CANCER SCREENING CHANGE PACKAGES
OVERVIEW

TAKING ACTION. SAVING LIVES.

Contents

Acknowledgements

The Cancer Screening Change Packages were created by the U.S. Centers for Disease Control and Prevention (CDC) together with the National Association of Chronic Disease Directors (NACDD) and the Cancer Prevention and Control Research Network (CPCRN). The change packages are quality improvement tools intended to support health care and quality improvement professionals, public health departments, and organizations involved in increasing cancer screening efforts. They provide resources to implement strategies that improve access to and delivery of cancer screening services.

Project team

The Cancer Screening Change Packages were conceptualized by Avid Reza, MD, MPH and Stephanie Melillo, MPH, in CDC's Division of Cancer Prevention and Control. They provided overall project direction and guidance and worked closely as part of the project team, comprised of members from:

- CDC's Division of Cancer Prevention and Control: Jean Shapiro, PhD; Jane Henley, MSPH; Thomas B Richards, MD; Julie Townsend, MS; Marie Kava, PhD, MA; and Floyd "Trey" Bonner III, MPH.
- NACDD: Dawn Wiatrek, PhD; Sandte Stanley, MPH, MA; DeShara Johnson; Shelby Roberts, MPH; and Anya Karavanov, PhD.
- CPCRN's University of North Carolina at Chapel Hill: Jennifer Leeman, DrPH, MPH, MDiv; Catherine Rohweder, DrPH, MPH; Adrienne Hall, MPH; Shelly Maras, PhD; and Lindsay Stradtman, MPH.

Contributors

We would like to thank Lisa C. Richardson, MD, MPH, director of CDC's Division of Cancer Prevention and Control, for supporting this project.

We would also like to extend our appreciation to the NACDD's staff and leaders, including John Patton and Randy Schwartz, MSPH.

Also, we would like to thank Hilary K. Wall, MPH, and Brenna VanFrank, MD, MSPH, for sharing their expertise and lessons learned from the Million Hearts® change packages.[1,2,3]

Cancer screening experts from across the country were engaged to inform the development of the Cancer Screening Change Packages. These experts include professionals who participated in interviews to help identify high-quality, practical resources (see Appendix B for a list of individuals). The American Cancer Society and the George Washington University Cancer Center received funding from NACDD through a subcontract to provide additional resources as part of the environmental scan of available materials. A librarian at the University of North Carolina Health Sciences, Jamie Lynn Conklin, MSLIS, provided guidance on the search methods for the scientific literature and grey literature. Additionally, CDC subject matter experts served as reviewers (see Appendix C for a list of individuals). Lastly, we would like to recognize all the people who provided expertise throughout the project.

What are the Cancer Screening Change Packages?

The Cancer Screening Change Packages are intended to support the delivery of cancer screening services that have received A or B recommendations from the United States Preventive Services Task Force (USPSTF). These online technical packages:

- Are intended for health care and quality improvement professionals, public health departments, and organizations involved in increasing cancer screening efforts.

- Present a list of evidence- and practice-based changes to choose from to improve cancer screening.

- Provide practical resources that can be used or adapted to improve the reach and effectiveness of their cancer screening efforts.

- Take into consideration that the decision to start the screening process may begin before a person engages with the health care system (see Appendix A). Therefore, these change packages provide resources to address information gaps and barriers to recommended cancer screening.
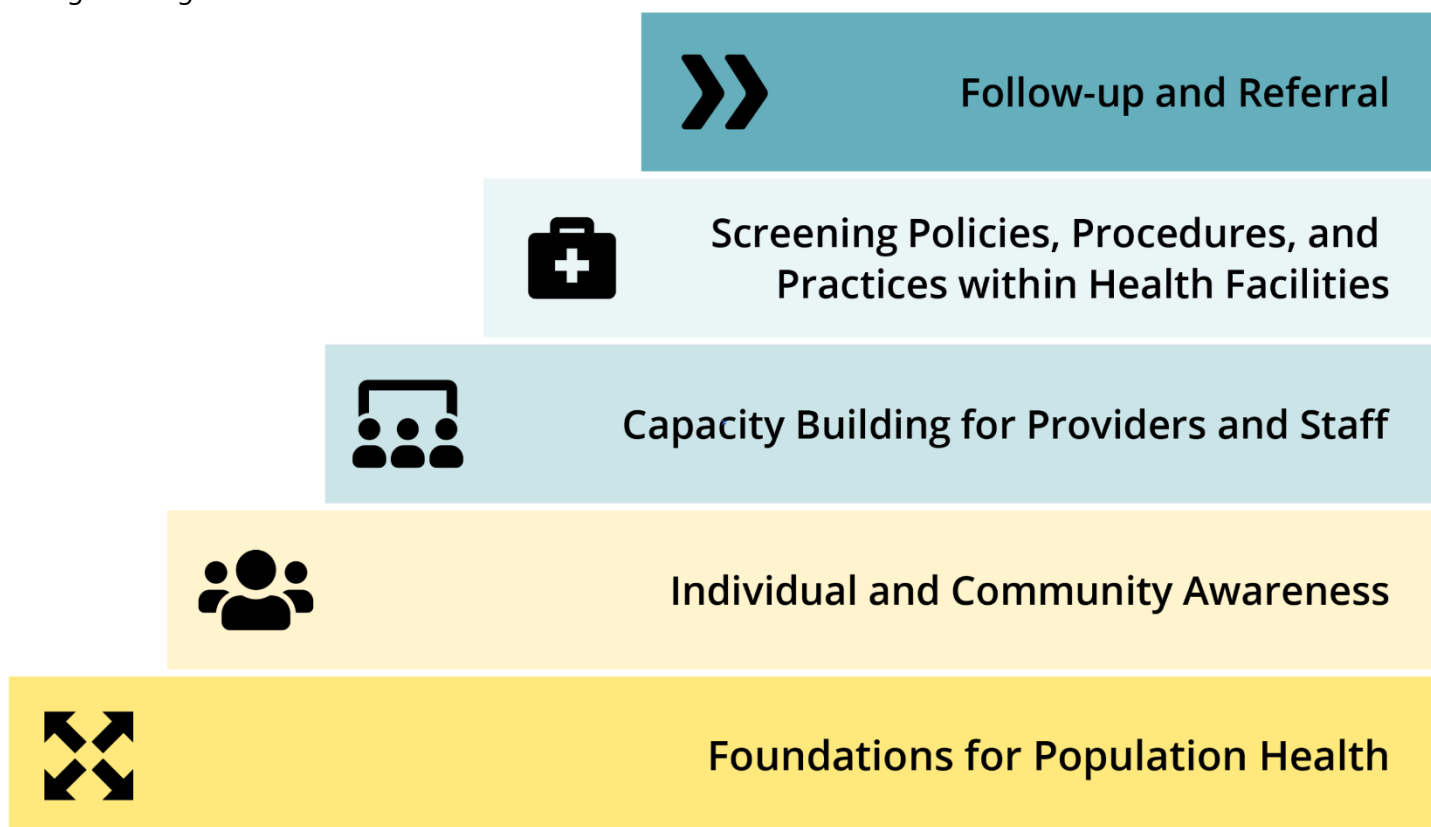
Disclaimer:

