A Qualitative Analysis of a Coalition's Characteristics that Influence Physician Behavior

Supplemental File B

Overarching Themes, Relevant TDF Domains, Domain themes, Illustrative Quotes, COM-B constructs and Linked Intervention Functions

Overarching Theme	TDF domains	Domain themes	Examples of interview quotes	COM-B Construct	Linked intervention functions
1.QI education and hands-on opportunities supports involvement*	Knowledge	1.Coalition provided QI education and training encourages physician-led QI 2.LTOO project provides a experiential (hands-on) QI opportunity	"Provided QI workshop with the methodology and the science of improvement that was helpful" (P3) "Knowledge and just knowing how to, how to be involved with the QI project" (P8)	Capability (Psychological)	Education Training Enablement
	Skills	3.Past hands on QI training and involvement encourages future physician QI involvement	"I think having had some formal knowledge of QI processes [helped]"(P7) "I had some experience with both QI and lab overuse when I was a medical resident"(P5)	Capability (Physical)	Training Enablement
	Beliefs about capabilities	4.QI is a new skillset for physicians which impacts confidence	"I feel very beginner and newbie in terms of QI, its foreign and isn't a concept that is well ingrained" (P1)	Motivation (Reflective)	Persuasion Enablement
2. Physician mentorship*	Social influences	5.Physician QI mentorship	"Providing a mentor, or that type of relationship would really help" " (P11) "The biggest bang for the buck is mentorship" (P9)	Opportunity (Social)	Modeling Enablement Incentivisation
	Social professional role and identity	6.Shepard (chaperone) Physician QI leadership role and provide opportunity to lead 7.Physician champion does not view themselves as leading the LTOO project	"In the past we were asked to participate, today, they are asked to lead" (P2) "Shepherd physician-led QI projects"(P10) "Allowed me to lead and establish my physician QI role"(P5) "Knowing somebody else was running it was great"(P1) "Co-leadership role"(P10)	Motivation (reflection)	Incentivisation Persuasion Enablement
3.Coalition functions as a safe peer-to-peer QI community*	Knowledge	8."It is a think tank where physicians can discuss QI topics"	"Bring a problem to the table and brainstorm ways to address and then scale and spread" (P7)	Capability (psychological)	Education Persuasion
	Social influences	9.Coalition (SCIC) provides a forum for QI collaboration	"Beneficial for any site, program or group of physicians looking to engage in QI and create QI as a priority within their culture, integrate physicians into the QI frameworks and organization" (P2)	Opportunities (social)	Enablement Modelling
4.Trusted local physician leader sharing QI encourages involvement**	Social influences	10."Put a physician leader face" on the LTOO project 11.Coalition physician members spreading and championing the QI project	"Simple straight forward project led by a trusted, high quality physician, who I know is going to lead the project, moving it forward." (P11) "The coalition physician leader was an influence"(P4) " I just think it is nice that it's from a physician leader perspective, who shares the QI issues and how they solved it" (P6)	Opportunity (Social)	Modelling Enablement

Mathura P, *et al. BMJ Open Qual* 2023; 12:e001965. doi: 10.1136/bmjoq-2022-001965

5. Provide initiative approach, data and physician role**	Knowledge	12. Coalition presentation improved LTOO awareness (utilization and cost data)	"Made reasonable sense, seemed logical and well laid out during the presentation" (P8) "Rarely, do we ever actually get presented with the numbers,… probably one of the most helpful things" (P10) "Access to information, not only the what but the how its provided" (P12)	Capabilities (Psychological)	Education Restrictions Training Persuasion
	Social influences	13.QI recognition 14.QI sharing (social comparison) to encourage QI	"The credibility with QI involvement for these physician-led projects adds value to the project in the eyes of other physicians" (P2) " I think having a proof of concept showed in the presentation is excellent because it just provides reassurance that , yeah, they did this, okay we can do this here" (P11)	Opportunity (social)	Education Persuasion Incentives
	Goals	15.Project goals and benefits were clear and that lab ordering is a patient safety and financial issue	"It is just simple, anyone can understand the goals and for that reason, I think that helped this QI project get traction" (P11) "Seeing how much we spend in urea blood testing is alarming" (P6)	Motivation (Reflective)	Modelling-
	Beliefs about consequences	16.Anticipated positive intervention implementation effect (reduced urea ordering)	"This is one of those ones that is pretty clean; everyone sees it as a pretty good idea" (P10)	Motivation (Reflective)	Persuasion
	Intentions	17.Meet physicians where they are at with a change idea/concept, share the why to motivate grassroots physicians to improve order behaviour	"I think the most importantly, of rolling it out to my team, who are very change resistant, was having a really strong evidence of the Why." (P1)	Motivation (Reflective)	Enablement
	Social professional role and identity	18.LTOO Project aligned to Health organization priorities with support from medical and organizational leaders	"Project was recognized as a strategic priority provided more credence to the work, further knowing it was Choosing Wisely funding also showed that there was professional and organizational priority" (P5)	Motivation (Reflective)	Environmental restructuring
6. Order BUN tests mindfully not reflexively or habitually**	Beliefs about capabilities	19.Lab test ordering is a learnt and ingrained practice	"It's an ingrained [learnt], auto practice; the more physicians are in practice and develop a routine and almost a habit" (P1).	Motivation (reflective)	Restrictions Education Modelling
	Behavioral regulation	20.Transition from reflexive/ habitual ordering to mindful (evidence-based, patient required) ordering 21.Sustain physician order behaviour change through data reflection and integration in medical learner curriculum "Remove the root cause" by removing choice (urea blood test) from paper and IT order forms 22.ConnectCare (IT system) standardizes the lab order sets	"Reflexive and not really thinking about it" (P8) "I now think about it instead of automatically just running down the list" (P1) "Support ongoing reflection and data collection"(P1) "Education will need to become integrated into learner curriculum"(P2) "Biggest difference when we get urea off the order set" (P10) "The most effective thing is really just changing the form and the buy in from the grassroots physicians"(P3) "The order set changes can support a smoother implementation for both	Capability (psychological) n/a-confounder	Education Incentivisation Persuasion Training n/a-confounder

