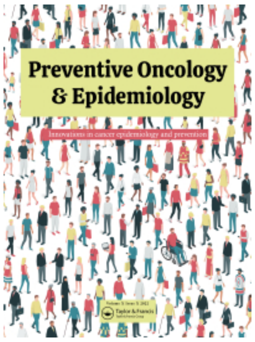

Preventive Oncology & Epidemiology

ISSN: 2832-2134 (Online) Journal homepage: www.tandfonline.com/journals/tpoe20

Organizational strategies for cancer screening outreach and navigation: A qualitative study

Ann M. Nguyen, Oliver Lontok, Jeanne M. Ferrante & Anita Y. Kinney

To cite this article: Ann M. Nguyen, Oliver Lontok, Jeanne M. Ferrante & Anita Y. Kinney (2025) Organizational strategies for cancer screening outreach and navigation: A qualitative study, Preventive Oncology & Epidemiology, 3:1, 2531743, DOI: 10.1080/28322134.2025.2531743

To link to this article: https://doi.org/10.1080/28322134.2025.2531743

PREVENTIVE ONCOLOGY & EPIDEMIOLOGY
2025, VOL. 3, NO. 1, 2531743
https://doi.org/10.1080/28322134.2025.2531743

Taylor & Francis
Taylor & Francis Group

Organizational strategies for cancer screening outreach and navigation: A qualitative study

Ann M. Nguyen [a,b], Oliver Lontok[a], Jeanne M. Ferrante [b,c] and Anita Y. Kinney [c,d]

[a]Center for State Health Policy, Rutgers University, New Brunswick, NJ, USA; [b]Department of Family Medicine and Community Health, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ, USA; [c]Rutgers Cancer Institute, New Brunswick, NJ, USA; [d]Department of Biostatistics and Epidemiology, Rutgers School of Public Health, Piscataway, NJ, USA

ABSTRACT

Background: The COVID-19 pandemic led to organizational changes in cancer care and prevention, including approaches to cancer screening outreach and navigation. Our study aimed to identify current strategies used by outreach and navigation teams to facilitate cancer screening.

Methods: In this qualitative study, in-depth interviews ($N = 11$) were conducted using positive deviant sampling to recruit cancer screening outreach and navigation teams from healthcare organizations across New Jersey. The immersion-crystallization approach was used to assess emergent themes. Identified strategies were mapped to screening barriers.

Results: Participants reported six key strategies to address cancer screening barriers: (1) Build and sustain a diverse, cohesive patient outreach and navigation team; (2) Personalize outreach to patients and local organizations; (3) Have a dedicated data analyst to identify and track patients; (4) Offer multiple screenings in one visit and a seamless transition to the next service; (5) Advertise incentives and opportunities that can address social determinants of health needs; and (6) Develop relationships and referral systems with local specialists and residency programs.

Discussion: Cancer screening strategies have evolved through the pandemic, becoming more attuned to the patient experience. Healthcare organizations should consider investments in centralized cancer navigation and outreach and data-related infrastructure.

ARTICLE HISTORY
Received 25 March 2025
Accepted 24 June 2025

KEYWORDS
Outreach; navigation; cancer screening; strategy; qualitative

Introduction

The COVID-19 pandemic significantly impacted cancer care, with non-emergency services like cancer screening curtailed or halted due to resource re-allocation and travel restrictions [1,2]. Lack of guidance during the pandemic led to varied responses across the U.S., disrupting cancer screening even in high-performing organizations [2]. Major organizations such as the U.S. Preventive Services Task Force (USPSTF) and American Cancer Society provide clinical guidelines for screening common, preventable cancers [3]; however, routine screenings, often recommended yearly to every 3 years, became difficult to maintain during the pandemic.

Adherence to clinical guidelines significantly declined during the pandemic, resulting in decreased new cancer diagnoses, more cancers diagnosed at advanced stages, delays in treatment, higher mortality rates, and more years of life lost [4–15]. Some populations, including people with lower incomes and those who identify as Black or African American or Hispanic/Latino, were disproportionately affected [11,16], exacerbating existing disparities [5,17,18]. Despite the importance of continued access to preventive services, there is limited data on how healthcare organizations adapted their cancer screening outreach and navigation strategies to maintain adherence to clinical guidelines [19].

