

Table 1 Qualitative analysis of physician interviews on implementation of risk assessment in primary care using CFIR

Domain	Findings	Quotation	Intervention feature
Planning	Annual exams best screening opportunity	“It would be helpful if we could automate some of these things where the patient was given	Utilization of pre-visit work flow
Characteristics of the individual	Work flow should limit clinical time Team based approach inclusive of entire clinical care team Automation using Electronic Health Record (EHR) tools	the [tool] they could just actually go through the tool themselves. But prior to me coming in and that would be really helpful.” “The more that can be done outside of clinic or the less work it puts on the nurses the better.”	Development of documentation smart phrase
		“I think just having that first, the best approach would just to have knowledgeable providers and I will admittedly say my knowledge beyond just basic standardized guidelines at like the USPS TF level. My knowledge there is pretty limited.” “The other thing that I just think is incredibly important is education of the faculty of the	
Self-efficacy	Variability in clinician knowledge Benefit of clinician training resources Need for provision of resources for management and referral	providers there about what should be the next step.”	Clinician-in training session held Development of patient and physician educational handouts
Outer setting			
External policies and incentives	Breast cancer screening aligned with accountable care organization incentivized priorities	“Breast cancer screening is a ACO metric, and so I think if you automated it so that it didn't require a whole lot of extra work on the provider standpoint, I think people would be really on board with it.”	Future opportunity to work with clinical care coordinators

<p>Patient needs and resources</p> <p>Inner setting</p>	<p>Patient barriers identified to screening include transportation and insurance</p>	<p>“I stopped ordering MRIs myself and just started referring to high risk breast clinic because of the insurance coverage. If I order it versus if they I send them to high- risk breast clinic, they tend to have better success at getting that stuff covered.”</p>	<p>Billing codes and diagnoses provided with the dot phrase created to facilitate improved coverage</p>
<p>Relative priority</p>	<p>Breast cancer screening is a priority for clinicians</p>	<p>“I think we can all improve our, our breast cancer screening methodologies. And I think that this really does lay at the, at the, the hands of either primary care providers, or OB GYN's to make sure that we're doing it. And so, I think we could all improve our ability to better screen for breast cancer and screen appropriately by using risk stratification. I think that makes a lot of sense to reduce both, you know disease burden as well as you know, early mortality. I think both would be helpful if we had some sort of intervention like this.”</p>	
<p>Organizational incentives and other rewards</p>	<p>Focus on benefit both to individuals and the health system</p>	<p>“I think that MUSC in particular would be OK with this EHR driven thing as long as it didn't cost the system more money than it benefited the system by increased screening”</p>	<p>Future opportunity for cost analysis of screening with associated implementation</p>
<p>Tension for change</p>	<p>Variability in multiple guidelines available</p> <p>Motivation to improve breast cancer screening processes</p>	<p>“I feel like we're aimlessly doing breast cancer screening and I've felt that way for quite some time that there's conflicting recommendations . . .</p> <p>. And it seems like it could be something that would be so much easier to cohesively put in some type of risk stratification tool”</p>	
<p>Compatibility</p>	<p>Align with existing work flow processes including best practice advisories</p>	<p>“I think it could be done for sure . . .but I think again in in breast cancer risk assessment, something we're doing a lot, just not as in depth as doing a screening tool, but I feel like it could definitely be done.”</p>	

Implementation climate	Requires leadership and system support Requires additional institutional support including high-risk breast clinic	“I think MUSC in general is very welcoming to anything that will make our lives easier and better for patients. So, I think certainly my experience with MUSC would lend to us adapting it very well.”	
Evidence strength and quality Intervention characteristics	Opportunity for improved education of clinicians	“I think really first it would be like I would want to know before I investing like the effort into that and I would just want to know that it does make a difference.”	Clinician-in-training session conducted as well as training session for all clinical team members
Adaptability	Adaptation to limited clinical time User friendly interface	“It just needs to be super user friendly. ..It's just making sure that it's simple so that people want to do it because I know the more clicks there are, the longer something is. The less likely someone is to complete it.”	Cancer Risk Assessment using super brief survey was employed rather than more detailed surveys available
Design quality and packaging	Use of Electronic Health Record (EHR) smart tools beneficial	“I think a dot phrase that I could enter directly would be helpful. Alternatively, if that wasn't possible, if there was a link or something, either through Epic”	Dot phrase was created to facilitate documentation

Table 2 Demographic information

	Non-respondents (n=443)	Respond to CRA (n=144)	Respondents to redcap (n=33)
Age	36.7 (7.4)	36.0 (3.0)	35.6 (7.9)
Race	53.4% White	51.3% White	66.7% White
	34.7% Black or African American	43.2% Black or African American	18.2% Black or African American
Hispanic or Latino	0%	3.20%	0%
Office visits/year	3.7 (3.5)	4.0 (4.0)	
Mammograms ordered >40	75.6% (n=148)	61.4% (n=53)	
Mammograms completed >40	76.90%	81.30%	72.7 (n=11)