		and the urea blood test has been removed	Connect Care and the project" (P2)		
	Social influences	23.Urea lab test ordering physician conformity	"Physicians are educating their learners about the urea test change and why" (P2) " Physicians still come up to me, oh, I was just thinking about urea testing" (P7)	Opportunity (social)	Modelling Training Incentivisation coercion
7.Changing physician behaviour is difficult**	Optimism	24.Pessimistic-"Tough to change physician behaviour"	"Have to drag along the rest of the group" (P10) "I think the barrier would be in general physician behaviour" (P8)	Motivation (Reflective)	Enablement
	Beliefs about consequences	25.Perceived threat to physician choice and freedom-" being told what to do"	"Creates that ivory tower sort of feeling, when you're just being told what to do and you're like that's never going to apply here" (P7) "Don't want things imposed on them" (P12)	Motivation (Reflective)	Coercion
	Environmental context and resources	26.Hospital culture differs	"Implementation of things that worked in another site may not necessarily going to work at a different site" and "One needs to remember that not all places are the same" (P7)	Opportunity (physical)	Modelling
8. Opportunity to lead, with support, a straightforward QI intervention that requires minimal effort *	Environmental context and resources	27.Minimal Physician project effort, straightforward intervention with minimal workflow impact 28.Provide continual access to experienced support personnel to assist physician-led QI	"Actual change component to the work flow was very minimal, didn't create a bunch of extra time for physicians" (P1) "It's the person to assist to get it done, the sharing of abilities and expertise, it's awesome" (P10) "The shared QI consultant has been excellent with moving forward" (P11)	Capability (psychological)	Enablement Training
	Beliefs about capabilities	29.Simple Intervention increased confidence to lead QI implementation	"It wasn't taxing for me supported my participation" "Time commitment for me was little. If it had been something that required a lot more of me at that time, I wouldn't have been as engaged"	Motivation Reflection	Persuasion Enablement Education
	Emotion	30.QI project experience was positive, targeted a grassroots annoying problem, with minimal physician QI effort, motivating physician participation	"This has been a positive experience" (P12) "The thoughts and feeling with the project were more that it was grassroots on the ward"(P6)	Motivation (automatic)	Persuasion (modelling, training, enablement)
9.Physician-led QI competed out due to clinical demands*	Environmental context and resources	31.Physician staffing challenges 32.Covid-19/Pandemic reduced physician time to champion any additional tasks such as QI 33.Connect Care-IT system rollout/ implementation is a competing priority that reduces physician time to participate in	"Its been historically harder to get physicians, chronically understaffed and regularly the emergency department are closing for weekends because they don't have physician coverage" (P7) "Expanding the project has been challenging as everyone is extremely tasked with managing patients and they're being redeployed to do something else during the pandemic" (P3) "Covid always been in the back of everyone's sort of collective minds, it just meant less time for everything else and lots of physicians were like, I just can't keep up with this anymore"(P7) "Now physicians are like, how do I get through my 12 hour shift with a completely new EMR" (P7)	Opportunity (physical) n/a-confounder n/a-confounder	Modelling Training-service provision n/a-confounder n/a-confounder

		QI activities	"Now we can't even get locums for the province, because they don't know how to use Connect Care" (P7)		
	Social professional role and identity	34.Competing demands- "Juggling clinical demands"	"Physicians don't have the time to seek the knowledge of QI but also to carry out a project when you're on busy clinical service"(P3) "When I'm on shift, I am only there to look after patients and can't attend meetings. I can't do any other project work while I'm there because of the nature of the work we do"(P1)	Motivation (reflection)	Persuasion Incentivisation Coercion
	Beliefs about consequences	35.Physician-led QI was competed out	" If there isn't time, funding or resources QI is being left out" (P5) "There is not an appetite for those things right now"(P7)	Motivation (reflection)	Persuasion Incentivisation
	Emotion	36.Physicians emotional well-being is impacting their ability to engage in QI	"Trying to provide knowledge or practice change to a group of people who are sort of overworked, trying to sort of balance and survive in their existence" (P7)	Motivation (automatic)	Persuasion
	Reinforcement	37. No incentives for physician QI involvement (funding/grants and remuneration)	"You're never going to get anyone to do anything if they are not remunerated" (P7) "They do not remunerate physicians" (P11) "We don't get paid any extra income for doing this"(P12)	Motivation (automatic)	Incentivisation Environmental restructuring

Note. LTOO=Laboratory Test Ordering Overuse, COM-B=Capability, Opportunity and Motivation Behavior, *-Themes aligned to QI leadership and participation behaviour, and **- Themes aligned to BUN ordering behaviour