Our study identified current strategies used by cancer screening outreach and navigation teams, focusing on reaching populations that were disproportionately affected by the pandemic and may have experienced

CONTACT Ann M. Nguyen anguyen@ifh.rutgers.edu

Supplemental data for this article can be accessed online at https://doi.org/10.1080/28322134.2025.2531743.

greater screening delays. Health system leaders, public health practitioners, and population health researchers are concerned about addressing screening delays and postponements, making it crucial to identify and disseminate best practices [20,21]. Our findings can help providers, healthcare organizations, and public health agencies develop targeted strategies to close screening gaps exacerbated by the COVID-19 pandemic.

Materials and methods

Design & study setting

This qualitative study used semi-structured, in-depth interviews to identify strategies employed by cancer screening teams during the COVID-19 pandemic. The focus was on strategies used for cancer screening outreach and navigation. Conducted in New Jersey, known for its older, densely populated, racially/ethnically diverse population with a high proportion of foreign-born residents, this setting was crucial for examining screening trends in populations that were disproportionately affected by the pandemic [22,23]. The study was approved by the Rutgers University Institutional Review Board (Pro2022000341). Reporting aligns with the Standards for Reporting Qualitative Research [24].

Sample

A positive deviance sampling approach was used to recruit representatives from diverse healthcare organizations in New Jersey with cancer screening outreach and navigation teams [25]. Cancer screening outreach and navigation teams play a critical role in educating the community on cancer prevention, connecting the community to appropriate screening services, and ensuring a smooth workflow, making them the ideal population to study strategies for improving screening rates. The inclusion criteria sought individuals: (1) working in a screening outreach and navigation team; (2) familiar with screening workflows during the pandemic; and (3) in a positive deviant organization, defined as one actively participating in ScreenNJ (a statewide initiative that partners with, connects, and supports healthcare provider agencies, public health agencies, and community organizations on cancer screening, early detection, and prevention) [26,27].

Recruitment invitations were emailed via the ScreenNJ listserv, and announcements were made during the monthly ScreenNJ All-Partner Discussion and Resource Sharing Meetings. Additionally, ScreenNJ identified 10 organizations for targeted recruitment emails. The study team consulted with ScreenNJ to confirm that potential participants met the inclusion criteria. Ultimately, 11 participants from 5 geographically dispersed healthcare organizations were enrolled. All provided informed consent and were given a $100 e-gift card for participating.

Data collection

Interviews were conducted by two researchers trained in qualitative research (AMN, OL) with backgrounds in health services and primary care research. Interviewers did not have prior relationships with participants, minimizing assumptions and presuppositions. Interviews were conducted via Zoom® between November 2023 and June 2024, with 1–3 participants at a time. The interviews were designed to accommodate up to 3 participants at a time from the same organization, as early conversations with our content experts suggested that the relationships within outreach and navigation teams were an important part of the process to explore. A total of five interview sessions were conducted – one session with 1 participant, two with 2 participants, and two with 3 participants. For interviews with multiple people, each participant held a unique role within the team.

Each session was 45–60 min and audio recorded. The interview guide, which included questions on barriers, facilitators, and participant demographics (formal training, years in current organization, healthcare experience, gender identity, ethnicity, and race), is provided in Supplement A. Questions included probes on common screening-detectable cancers (i.e. breast, cervical, colorectal, and lung).

Table 1. Interview participant characteristics (N = 11).

Characteristic	n	%
Participant Role (credentials)		
Administrator	4	36.4%
Coordinator	4	36.4%
Navigator	3	27.3%
Type of Organization		
Federally qualified health center	2	18.2%
Health system	1	9.1%
State-funded cancer education and early detection agency	8	72.7%
Gender Identity		
Male	1	9.1%
Female	10	90.9%
Ethnicity		
Hispanic/Latino	4	36.4%
Non-Hispanic/Latino	7	63.6%
Race		
White	7	63.6%
Black	3	27.3%
Asian	1	9.1%
Years at Current Organization		
1–5	3	27.3%
6–10	1	9.1%
11–15	1	9.1%
16–20	2	18.2%
More than 20	4	36.4%
Years in Healthcare		
1–5	1	9.1%
6–10	2	18.2%
11–15	2	18.2%
16–20	0	0.0%
More than 20	6	54.5%

Data management

Audio recordings and notes were saved in a secure server. Transcriptions were done using Zoom® and Temi® services, with a team member (OL) reviewing for accuracy and de-identification.

