Prevention Through Education: Advancing Women's Health Through Screening Awareness

Prevention through Education: Advancing Women's Health Through Screening Awareness

Emma Fleming

University of Vermont Larner College of Medicine
Middlebury Family Health in Middlebury, VT
Rotation 7 – February/March 2025
Project Mentor: Dr. Peter Wilhelm

Problem Identification

Medical Practice Transformation

With recent medical advancements and critical research being done to investigate the proper utility of screening tests, rapidly changing guidelines have led to challenges for women's health screening in the community including:

Provider Resources

Providers spend time and energy keeping up with the newest guidelines., which is especially difficult in family medicine where providers may not be doing women's health visits regularly.

Appointment Time

Educating patients on available screening and why screening is important can take up a majority of the appointment time, a resource that is already scarce and highly valued.

Mistrust

Changing guidelines away from what patients know and expect can lead to mistrust in research and providers, especially when receiving different information. This can result in patients declining screening.

Incorrect Screening

Providers, or even patients, who have misinformation about current guidelines can order, or request, incorrect screening.

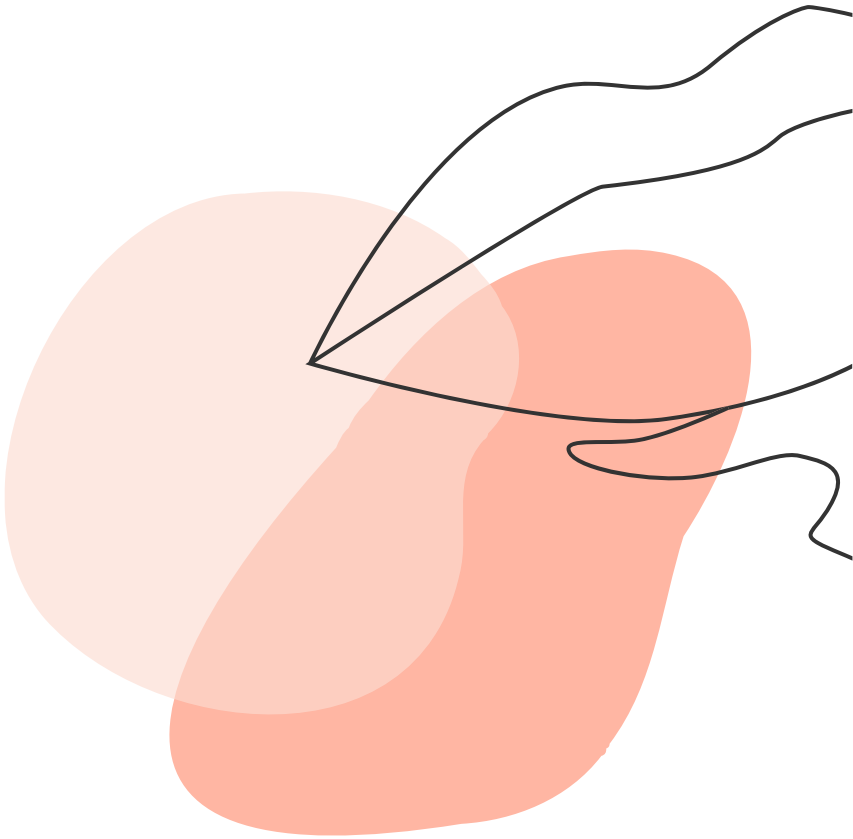
Public Health Cost

The financial burden of the diseases that can be prevented with proper screening is insurmountable. These costs take a large toll on both patients and healthcare systems.

Recommended screenings are cost-effective, meaning they cost less than $50,000 per quality-adjusted life year gained.

To demonstrate the financial burden of some of these diseases, the figure below lists the annual cost of the disease in the US:

Disease	Annual Cost
Diabetes	$413 billion
Breast Cancer	$29.8 billion
Colorectal Cancer	$24.3 billion
Cervical Cancer	$2.3 billion



