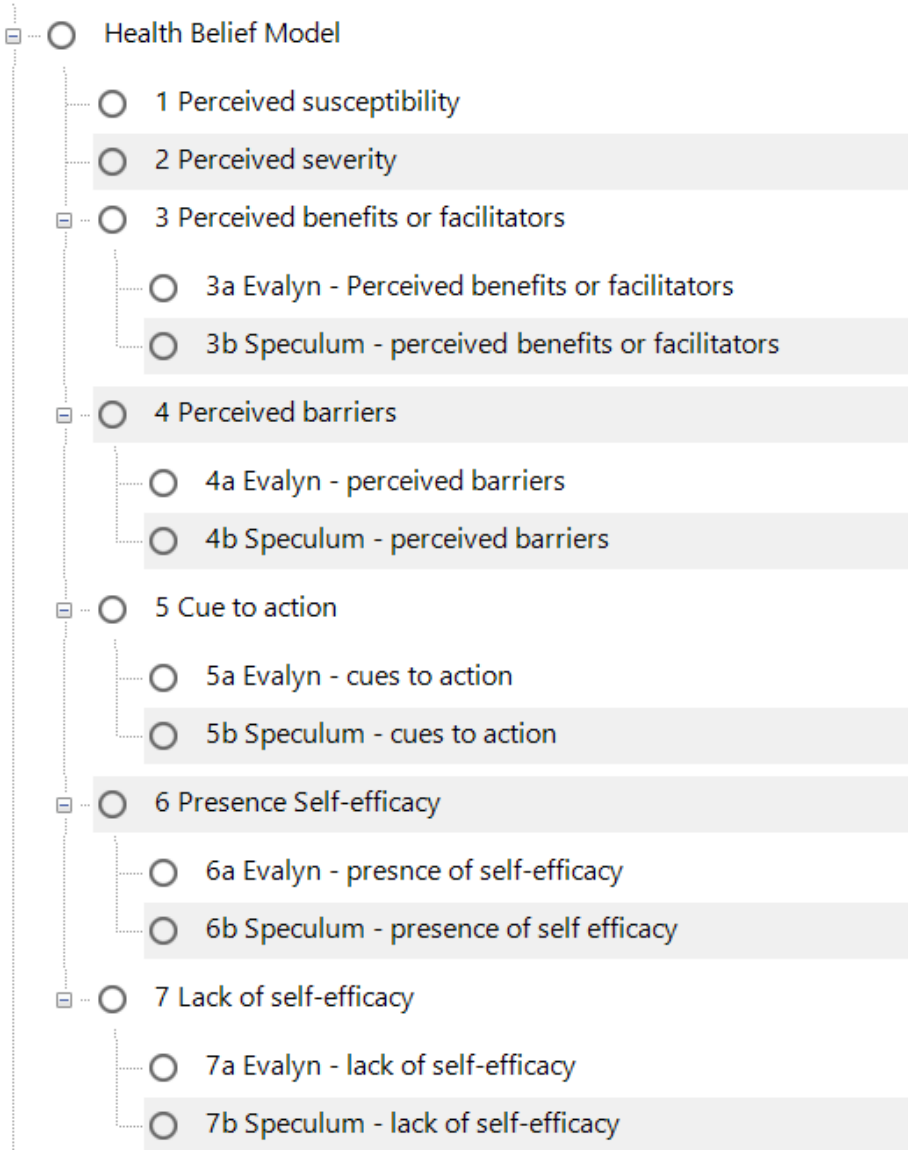


THEORETICAL FRAMEWORK

National Institute on Minority Health and Health Disparities Research Framework

		Levels of Influence*			
		Individual	Interpersonal	Community	Societal
Domains of Influence (Over the Lifecourse)	Biological	Biological Vulnerability and Mechanisms	Caregiver–Child Interaction Family Microbiome	Community Illness Exposure Herd Immunity	Sanitation Immunization Pathogen Exposure
	Behavioral	Health Behaviors Coping Strategies	Family Functioning School/Work Functioning	Community Functioning	Policies and Laws
	Physical/Built Environment	Personal Environment	Household Environment School/Work Environment	Community Environment Community Resources	Societal Structure
	Sociocultural Environment	Sociodemographics Limited English Cultural Identity Response to Discrimination	Social Networks Family/Peer Norms Interpersonal Discrimination	Community Norms Local Structural Discrimination	Social Norms Societal Structural Discrimination
	Health Care System	Insurance Coverage Health Literacy Treatment Preferences	Patient–Clinician Relationship Medical Decision-Making	Availability of Services Safety Net Services	Quality of Care Health Care Policies
Health Outcomes		 Individual Health	 Family/ Organizational Health	 Community Health	 Population Health