CDC has identified resources that may be beneficial to support the delivery of cancer screening. However, CDC does not endorse any specific resource nor is the list of resources provided an exhaustive list of all resources that may be available.

Organizing framework of the Cancer Screening Change Packages

Cancer screening services may be improved by implementing change concepts, change ideas, and relevant resources.

- Change concepts are "general notions that are useful for developing more specific strategies for changing a process."[1]

- Change ideas are "actionable, specific ideas or strategies"[1] for changing a process. These change packages include evidence-based and practice-based change ideas.

- Each change idea is linked to resources that can be used or adapted to improve cancer screening.

The following five focus areas organize the change concepts, change ideas, and resources in these Cancer Screening Change Packages:

>> **Follow-up and Referral**

Screening Policies, Procedures, and Practices within Health Facilities

Capacity Building for Providers and Staff

Individual and Community Awareness

Foundations for Population Health

The foundations for population health focus area includes resources to address community and systems related factors to increase cancer screening.

The individual and community awareness focus area includes resources to educate the public about cancer and screening practices and increase demand for cancer screening services.

The capacity building for providers and staff focus area includes resources to increase knowledge and skills, improve cancer screening practices, and monitor performance.

The screening policies, procedures, and practices within health facilities focus area includes resources to identify opportunities to prioritize and improve cancer screening practices.

The follow-up and referral focus area includes resources to ensure appropriate next steps are taken based on initial screening results.

In the tables below, the table header rows represent the focus areas. Change concepts are at the top of each table row, and change ideas are listed as bullet points within each change concept.

Note: *Change concepts and ideas may apply to one or more cancers. Some change ideas may not have a supporting tool or resource. Please visit www.cdc.gov/cancer/php/change-packages/ for the cancer-specific screening change packages and associated resources.*

✕ Foundations for Population Health
Develop jurisdictional cancer prevention and control plans. • Use data and tools to identify populations, structural factors, and living conditions to address. • Use a conceptual framework to inform a comprehensive program. • Inform the development and content of jurisdictional cancer prevention and control plans and initiatives.
Educate about policies and programs that can support recommended cancer screenings. • Educate about health insurance coverage for recommended cancer screenings. • Educate about workplace policies and programs that promote employee screening. • Educate about broadband access to support telehealth. • Educate about the eligibility for safety net programs.
Reduce structural barriers to screening in the community. • Enlist patient navigators or community health workers to help individuals access screening. • Identify transportation or transportation vouchers for screening appointments. • Identify dependent care so that parents and caregivers can attend screening appointments. • Offer tests that patients can take at home. • Use mobile vans or buses to deliver screening in community settings. • Use telehealth for screening consultations. • Use resource and information hubs to help individuals access social services.

Individual and Community Awareness

Increase public awareness and use of recommended cancer screenings.
- Deliver group education.
- Deliver one-on-one education.
- Develop messages and a communication strategy for various media platforms.
- Share websites, infographics, posters, and videos.

Engage community members and organizations to support screening efforts.
- Engage or train community-based organizations.
- Engage or train community leaders and others.

Engage community-based health professionals to refer individuals for screening.
- Engage pharmacists to deliver home-based screening tests or refer individuals for screening.
- Engage community health workers to refer individuals for screening.
- Engage tobacco quitline counselors to refer individuals for screening.

Capacity Building for Providers and Staff

Increase provider and staff knowledge and skills to improve screening.
- Use infographics, fact sheets, toolkits, and other print materials.
- Use courses, webinars, and podcasts.
- Promote continuing education opportunities to increase provider knowledge and skills.