Data analysis

After each interview, the study team debriefed to assess data saturation and identify emerging themes using the immersion-crystallization approach [28]. No new major themes emerged after the 8th participant, indicating thematic saturation [29]. Interviews continued beyond to obtain more representation from different organization types. The team then reviewed notes and transcripts to confirm themes, while highlighting barriers to provide context and motivation. Member checking with the full research team was done to assess credibility [30]. Illustrative quotes were pulled to support themes.

Results

Characteristics of the 11 participants are shown in Table 1. Participants included administrators, outreach coordinators, and patient navigators from five organizations, including 1 federally qualified health center, 1 health system, and 3 state-funded cancer education and early detection (CEED) agencies. Most participants had worked at their organizations for over a decade.

All participants expressed a deep passion for cancer prevention, which included a desire to help local communities navigate the complex healthcare system and improve guideline-based cancer screening. They cited six key barriers to cancer screening through the pandemic: (1) cultural and language discordance between the patient and healthcare organization; (2) fear of exposure to the coronavirus; (3) lack of knowledge on why screenings are important; (4) delays and confusion caused by insufficient workflows; (5) social determinants of health factors (i.e. cost, transportation, time, child care needs, accompaniment, housing); and (6) not enough providers for timely referrals. (See Supplement B for table of barriers.) While some of these barriers existed prior to the pandemic, participants noted that all were exacerbated or changed due to the pandemic,

Table 2. Organizational strategies for cancer screening navigation and outreach.

Organizational strategy	Barrier addressed
Build and sustain a diverse and cohesive patient outreach and navigation team.	Cultural and language discordance between the patient and healthcare organization
Personalize outreach to patients and local organizations.	Lack of knowledge on why screenings are important
Have a dedicated data analyst to identify and track patients who are eligible for screening.	Fear of exposure to the coronavirus
Offer multiple screenings in one visit and a seamless transition to the next service.	Delays and confusion caused by insufficient workflows
Advertise incentives and opportunities that can address patients' social determinants of health needs.	Social determinants of health factors (i.e. cost, transportation, time, childcare needs, accompaniment, housing)
Develop relationships and referral systems with local specialists and residency programs.	Not enough providers for timely referrals

requiring a shift in strategies to address them. Participants identified six key strategies (summarized in Table 2) to address the barriers.

1. Build and sustain a diverse and cohesive patient outreach and navigation team

To address cultural and language discordance between the patient and healthcare organization, a strong cancer screening outreach and navigation team is needed. A strong team is one that is diverse and cohesive – traits that enable them to bridge cultural and language gaps between the community and the healthcare system. Diversity refers to training and cultural background, and when roles are clearly defined and unique perspectives are celebrated, team members work well together. Most teams had a similar composition: a team lead (e.g. program director, program manager), navigator and/or coordinator (e.g. nurse navigator, community health worker), and analyst. In smaller organizations, data analysis or program evaluation that included data analysis was often a part of the navigator/coordinator's role. In larger organizations, this role was assumed by an analyst working in the health system. Participants also emphasized that demographic concordance of the team with the community through factors such as gender, race, and ethnicity was important to establishing personal connections. A Spanish-speaking navigator shared:

> *As a trusted person that spoke like the patient, that talks like the patient, I was able to say, 'You know, it's okay. We've made these plans… you'll have reduced [radiation] exposure, which was what ultimately got the people to come.' It wouldn't have been as effective if I was calling through a language line. They might have never picked up.* Participant 112, State agency

2. Personalize outreach to patients and local organizations

To address the lack of knowledge on why screenings are important, outreach strategies must be personalized to restore trust in communities with high levels of fear of the coronavirus and in settings where the virus could be transmitted. Before the pandemic, churches, food banks, and community fairs were common sites for outreach to community members. This type of outreach halted during COVID-19 but has since resumed and is complemented with updated, technology-driven follow-up. Many participants began engaging more with patients and community members using smartphones, which includes calling, sending personalized text messages (e.g. SMS messaging, Messenger, WhatsApp), and posting screening information and events on social media (e.g. Facebook groups). Humanizing these touchpoints – by putting a name and face to them – was critical. Participants also noted that text messages were more effective than calls and letters/postcards because community members want to engage with someone and ask questions at their convenience.