National Institute on Minority Health and Health Disparities, 2018
*Health Disparity Populations: Racial and Ethnic Minority Groups (defined by OMB Directive 15), People with Lower Socioeconomic Status, Underserved Rural Communities, Sexual and Gender Minority Groups, People with Disabilities
Other Fundamental Characteristics: Sex and Gender, Disability, Geographic Region



NIHMD JOINT DISPLAY ON LEVELS ON INFLUENCE AFFECTING CERVICAL CANCER SCREENING UPTAKE IN SOMALI COMMUNITIES IN SOUTHEAST MINNESOTA

Levels of Influence					
Domains of Influence		Individual	Interpersonal	Community-Based	Societal
	Biological	The exam is too painful (30% agree). Cervical cancer and screening are painful	Prevention for men, esp. husbands Men can't be treated, women must take care of themselves, protect yourself		

Blue text=survey item
Orange text=Focus group theme/subthemes

Levels of Influence*				
	Individual	Interpersonal	Community	Societal
Biological	Biological Vulnerability and Mechanisms	Caregiver–Child Interaction Family Microbiome	Community Illness Exposure Herd Immunity	Sanitation Immunization Pathogen Exposure

NIHMD JOINT DISPLAY ON LEVELS ON INFLUENCE AFFECTING CERVICAL CANCER SCREENING UPTAKE IN SOMALI COMMUNITIES IN SOUTHEAST MINNESOTA

Level of Influence					
Domain of Influence					
		Individual	Interpersonal	Community-Based	Societal
Behavioral		I do not feel at risk for cervical cancer (39% agree). Perceived susceptibility: have to do your part in prevention; Regular checkups for prevention I do not need to screen for cervical cancer if I am not sexually active (35% incorrect). I do not have to screen for cervical cancer if I do not have any symptoms (32% incorrect). Cues to action: Symptom based care seeking – seeking care when experiencing symptoms or when in pain, no matter the barriers, will go to the doctor I do not need to screen for cervical cancer if I have not had children (38% incorrect). If I am meant to get cervical cancer, screening will not prevent it (18% agree). I am worried about an abnormal result (18% agree). Discomfort and fear: fear of cancer diagnosis			

Blue text=survey item
Orange text=Focus group theme/subthemes

Levels of Influence*				
	Individual	Interpersonal	Community	Societal
Behavioral	Health Behaviors Coping Strategies	Family Functioning School/Work Functioning	Community Functioning	Policies and Laws

NIHMD JOINT DISPLAY ON LEVELS ON INFLUENCE AFFECTING CERVICAL CANCER SCREENING UPTAKE IN SOMALI COMMUNITIES IN SOUTHEAST MINNESOTA

Levels of Influence					
Domains of Influence		Individual	Interpersonal	Community-Based	Societal
	Physical/Built environment	It is hard for me to get to the doctor's office (91% disagree). Perceived structural barriers: 1. Transportation to appointment 2. Parking at Mayo		I would be motivated to get cervical cancer screening if I learned more about why it is important for me at a community event. (65% agree) Use education to mobilize the community 1. Group sessions in a familiar location 2. Topics to review: • What is cervical cancer • Early detection • Risk factors • how to protect yourself before and after sexual initiation (esp. in the context of marriage) • Be proactive, reminders every 3-6 months	

Blue text=survey item
Orange text=Focus group theme/subthemes

Levels of Influence*				
	Individual	Interpersonal	Community	Societal
Physical/Built Environment	Personal Environment	Household Environment School/Work Environment	Community Environment Community Resources	Societal Structure

NIHMD JOINT DISPLAY ON LEVELS ON INFLUENCE AFFECTING CERVICAL CANCER SCREENING UPTAKE IN SOMALI COMMUNITIES IN SOUTHEAST MINNESOTA

Levels of Influence				
Domains of Influence				
	Socio-cultural environment	Individual	Interpersonal	Community-Based
		Doctor's recommendations on cervical cancer not communicated in a language I easily understand (96% disagree). Perceived communication barriers to screening: - Disagreement on availability of Interpretation services - CCS not mentioned by provider - Not asked about speculum size preferences - Lack of self-confidence to advocate for what you need in healthcare situations even when there are language barriers	My family recommended it to me (64% agree) My friends recommended it to me (59% agree) Most people who are important to me would support me in completing screening for cervical cancer (68% agree) Perceived facilitator to screening: Encouragement from social network to get screened	- Most women my age in my community complete screening for cervical cancer (64% disagree) - The exam is too embarrassing (22% agree) - Perceived barriers to screening: fear and discomfort of screening, invasion of privacy, embarrassment - Perceived facilitator of vaginal HPV self-collection: avoid embarrassment at doctor's office