Prepare the clinical team.
- Identify patients who are eligible and due for screening prior to their appointment.
- Implement pre-visit planning into workflows.
- Use clinical decision support tools to ensure that indicated screening orders or actions occur during the visit.

Provide individual and system-level feedback on screening measures.
- Monitor and evaluate screening performance at the provider and health care facility levels.
- Establish and communicate screening performance goals at the provider and health care facility levels.

Screening Policies, Procedures, and Practices within Health Facilities

Make cancer screening a priority.
- Assess primary care clinics' readiness to implement evidence-based interventions (EBIs) to increase cancer screening.
- Prioritize screening by engaging leaders and identifying screening champions.
- Plan and develop a screening program.

Screening Policies, Procedures, and Practices within Health Facilities
• Use a whole-office approach by delegating screening tasks across the health care facility team. • Provide economic incentives, such as the Centers for Medicare & Medicaid Services Electronic Health Record (EHR) Incentive Program and the Quality Payment Program, to health care providers, facilities, and settings. • Make cancer screening a quality improvement measure at the system level. • Optimize billing practices by using existing codes to capture all billable services.
Implement population management strategies for all eligible patients. • Benchmark or compare health care facility screening prevalence to state and national prevalence. • Use community assessment data to identify barriers to and resources for screening. • Use electronic health records to manage activities related to cancer screening.
Establish standard operating procedures for screening. • Develop formal written screening policies for the health care facility. • Implement standing orders for screening. • Use implementation guides and quality improvement tools to optimize workflows.
Use risk assessment tools to determine screening eligibility. • Use tools to determine a patient's eligibility for screening.
Practice patient education, communication, and shared decision making. • Use decision aids to facilitate shared decision making regarding screening. • Use educational materials to provide patients and caregivers information about screening eligibility and the importance of early detection. • Use patient education materials to support discussions on potential out-of-pocket costs for screening and follow-up. • Use patient-centered communication and personalized messaging to engage patients. • Provide educational and instructional materials to patients on screening procedures. • Provide patient education and treatment to reduce cigarette smoking as part of screening.
Implement patient and provider reminder systems. • Use multi-modal screening reminders, such as mail, phone, or text messages, for patients. • Use electronic reminders, such as prompts in the electronic health record, for providers and staff. • Use physical reminders, such as stickers or cards, for providers and staff.

Screening Policies, Procedures, and Practices within Health Facilities

Reduce structural barriers in the health care setting.
- Identify health-related social needs.
- Offer non-traditional facility hours.
- Offer screening in non-clinical or alternative settings, such as mobile vans or community centers.
- Use telehealth for screening consultations and follow-up of results.
- Use patient navigation to improve completion of screening.
- Ensure information or interpretation services are available in the patient's primary language.
- Streamline administrative procedures, such as simplifying patient paperwork, reducing the number of required visits, and offering flexibility for late arrivals.
- Conduct an environmental scan and organizational assessment of cancer screening capacity.

Follow-up and Referral

Establish relationships with specialists for diagnostic testing and treatment.
- Identify and partner with referral services or specialists who can provide follow-up diagnostic tests and/or cancer screening.
- Establish two-way communication with referral services or specialists to find out if patients followed up with referrals.
- Develop written agreements with referral services or specialists to coordinate follow-up care.

Adopt policies and procedures for patient referral and follow-up testing and treatment.
- Develop protocols and workflows, such as reminder systems, to ensure follow-up referrals are made.
- Implement best practices for notification of abnormal test results and follow-up instructions to the patient.
- Create a tracking system for documenting patient follow-up after an abnormal test result.
- Use electronic health records-based clinical decision management tools to guide follow-up care.

Overcome barriers to follow-up and treatment.
- Negotiate free or reduced-cost follow-up services or offer payment plans for patients experiencing financial disadvantage.
- Identify sources for low-cost or free transportation services for follow-up care.
- Offer same-day and open-access scheduling and services outside of traditional hours.
- Use patient navigation to help individuals access follow-up services.

Facilitate genetic screening for patients and their relatives.
- Implement risk assessment tools such as family histories and genetic counseling tools during primary care visits.
- Educate patients regarding genetic risk and communication with family members.
- Refer patients and family members for genetic counseling and testing when appropriate.

Implement follow-up processes for regular screening.

- Develop tracking systems to document when patients are due for their next regular screening.
- Provide visit summaries and patient education on future regular screening.

How to use the Cancer Screening Change Packages

The Cancer Screening Change Packages offer a menu of strategies and associated resources to support cancer screening services. Health care and quality improvement professionals, public health departments, and organizations involved in increasing cancer screening efforts can choose resources from this menu to address processes that need improvement. Some may approach these change packages with a specific goal in mind. Others may need to identify the areas for improvement. The steps below explain how to use the Cancer Screening Change Packages.

To get started

☐ Engage team members and potential partners. These may include physicians, pharmacists, nurses, medical assistants, social workers, community health workers, patient navigators, quality improvement coordinators, health informaticians, administrators, health department staff, and members of community-based organizations.

☐ Establish leadership support and commitment to improving cancer screening.

☐ Identify one or more champions to engage leadership and lead efforts.

Working with the change package

☐ Become familiar with the organizing framework: focus areas, change concepts, and change ideas.