Community Perspective

Dr. Peter Wilhelm, MD

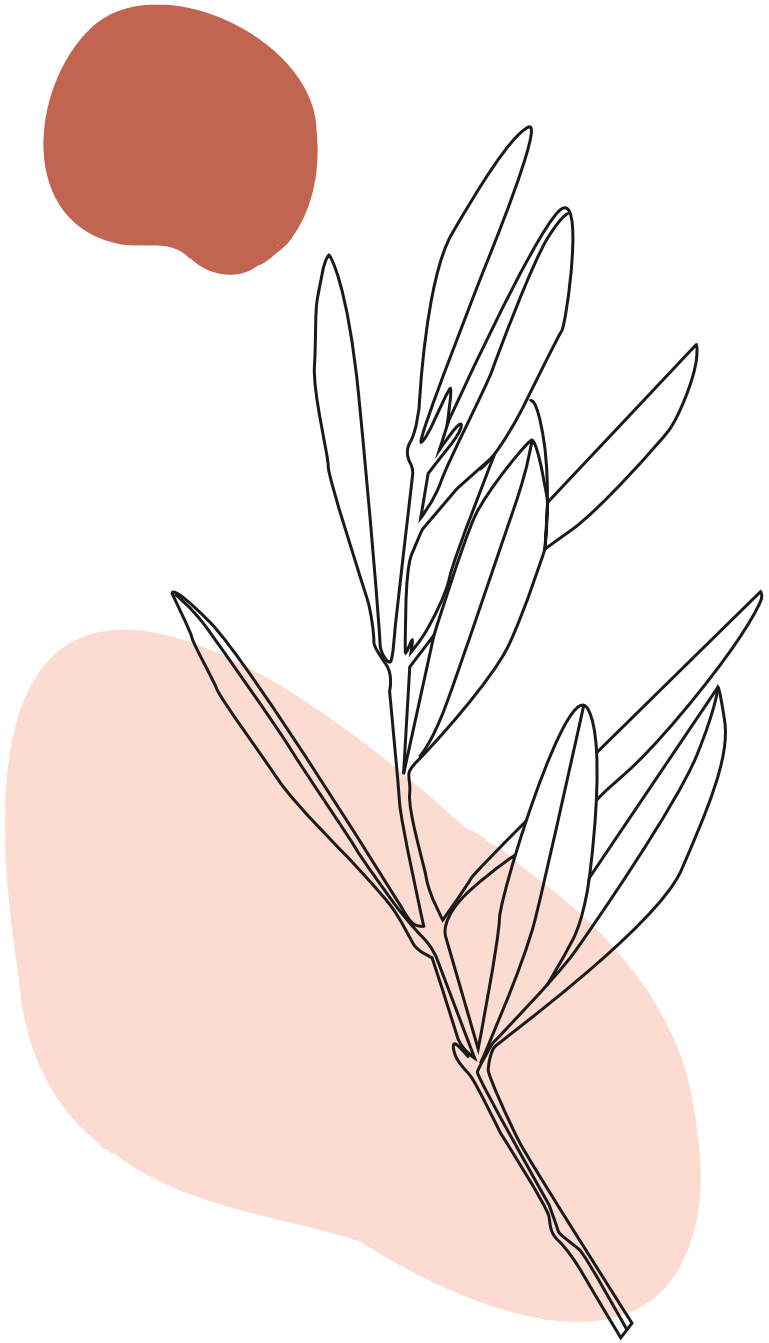
Family Medicine, Middlebury Family Health

- It is difficult to convince patients that screening is important when they do not feel unhealthy.
- Patients often feel like screening is a way for healthcare system to make more money from them doing unnecessary tests.
- It takes valuable, limited appointment time reviewing screening options and when they are each being done.
- Many people in the community do not understand WHY we screen but are interested in learning.
- Being a male provider without many female patients can mean that it takes more effort to keep up with changes.
- Providers are often more comfortable doing screening how they were taught, despite changing guidelines.
- Females are more uncomfortable with male providers performing paps without knowledge of why we do them.

Donna Otten

Patient & Community Member

- It is much easier to agree to doing invasive screening like paps if the patient is prepared for it before they get to the appointment.
- It is very confusing when the gynecologist and PCP tell a patient different things about when they should be screening and for what – it is difficult to trust the testing if it feels like there is not a consensus.
- It is alarming when the doctor says mammograms need to be done every year when a patient was used to going every two years and would prefer that.
- It is easier to blindly agree to whatever blood tests the doctor recommends rather than question it. However, it can be difficult financially when they order a test a patient does not need ans so is not covered by insurance.
- It would be nice to know what tests are recommended and why at each appointment, so the patient is prepared and knowledgeable.