> *Our [business] cards are individualized. So, when I'm out there, and I talk to a patient, I tell them, 'That's my name, and that's my direct number. Nobody else is gonna pick up that call.' And I think that makes a difference. They already saw me. They already know, 'She seems okay.'* Participant 103, State agency

3. Use data-driven, digital/phone outreach to connect with existing patients eligible for screening

To mitigate fear of exposure to the coronavirus, data-driven, digital/phone outreach became a key tactic when the pandemic halted in-person community outreach opportunities, driving all teams to update their outreach strategies for existing patients. Key was systematic use of data to identify and track patients eligible for screening. Teams then used the data to conduct outreach via a combination of text messages, emails, phone calls, and letters. One participant shared that their newly established data-driven system helped their team shift from 70% of screenings being new patients to 70% being ‘repeat customers’ (i.e. existing/established patients).

> *Before it was 70% new patients. The lady that used to be with us, she was going every day to the community and posting flyers and talking to everybody she was able to on the streets. [...] When we started the pandemic, I was not able to go outreach, so I asked one of my coworkers what happened with all the patients that came last year. She was like, ‘Well, we have their information.’ So, she ran it for me, the spreadsheet, to give me patients that were 2 years ago in our program. Then I created a data list, putting it by month. That’s how we started calling patents that were due in the month, and we continue with the spreadsheet.* Participant 113, State agency

Data tracking systems can be rife with missing or outdated contact information, however. One participant shared a tip to check recent consent forms and emergency contact lists to locate current contact information.

4. Offer multiple screenings in one visit and a seamless transition to the next service

To offset the delays and confusion caused by insufficient workflows, it became more important to offer convenient screening visits by providing multiple screenings in a single visit and ensuring seamless transitions between services. The goal was to ensure patients received or were scheduled for all recommended screenings before leaving the office; this approach was often referred to as ‘one-stop shopping.’

> *I think, if possible, deploy a navigation model within the practice, whether that’s really high touch or rapid. [...] Especially for the population we work with, we tend to lose patients as soon as they walk out of the office. So, what can we do while they’re here to get most of the stuff done as possible?* Participant 108, Health system

Many examples were given. Early in the pandemic, clinics offered COVID testing and vaccines as part of screening visits. Patients scheduled for a pap smear were offered a mammogram and fecal immunochemical test (FIT) during the same visit. Patients signed up for colorectal cancer screening were immediately scheduled for a follow-up. Patients who declined a colonoscopy appointment were offered at-home testing kits.

Tools that facilitated care transitions included telehealth and prior authorizations. Adoption of telehealth provided screening teams with a new touchpoint for educating patients. Participants also mentioned that coordinators/navigators can help patients with prior authorizations to ensure tests are completed without delay or confusion.

5. Advertise incentives and opportunities that can address patients’ social determinants of health needs

To address social determinants of health factors (i.e. cost, transportation, time, child care needs, accompaniment, housing), all exacerbated by the pandemic, screening teams need to be more proactive in how they advertise incentives, such as rideshare/taxi vouchers, bus passes, childcare, and help applying to federal support programs (e.g. Medicaid, WIC). Participants emphasized that care is needed to explain how incentives work, given growing mistrust of health systems and clinicians.

> *We would let them know that we’re not gonna share your information with anybody. Your residency status is not of importance to us in any way, unless it’s about getting you insurance. We need to know what we’re dealing with because if you’re eligible for any entitlement benefit, we wanna make sure you get it. We wanna make sure we’re helping you.* Participant 109, FQHC

The key was follow-through, particularly when patients did not have insurance. One participant shared that they trained all their staff to do presumptive eligibilities for patients who may be Medicaid eligible to ensure no one was turned away. Participants applied for state and foundation grants to buy FIT kits for patients who could not afford colonoscopies. For patients who could not afford prep items for colonoscopies, one participant shared that their clinic created a 340B program (drug pricing program funded by the Health Resources and Services Administration to provide financial help to organizations serving vulnerable communities) and a standing order to provide patients with preps at no cost.

6. Develop relationships and referral systems with local specialists and residency programs

To address the insufficient supply of providers for timely referrals, having established relationships and referral systems with local specialists and residency programs can better ensure seamless care transitions. This helped participants confidently refer patients to specialists they knew were available and accepted the patients' insurance, especially during the pandemic peak months when staffing shortages made it harder to reach provider offices. Referral processes were usually better defined when the screening team was part of a health system. For external referrals, it was critical that a designated member of the screening team routinely and proactively maintain relationships with local providers.