☐ Review the flow charts in Appendix A to understand the cancer screening process that patients follow and the opportunities to improve screening.

☐ Determine if a needs assessment would help identify focus areas, change concepts, and change ideas that would be most effective and feasible.

☐ Select a focus area based on circumstances and needs.

☐ Identify appropriate evidence-based and practice-based change concepts and change ideas.

☐ Select resources for implementation and adapt as necessary.

☐ Implement, monitor, and evaluate the selected changes and associated resources.

Cancer Screening Change Packages may be updated periodically as screening processes evolve and new resources are developed.

Methods summary

The Cancer Screening Change Packages use an organizing framework consisting of focus areas, change concepts, and change ideas that draw on:

1. Cross-cutting quality improvement strategies and approaches included in the Million Hearts® change packages.[2,3,4]

2. Evidence-based strategies from the Community Guide.[4]

3. Best practices and lessons learned from CDC's National Comprehensive Cancer Control Program, Colorectal Cancer Control Program, and National Breast and Cervical Cancer Early Detection Program[5,6,7]

4. Subject matter experts (SMEs).

The project team, with input from SMEs, created a flow chart for each type of cancer to display the cancer screening process that patients follow. Each process starts with individual and community awareness and ends with referral to a specialist for follow-up if the test is abnormal (see Appendix A for cancer-specific flow charts). The flow charts were used to ensure that critical steps in the screening process for each cancer were reflected in the organizing framework.

In addition, a pilot test was conducted with a subset of resources to refine the organizing framework. Lastly, an environmental scan identified resources through an iterative process resulting in similar but tailored frameworks for each cancer.

To identify resources for inclusion in the Cancer Screening Change Packages, an environmental scan was conducted using five main sources:

1. Interviews with SMEs for breast, cervical, colorectal, and lung cancers.

2. Recommendations from funded partners (the American Cancer Society and the George Washington University Cancer Center).

3. Grey literature.

4. Scientific literature.

5. Individuals or organizations within the project team's networks with relevant expertise.

SMEs were interviewed using a semi-structured interview guide that included questions about their awareness, use, and perceptions of resources related to their area of cancer expertise (see Appendix B for a list of individuals). The American Cancer Society and the George Washington University Cancer Center received funding to identify and provide additional resources. The grey literature search comprised a search of websites and organizations recommended during the SME interviews and a web search using terms tailored for each cancer. The University of North Carolina Health Sciences librarian advised on search methods for the scientific literature and helped develop and refine a list of search terms for each cancer. Project team members reached out to cancer screening experts within their professional networks to address gaps, including change ideas for which no associated resources were found during the search process.

Each tool and resource identified through the environmental scan was assigned a unique identifier and entered into a spreadsheet. These materials were first assessed by members of the project team using specific criteria to determine which resources should be excluded from further review. SMEs reviewed the remaining resources to:

- Determine if they were up to date with the current USPSTF cancer screening recommendations.

- Assess their overall quality and utility.
- Map them to the appropriate sections of the organizing framework and suggest revisions to the draft framework if warranted. See [Appendix C](#) for a list of SME reviewers.
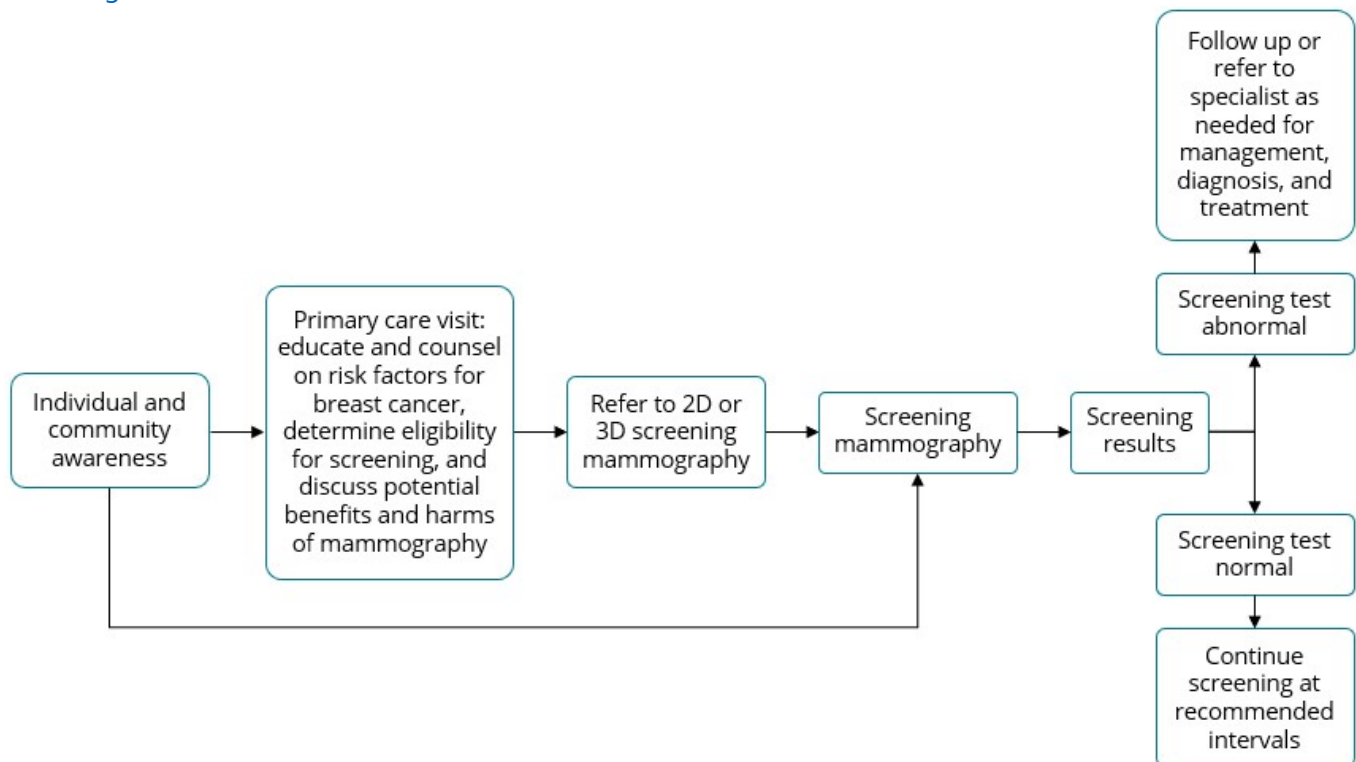
When no resources were identified for a change idea, a follow-up search was conducted. Any new resources identified were reviewed using the process described above. A final review meeting was held to gain consensus about the overall completeness and accuracy of the change packages. A similar overall process will be used for periodic updates moving forward.