Blue text=survey item
 Orange text=Focus group theme/subthemes

Levels of Influence*				
	Individual	Interpersonal	Community	Societal
Sociocultural Environment	Sociodemographics Limited English Cultural Identity Response to Discrimination	Social Networks Family/Peer Norms Interpersonal Discrimination	Community Norms Local Structural Discrimination	Social Norms Societal Structural Discrimination

NIHMD JOINT DISPLAY ON LEVELS ON INFLUENCE AFFECTING CERVICAL CANCER SCREENING UPTAKE IN SOMALI COMMUNITIES IN SOUTHEAST MINNESOTA

Levels of Influence					
Domains of Influence		Individual	Interpersonal	Community-Based	Societal
	Health Care System	Almost all cervical cancer is caused by HPV (57% incorrect). Cervical cancer is more curable if detected early (39% incorrect) Perceived benefit: Can be treated at an early stage, beneficial to catch early The main aim of cervical cancer screening is to find abnormal cells before they become cancer (36% incorrect) Disagreement on perceived disease severity: if positive result, remove cervix and no negative impacts on patient vs the importance of catching it early to avoid late stage I am not sure when I should start screening for cervical cancer (36% agree) I am not sure how often I need to screen for cervical cancer (41% agree) I don't know how the screening is done (22% agree) Perceived barriers: - low health literacy surrounding cervical cancer screening - Uncertainty on screening eligibility age range - Uncertainty of what happens during exam - Lack of education on CCS, lack of awareness of cervical cancer I am worried about cost because I do not have insurance (17% agree) I am worried about the cost even with insurance coverage (13% agree). I would be motivated to get cervical cancer screening if the testing was free (48% agree). Perceived barriers to screening - Lack of insurance - Cost esp. for uninsured	I had a bad experience in the past when I completed a screen for cervical cancer (95% disagree). Positive past experiences with male doctors Trust their doctors My primary care provider recommended it to me (74% agree) Frequent healthcare touchpoints Regular Cues to action - Agreement: regular screening reminders needed, should not be delivered via email - Disagreement: preferred delivery method or reminders: Phone call vs. Postal letters vs. in-person doctor's visits (esp. for older women)	I don't have someone to help me schedule an appointment (13% agree). Perceived facilitator, access to translation services to help set up appointments "It is hard for me to get an appointment with a female provider." (91% disagree) Discomfort with male doctors Disagreement on ease of access to female doctors I would be motivated to get cervical cancer screening if it is offered in a community location outside of the clinic" (57% agree) Perceived facilitator to screening: Mobile clinic in familiar location because avoids transportation challenges I would be motivated to get cervical cancer screening if I could collect the sample myself without having a pelvic exam (68% disagree). Perceived facilitators of vaginal HPV self-collection - Potentially more comfortable - Save time Perceived barriers of vaginal HPV self-collection: - Loss of interaction with provider to detect other problems - Desire for full exam - Prefer to have provider perform test - Perception that it would still be painful (1 person) - Concerns on understanding how to perform self-collection - Concerns about performing test incorrectly - misunderstanding where and how to send results - Transportation to post office is a barrier	Perceived barrier to screening: Fear/mistrust of US medical system: - What will they inject, inflict on me? - Unwillingness to take medication Fear/mistrust of interpreters - Disagreement on interpreter sharing confidential information publicly - Inaccurate interpretation services, - incapable interpreters

Blue text=survey item
Orange text=Focus group theme/subthemes

Health Care System	Levels of Influence*			
	Individual	Interpersonal	Community	Societal
	Insurance Coverage Health Literacy Treatment Preferences	Patient–Clinician Relationship Medical Decision-Making	Availability of Services Safety Net Services	Quality of Care Health Care Policies

Identified problems

1. Low health literacy surrounding cervical cancer and screening
2. Fear of pain, discomfort, and abnormal results
3. Mistrust of the healthcare system

Exacerbated by

- Negative individual healthcare experience
- Provider communication deficiency/mistrust
- Interpreter mistrust

Individual cervical cancer screening uptake

Enhanced by

- Positive individual healthcare experience
- Provider trust/communication skills
- Trust in interpreter

Community generated Solutions

1. Community based education & screening opportunities
2. Mobilize and empower community members/networks
3. Regular reminders to screen