> *Anytime we hear about either a new player in town or a change of hands – you know, one provider leaves, another provider comes – we're calling. 'What do you accept over there? What's your referral process?' We try to stay closely connected with the community so that we know what's going on.* Participant 110, FQHC

Participants working in FQHCs also identified that physician residency training programs can be a great resource in screening initiatives, as residents are often seeking quality improvement projects. At one organization, a resident worked with the screening team to launch a program identifying patients overdue for colorectal screening and eligible for FIT. The project led to appreciable improvements in colorectal screenings.

Discussion

The COVID-19 pandemic presented significant barriers to cancer screening – with over 9 million screenings undone [12] – necessitating updated organizational strategies to minimize disruptions. Among the organizations that participated in this study, cancer screening outreach and navigation strategies evolved through the pandemic, adaptive to the changing needs of their communities, with strategic approaches to reach populations that experienced greater adversities. Our study identified six key strategies used by cancer screening outreach and navigation teams to address COVID-19 disruptions. Key to each organization was a centralized, diverse, cohesive, and dedicated team, crucial for building trust with the community during times of growing medical mistrust and fear of the virus [31]. Such teams facilitated efficient workflows and personalized, data-guided outreach considerate of patients' shifted priorities.

While many articles discuss cancer screening barriers and strategies [32], only one other [33] by Hanna et al. focused on organizational-level screening strategies during the pandemic. Both the Hanna study and ours identified multi-level barriers. Notably, participants in our study may have been more attuned to the patient experience and patient-level barriers, which we posit is due to their roles as the connection between the health system and the community [34]. Our study uniquely highlighted two strategies not identified in Hanna et al. data-driven digital/phone outreach and developing relationships and referral systems with specialists and residency programs. These strategies require dedicated teams to manage data, conduct tailored outreach, and maintain provider network relationships. These strategies, though resource-intensive, offer long-term benefits by enhancing the scalability and sustainability of screening programs, foster a more integrated and patient-centered healthcare system, and have the potential to improve health outcomes and reduce disparities. We posit that smaller or independent healthcare organizations may find these two strategies challenging to implement due to resource constraints, highlighting the need for investment in data-related infrastructure and cancer screening efforts across diverse healthcare settings.

Reflecting on these multilevel strategies, we note parallels with the Chronic Care Model (CCM), which postulates that the provision of high-quality chronic care requires productive interactions between key elements of the healthcare system: the community, health system, self-management support, delivery system design, decision support, and clinical information systems [35]. Application of the CCM to cancer screening has been shown to improve cancer care processes, most notably demonstrated by the Health Disparities Cancer Collaborative (HDCC), a national quality improvement program designed to increase the cancer control activities of screening and follow-up among underserved populations. In this program, community health centers participating in the HDCC formed local teams to learn how to implement change through the CCM, with the goal of improving cancer screening and follow-up rates. The study found that implementation of the CCM, not solely HDCC participation, was associated with cancer care process improvement, suggesting that systemic approaches to managing chronic care also extend to cancer prevention [36]. As strategies for cancer screening continue to evolve, multilevel frameworks, specifically the CCM, can serve as foundational guides.

Limitations

First, this study included a small sample from one state. A key strength of the participant pool, however, is its diversity and depth of experience. Further, the total number of participants is consistent with the literature on qualitative sampling to reach thematic saturation (i.e. 9–17 participants) [29]. Second, we could not assess the impact of provider attitudes toward an organization's cancer outreach and navigation strategies, which have been shown to affect screening trends [37]. Future work may investigate how to implement cancer screening strategies in settings where screening programs are not centralized nor a high priority for the organization.

Conclusions

Cancer screening strategies have evolved through the pandemic, becoming more attuned to the patient experience. The strategies identified in our study align with the Chronic Care Model, emphasizing the need for coordination and productive interactions within the healthcare system. Healthcare organizations should consider investment in centralized cancer navigation and outreach and data-related infrastructure as investments in managing the health of their patient population and improving quality of care and cancer outcomes.

Acknowledgments

The authors thank the interview participants for sharing their experiences.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This research was supported in part by a State of New Jersey appropriation for the Rutgers Cancer Institute (MGMT23GIA001 and MGMT23GIA002) allocated to support Colorectal and Lung Cancer, Service Expansion and ScreenNJ.