Appendix A: cancer screening flow charts

Breast cancer screening flow chart

For asymptomatic women aged 40 to 74 years without previously diagnosed high-risk breast lesions or breast cancer, underlying genetic mutations, or a history of chest radiation at a young age.

See USPSTF recommendation at www.uspreventiveservicestaskforce.org/uspstf/recommendation/breast-cancer-screening.

This flow chart demonstrates the critical steps in the screening process for breast cancer, starting with individual and community awareness.

Patients may enter the screening process through 1) a primary care visit to educate and counsel on risk factors for breast cancer, determine eligibility for screening, and discuss potential benefits and harms of mammography; or 2) directly seeking screening mammography.

Patients may be referred for either a 2D digital or 3D mammography. If the result from either of these tests is abnormal, the next step for the patient is to follow up with their provider or with a specialist as needed for management, diagnosis, and treatment. If the result is normal, continue screening at recommended intervals.
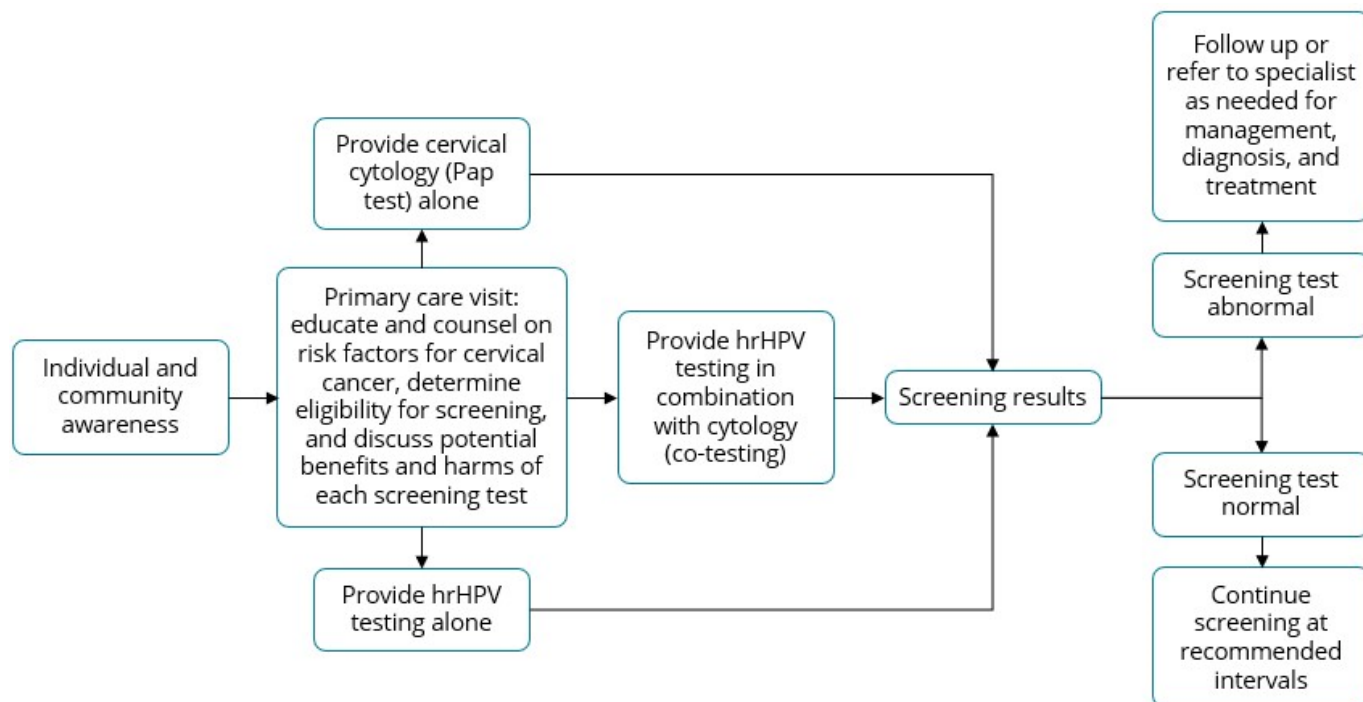
More information:
- Breast cancer risk factors: www.cdc.gov/breast-cancer/risk-factors/
- Breast cancer screening: www.cdc.gov/breast-cancer/screening/

Cervical cancer screening flow chart

For all women aged 21 to 65 years who have a cervix, without previously diagnosed high-grade precancerous lesions or cervical cancer, no exposure to diethylstilbestrol in utero, and not immunocompromised.

