faith in the people... like all those things together put my mind at ease that something like that will be well handled and is necessary and part of what happens here...I have a lot of faith in what goes on here.”</p> <p>“Again, you’re stepping into something that’s full of confidentiality before even... before you even add the black box into it. Everything here is private. It’s at a hospital. It’s not like we’re posting it on social media for everybody to see. So adding a black box shouldn’t change anything about that.”</p> <p>“For me, I can’t say that there’s an aspect of the hospital for me personally that will push me to do that.”</p>	5
Emotion	<p>I have concerns about the OR Black Box®. Barrier</p> <p>I do not have concerns about the OR Black Box®. <i>Enabler</i></p>	<p>“I’m concerned about information... you hear all the time about companies losing a lot of data, so I’m always concerned, but not to a point where I would say let’s not do this.”</p> <p>“It’s nothing really to be worried about or concerned about. It’s just another... like I said, a tool in the operating room... There’s nothing really concerning. It shouldn’t concern you.”</p>	2 13
	I am surprised the hospital is not already using the OR Black Box®. <i>Enabler</i>	“I’m surprised you haven’t done it earlier.”	3
	If the OR Black Box® was used to record my surgery, it would make me feel nervous. <i>Barrier</i>	“I mean a person’s going in for an operation and they don’t know what the result is going to be and it could be just something to make you a little more nervous about going into the operation.”	3

	If the OR Black Box [®] was used to record my surgery, it would not make me feel nervous. <i>Enabler</i>	"...And for patients, I think peace of mind... people are nervous coming in and I think that is just... like I mentioned before, a set of eyes, you know, when you are completely incapacitated and have your complete trust in the environment and the people here. So I think it's just that extra level of comfort."	4
Behaviour regulation	Ensuring confidentiality/privacy is required for me to participate. <i>Enabler</i>	"...and if I was assured confidentiality, then I would be quite comfortable with that... and privacy protection. You've got to absolutely be able to ensure that that isn't going to show up on the internet somewhere."	2
	I would decide to participate after learning more about the research and who/what is involved. <i>Enabler</i>	"We would want to know that nobody is making a profit... What's the funding trail? Where's the bias? Where's the conflict of interest? Has everybody signed off... are you reporting the good and the bad or are you just reporting the good because those things happen." "Well, my first inclination is I wouldn't avoid the institution because it's using a black box, so... but like I said, I guess it would be very interesting to hear about any concerns that came out of your research. And so I [would] make an evaluation at that time."	1 1
	Clear information about what the OR Black Box [®] is being used for is required for me to participate. <i>Enabler</i>	"Just by knowing what it's for, its purpose, and how it's going to be used. Once I knew that, I don't see anything wrong with it."	3
	Whether or not I would participate would depend on how the OR Black Box [®] affects clinicians. <i>Barrier</i>	"... if they were going to feel nervous, feel stressed, feel like somebody's looking over their shoulder, feel like their performance is being reviewed, maybe I would say no, that I do not want it done."	2