ORCID

Ann M. Nguyen http://orcid.org/0000-0002-7903-0223
Jeanne M. Ferrante http://orcid.org/0000-0003-0222-5396
Anita Y. Kinney http://orcid.org/0000-0002-2996-9355

References

[1] Dhada S, Stewart D, Cheema E, et al. Cancer services during the COVID-19 pandemic: systematic review of patient's and caregiver's experiences. Cancer Manag Res. 2021;13:5875–5887. doi:10.2147/CMAR.S318115
[2] Albert SL, Paul MM, Nguyen AM, et al. A qualitative study of high-performing primary care practices during the COVID-19 pandemic. BMC Fam Pract. 2021;22(1):237. doi:10.1186/s12875-021-01589-4
[3] National Cancer Institute. Cancer stat facts: common cancer sites. Surveillance, epidemiology, and end results program, n.d. [retrieved 2024 May 21]. Available from: https://seer.cancer.gov/statfacts/html/common.html.
[4] Patt D, Gordan L, Diaz M, et al. Impact of COVID-19 on cancer care: how the pandemic is delaying cancer diagnosis and treatment for American seniors. JCO Clinical Cancer Informatics. 2020;4:1059–1071. doi:10.1200/CCI.20.00134
[5] Alkatout I, Biebl M, Momenimovahed Z, et al. Has COVID-19 affected cancer screening programs? A systematic review. Front Oncol. 2021;11:675038. doi:10.3389/fonc.2021.675038
[6] Miller MJ, Xu L, Qin J, et al. Impact of COVID-19 on cervical cancer screening rates among women aged 21–65 years in a large integrated health care system – Southern California, January 1 – September 30, 2019, and January 1 – September 30, 2020. Morb Mortal Wkly Rep. 2021;70(4):109–113. doi:10.15585/mmwr.mm7004a1
[7] Yabroff KR, Wu X-C, Negoita S, et al. Association of the COVID-19 pandemic With patterns of statewide cancer services. J Natl Cancer Inst. 2022;114(6):907–909. doi:10.1093/jnci/djab122
[8] Lang M, Yeung T, Shepard J-AO, et al. Operational challenges of a low-dose CT lung cancer screening program during the coronavirus disease 2019 pandemic. Chest. 2021;159(3):1288–1291. doi:10.1016/j.chest.2020.10.045
[9] Zattra O, Fraga A, Lu N, et al. Trends in cancer imaging by indication, care setting, and hospital type during the COVID-19 pandemic and recovery at four hospitals in Massachusetts. Cancer Med. 2021;10(18):6327–6335. doi:10.1002/cam4.4183

[10] Mayo M, Potugari B, Bzeih R, et al. Cancer screening during the COVID-19 pandemic: a systematic review and meta-analysis. Mayo Clin Proc Innov Qual Outcomes. 2021;5(6):1109–1117. doi:10.1016/j.mayocpiqo.2021.10.003

[11] Dennis LK, Hsu C-H, Arrington AK. Reduction in standard cancer screening in 2020 throughout the U.S. Cancers (Basel). 2021;13(23):5918. doi:10.3390/cancers13235918

[12] Chen RC, Haynes K, Du S, et al. Association of cancer screening deficit in the United States with the COVID-19 pandemic. JAMA Oncol. 2021;7(6):878–884. doi:10.1001/jamaoncol.2021.0884

[13] Velazquez AI, Hayward JH, Gregory B, et al. Trends in breast cancer screening in a safety-net hospital during the COVID-19 pandemic. JAMA Netw Open. 2021;4(8):e2119929. doi:10.1001/jamanetworkopen.2021.19929

[14] Kelkar AH, Zhao J, Wang S, et al. Impact of the COVID-19 pandemic on colorectal and prostate cancer screening in a large U.S. health system. Healthcare. 2022;10(2):264. doi:10.3390/healthcare10020264

[15] Fedewa SA, Cotter MM, Wehling KA, et al. Changes in breast cancer screening rates among 32 community health centers during the COVID-19 pandemic. Cancer. 2021;127(23):4512–4515. doi:10.1002/cncr.33859

[16] Henderson LM, Benefield T, Bosemani T, et al. Impact of the COVID-19 pandemic on volumes and disparities in lung cancer screening. Chest. 2021;160(1):379–382. doi:10.1016/j.chest.2020.12.033

[17] Kopel J, Ristic B, Brower GL, et al. Global impact of COVID-19 on colorectal cancer screening: current insights and future directions. Medicina (B Aires). 2022;58(1):100. doi:10.3390/medicina58010100