See USPSTF recommendation at www.uspreventiveservicestaskforce.org/uspstf/recommendation/cervical-cancer-screening.

This flow chart demonstrates the critical steps in the screening process for cervical cancer, starting with individual and community awareness.

Patients may enter the screening process through a primary care visit to educate and counsel on risk factors for cervical cancer, determine eligibility for screening, and discuss potential benefits and harms of each screening test.

Patients who are 21 to 29 years old receive cervical cytology testing only. Patients who are 30 to 65 years old have three options: 1) receive cervical cytology testing alone; 2) receive high-risk human papillomavrus (hrHPV) testing in combination with cytology (co-testing); or 3) receive hrHPV testing alone. If the result of any of these tests is abnormal, the next step for the patient is to follow up with their provider or with a specialist as needed for management, diagnosis, and treatment. If the result is normal, continue screening at recommended intervals.
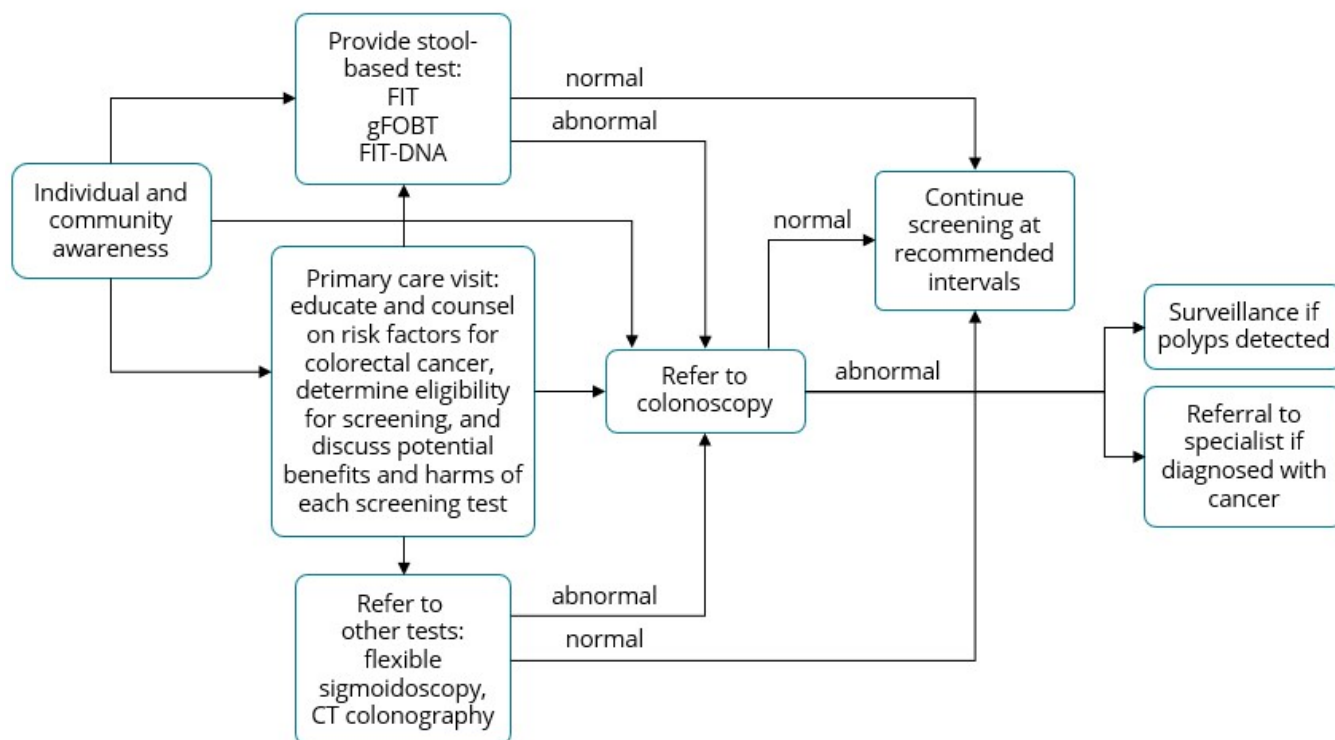
More information:

- Cervical cancer risk factors: www.cdc.gov/cervical-cancer/risk-factors/
- Cervical cancer screening: www.cdc.gov/cervical-cancer/screening/

Colorectal cancer screening flow chart

For adults aged 45 to 75 years who do not have symptoms of colorectal cancer; a personal or family history of colorectal cancer, colorectal polyps, or a genetic syndrome such as familial adenomatous polyposis or hereditary non-polyposis colorectal cancer (Lynch syndrome); or a prior diagnosis of inflammatory bowel disease.

See USPSTF recommendation at www.uspreventiveservicestaskforce.org/uspstf/recommendation/colorectal-cancer-screening.

This flow chart demonstrates the critical steps in the screening process for colorectal cancer, starting with individual and community awareness.