[18] Brady LA, Tumiel-Berhalter LM, Schad LA, et al. Increasing breast, cervical, and colorectal cancer screenings: a qualitative assessment of barriers and promoters in safety-net practices. J Patient Cent Res Rev. 2021;8(4):323–330. doi:10.17294/2330-0698.1857

[19] Lombe D, Sullivan R, Caduff C, et al. Silver linings: a qualitative study of desirable changes to cancer care during the COVID-19 pandemic. Ecancermedicalscience. 2021;15:1202. doi:10.3332/ecancer.2021.1202

[20] Hamilton W. Cancer diagnostic delay in the COVID-19 era: what happens next? Lancet Oncol. 2020;21(8): 1000–1002. doi:10.1016/S1470-2045(20)30391-0

[21] Cancino RS, Su Z, Mesa R, et al. The impact of COVID-19 on cancer screening: challenges and opportunities. JMIR Cancer. 2020;6(2):e21697. doi:10.2196/21697

[22] New Jersey Department of Health. Complete health indicator report – population demographics, n.d. New Jersey State Health Assessment Data. [retrieved 2022 July 15]. Available from: https://www-doh.state.nj.us/doh-shad/indicator/complete_profile/Demographics.html.

[23] New Jersey Department of Health. Healthy NJ 2020; n.d. [retrieved 2022 July 15]. Available from: https://www.nj.gov/health/chs/hnj2020/.

[24] O'Brien BC, Harris IB, Beckman TJ, et al. Standards for reporting qualitative research. Acad Med. 2014;89(9):1245–1251. doi:10.1097/ACM.0000000000000388

[25] Marsh DR, Schroeder DG, Dearden KA, et al. The power of positive deviance. Br Med J. 2004;329(7475):1177–1179. doi:10.1136/bmj.329.7475.1177

[26] ScreenNJ. ScreenNJ program overview, n.d. ScreenNJ [retrieved 2024 August 26]. Available from: https://screennj.org/about-us/#program-overview.

[27] Kinney AY, Stroup AM, Scharf S, et al. Rutgers cancer institute of New Jersey's community outreach and engagement approach to cancer prevention. Cancer Prev Res. 2023;16(11):595–600. doi:10.1158/1940-6207.CAPR-23-0293

[28] Crabtree BF, Miller WL. Doing qualitative research. 3rd ed. Sage; 2023. p. 237–251.

[29] Hennink M, Kaiser BN. Sample sizes for saturation in qualitative research: a systematic review of empirical tests. Soc Sci Med. 2022;292:114523. doi:10.1016/J.SOCSCIMED.2021.114523

[30] Miles MB, Huberman AM. Qualitative data analysis: an expanded sourcebook. Thousand Oaks (CA): Sage; 1994.

[31] Ojikutu BO, Bogart LM, Dong L. Mistrust, empowerment, and structural change: lessons we should be learning from COVID-19. Am J Public Health. 2022;112(3):401–404. doi:10.2105/AJPH.2021.306604

[32] Gebremeskel TG, Romeo F, Shama AT, et al. Facilitators and barriers to lung cancer screening during long COVID: A global systematic review and meta-study synthesis of qualitative research. Int J Environ Res Public Health. 2024;21(5):534. doi:10.3390/ijerph21050534

[33] Hanna K, Arredondo BL, Chavez MN, et al. Cancer screening among rural and urban clinics during COVID-19: a multistate qualitative study. JCO Oncology Practice. 2022;18(6):e1045–e1055. doi:10.1200/OP.21.00658

[34] Oben P. Understanding the patient experience: a conceptual framework. Journal of Patient Experience. 2020;7(6):906–910. doi:10.1177/2374373520951672

[35] Coleman K, Austin BT, Brach C, et al. Evidence on the chronic care model in the new millennium. Health Aff. 2009;28(1):75–85. doi:10.1377/hlthaff.28.1.75

[36] Haggstrom DA, Taplin SH, Monahan P, et al. Chronic care model implementation for cancer screening and follow-up in community health centers. J Health Care Poor Underserved. 2012;23(3 Suppl):49–66. doi:10.1353/hpu.2012.0131

[37] Michel AD, Fontenot HB, Fuzzell L, et al. Attitudes toward the American cancer society's 2020 cervical cancer screening guidelines: A qualitative study of a national sample of US clinicians. Cancer. 2024;130(13):2325–2338. doi:10.1002/cncr.35269