Patients may enter the screening process through 1) a primary care visit to educate and counsel on risk factors for colorectal cancer, determine eligibility for screening, and discuss potential benefits and harms of each screening test; 2) community and programmatic efforts that provide direct referrals to a colonoscopy; or 3) community and programmatic efforts that that provide a stool-based test such as a fecal immunohistochemical test (FIT), guaiac fecal occult blood test (gFOBT), and a FIT-DNA (deoxyribonucleic acid) test.

Patients who enter the screening process through a health care visit may be referred for a stool-based test, colonoscopy, flexible sigmoidoscopy, or CT colonography. If the test result is normal, continue screening at recommended intervals. If the stool-based test, flexible sigmoidoscopy, or CT colonography result is abnormal, the next step is referral to colonoscopy. If polyps are found during the colonoscopy, surveillance—in which the provider determines an appropriate interval for monitoring—is the course of action. If cancer is diagnosed, the patient is referred to a specialist.

More information:
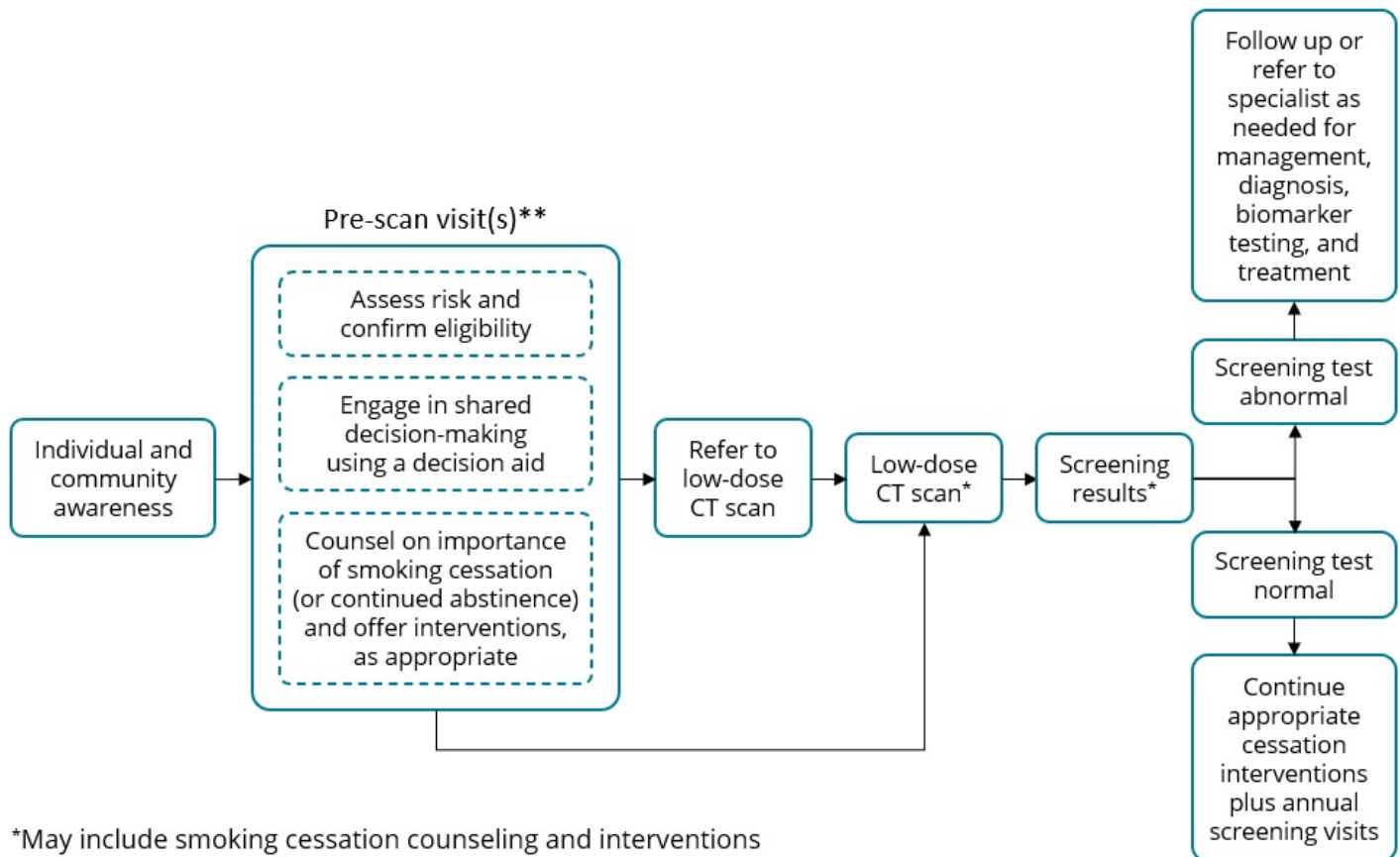
- Colorectal cancer risk factors: www.cdc.gov/colorectal-cancer/risk-factors/
- Colorectal cancer screening: www.cdc.gov/colorectal-cancer/screening/

Lung cancer screening flow chart

For adults 50 to 80 years of age who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years.

See USPSTF recommendation at www.uspreventiveservicestaskforce.org/uspstf/recommendation/lung-cancer-screening.

*May include smoking cessation counseling and interventions

This flow chart demonstrates the critical steps in the screening process for lung cancer, starting with individual and community awareness.

Patients may enter the screening process through pre-scan visit to educate and counsel on risk factors for lung cancer, determine eligibility for screening, and discuss potential benefits and harms of a low-dose computed tomography (LDCT) scan.

**Centers for Medicare & Medicaid Services (CMS) coverage depends on meeting criteria that include a counseling and shared-decision-making visit prior to the first LDCT scan. See www.cms.gov/medicare-coverage-database/view/ncacal-decision-memo.aspx?proposed=N&ncaid=304 for details.

During this prior visit(s) the clinician or staff will:

1. Assess the patient's lung cancer risk.
2. Confirm the patient's eligibility for screening.
3. Engage in a shared decision-making process that includes:

a) The use of a decision aid.
b) A discussion of the process, risks, and benefits of screening.
c) Integration of the patient's preferences (such as their willingness to undergo diagnosis and treatment).
d) A shared decision on whether to proceed with screening.
4. Counsel the patient on the importance of smoking cessation (or continued abstinence).
5. Offer smoking cessation interventions, if appropriate.

If the patient and health care provider decide to proceed with screening, the health care provider refers the patient to a radiology imaging facility that uses a standardized lung nodule identification, classification, and reporting system for lung cancer screening with LDCT. If the test result is abnormal, the patient receives follow-up or is referred to a specialist as needed for management, diagnosis, biomarker testing, and treatment. If the test result is normal, continue screening at recommended intervals.

More information:
- Lung cancer risk factors: www.cdc.gov/lung-cancer/risk-factors/
- Lung cancer screening: www.cdc.gov/lung-cancer/screening/
- CMS lung cancer screening criteria: www.cms.gov/medicare-coverage-database/view/ncacal-decision-memo.aspx?proposed=N&NCAId=304
- Clinical interventions to treat tobacco use and dependence among adults: www.cdc.gov/tobacco/hcp/patient-care-settings/clinical.html
- Tobacco cessation change package: https://millionhearts.hhs.gov/tools-protocols/action-guides/tobacco-change-package/

Appendix B: subject matter expert (SME) interviews

Breast cancer

- Cam Escoffery, PhD, MPH, CHES
  Emory University - Rollins School of Public Health, Professor; Department of Behavioral, Social, and Health Education Sciences

- Sue Heiney, PhD, RN, FAAN
  University of South Carolina College of Nursing; Research Professor and Dunn Shealy Professor of Nursing

- Lillie D. Shockney, RN, BS, MAS, HON-ONN-CG
  Co-Founder of the Academy of Oncology Nurse & Patient Navigators, University Distinguished Service Professor of Breast Cancer, and Professor of Surgery at the Johns Hopkins University School of Medicine

Cervical cancer

- Heather Brandt, PhD
  St. Jude Children's Research Hospital; Director of HPV Cancer Prevention Program

- Maria Fernandez, PhD
  University of Texas Health Science Center at Houston School of Public Health; Professor, Health Promotion and Behavioral Sciences

Colorectal cancer

- Alison Brenner, PhD, MPH
  University of North Carolina - Chapel Hill School of Medicine; Research Assistant Professor, Division of General Medicine and Clinical Epidemiology

- Gloria Coronado, PhD
  Kaiser Permanente, Mitch Greenlick Endowed Senior Investigator in Health Disparities Research

- Andi Dwyer, BS
  University of Colorado Cancer Center; Co-Director, Colorado Colorectal Screening Program

- Richard Wender, MD
  National Colorectal Cancer Roundtable, Chair

Lung cancer

- Allison M. Cole, MD, MPH
  University of Washington – Department of Family Medicine, Associate Professor

- Jamie L. Studts, PhD

  University of Colorado – School of Medicine, Professor

Appendix C: subject matter expert (SME) reviewers

All SMEs represented the Division of Cancer Prevention and Control in the National Center for Chronic Disease Prevention and Health Promotion at the Centers for Disease Control and Prevention.

Breast cancer

- Jacqueline W. Miller, MD, FACS
- Paran Pordell, DrPH, MPH, CHES
- Susan (Sue) Sabatino, MD, MPH

Cervical cancer

- Mona Saraiya, MD, MPH, FACPM
- Julie Townsend, MPH

Colorectal cancer

- Stephanie Melillo, MPH
- Jean A. Shapiro, PhD

Lung cancer

- S. Jane Henley, MSPH
- Thomas B. Richards, MD
- Elizabeth A. Rohan, PhD, MSW

References

[1] Centers for Disease Control and Prevention. Tobacco Cessation Change Package. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2020.

[2] Centers for Disease Control and Prevention. Hypertension Control Change Package (2nd ed.). Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2020.

[3] Centers for Disease Control and Prevention. Cardiac Rehabilitation Change Package. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept of Health and Human Services; 2018.

[4] Community Preventive Services Task Force. The Community Guide. Accessed October 15, 2024. www.thecommunityguide.org

[5] National Comprehensive Cancer Control Program. Centers for Disease Control and Prevention. Accessed October 15, 2024. www.cdc.gov/comprehensive-cancer-control/

[6] Colorectal Cancer Control Program. Centers for Disease Control and Prevention. Accessed October 15, 2024. www.cdc.gov/colorectal-cancer-control/

[7] National Breast and Cervical Cancer Early Detection Program. Centers for Disease Control and Prevention. Accessed October 15, 2024. www.cdc.gov/breast-cervical-cancer-screening/