Methodology & Intervention

Methodology:

1. Determine barriers to screening through interviews of both provider and patient perspectives
2. Research most recent guidelines as recommended by ACOG and USPSTF
3. Create educational material geared towards patients to eliminate barriers to screening including what to expect at their upcoming visit and why each form of screening is important

Intervention:

1. Distribute information in the form of an electronic document to all women at the time of annual wellness visit as part of pre-visit paperwork
2. Create hard-copy fliers of material to leave in lobby
3. Laminate the material to leave in exam rooms

*see next slide for completed educational product

WOMEN'S HEALTH SCREENING
WHAT TO EXPECT AND WHY

*All recommendations are intended for people at average risk only

PAP SMEARS

WHY

Paps can **detect cancer/precancerous** changes in the cervix. Cervical cancer is frequently caused by **HPV,** a virus that is typically asymptomatic. **Early** detection **greatly** improves survival rates.

WHO

Age 21-29: pap smear every 3 years

Age 30-65: pap + HPV co-testing every 5 years
- or HPV only every 5 years
- or pap only every 3 years

Age 65+: Discontinue if 2 consecutive normal HPV tests (3 if pap only) AND no new sexual partners

MAMMOGRAMS

WHY

A mammogram is a **low dose** X-ray of the breast used to **detect breast cancer early**, often before symptoms appear. 5-year survival rate for early localized breast cancer is **99%.**

WHO

Age 40-74: every 1-2 years
**People at higher risk may need to start screening earlier*

Age 75+: individualized decision based on overall health, risk, & life expectancy

STI TESTING

WHY

STIs can remain **silent** for years while causing **complications** such as PID, chronic pain, infertility, ectopic pregnancy, cancer, etc.

WHO

Gonorrhea & Chlamydia: annually if age <25
**or older if high risk sexual practices*

HIV & Hep-C: at least once in adulthood

BONE DENSITY

WHY

DEXA detects **osteoporosis**. When caught early, **simple** interventions can **prevent** debilitating - sometimes even fatal - **fractures.**

WHO

Age 65: initial scan
**or post-menopausal if higher risk (eg. smoking, low BMI, steroid use, RA, diabetes, celiac)*

Age 66+: every 1, 5, or 15 years
**depends on intial & risks*

GENERAL SCREENING

COLONOSCOPY

WHY

A colonoscopy can **detect,** and often **treat**, precancerous polyps before they become cancer. It allows for direct visualization of the **entire** colon, unlike stool tests which only monitor content of stool. Colorectal cancer is one of the **most common** cancers, but it is highly preventable and **treatable** when caught **early**.

WHO

Age 45-75: every 10 yrs if results are normal, every 3-5 yrs if polyps are removed

Age 76-85: individualized decision based on overall health and past results

Age 86+: screening not recommended

**Other options include stool testing such as FIT (annual) and Cologuard (every 3yrs). These are not recommended for people with family history of colon cancer. A positive test typically requires colonoscopy.*

CHOLESTEROL

WHY

High cholesterol often has **no symptoms** but leads to **heart disease**, **stroke**, or other vascular issues. Risk factors include age, smoking, obesity, family history, lack of exercise, diabetes, kidney and liver disease, and hypothyroidism.

WHO

Age 9-11: adolescent screen
Age 17-20: baseline lipid panel
Age 20-39: every 4-6 yrs
Age 40-75: every 1-2 yrs
Age 76+: individualized decision

LUNG CANCER

WHY

A low-dose CT, which uses **90% less radiation** than a standard chest CT, can detect lung cancer before symptoms when it's more **treatable.** Studies show screening reduces lung cancer deaths by **20–24%** in high-risk individuals.

WHO

Age 50-80: annually for people with 20-pack year smoking history who are current smokers or quit within the last 15yrs

DIABETES

WHY

Many people do not realize they have diabetes until **irreversible complications** like heart/kidney disease, nerve damage, or vision loss occur. **Prediabetes** affects over **1 in 3** adults. **Simple** lifestyle changes can **reverse** it if caught early.

WHO

Age 35-70: every 3 years
**annually for those with obesity, family history, cardiovascular disease, high blood pressure, PCOS, high cholesterol, smoking, chronic inflammation, sleep apnea, or other risk factors*

Effectiveness

This intervention will allow patients to prepare for their upcoming appointment and what to expect for screening, saving time during the appointment and giving patients an opportunity to formulate questions.

Being transparent about screening guidelines will also encourage providers to keep up with recent changes. The infographic can also be used by providers to refresh memory, saving time by having all recommended screening in one place.

Creating a shared expectation between providers and patients will build trust, hopefully resulting in more patients agreeing to screening despite the confusion of changing guidelines.

More adherence to screening will improve health and quality of life for the by preventing debilitating disease. This will also save money for both patients and the healthcare system in long-term costs of these diseases.

Limitations

These guidelines will likely continue to change so the infographic will need to be updated periodically.

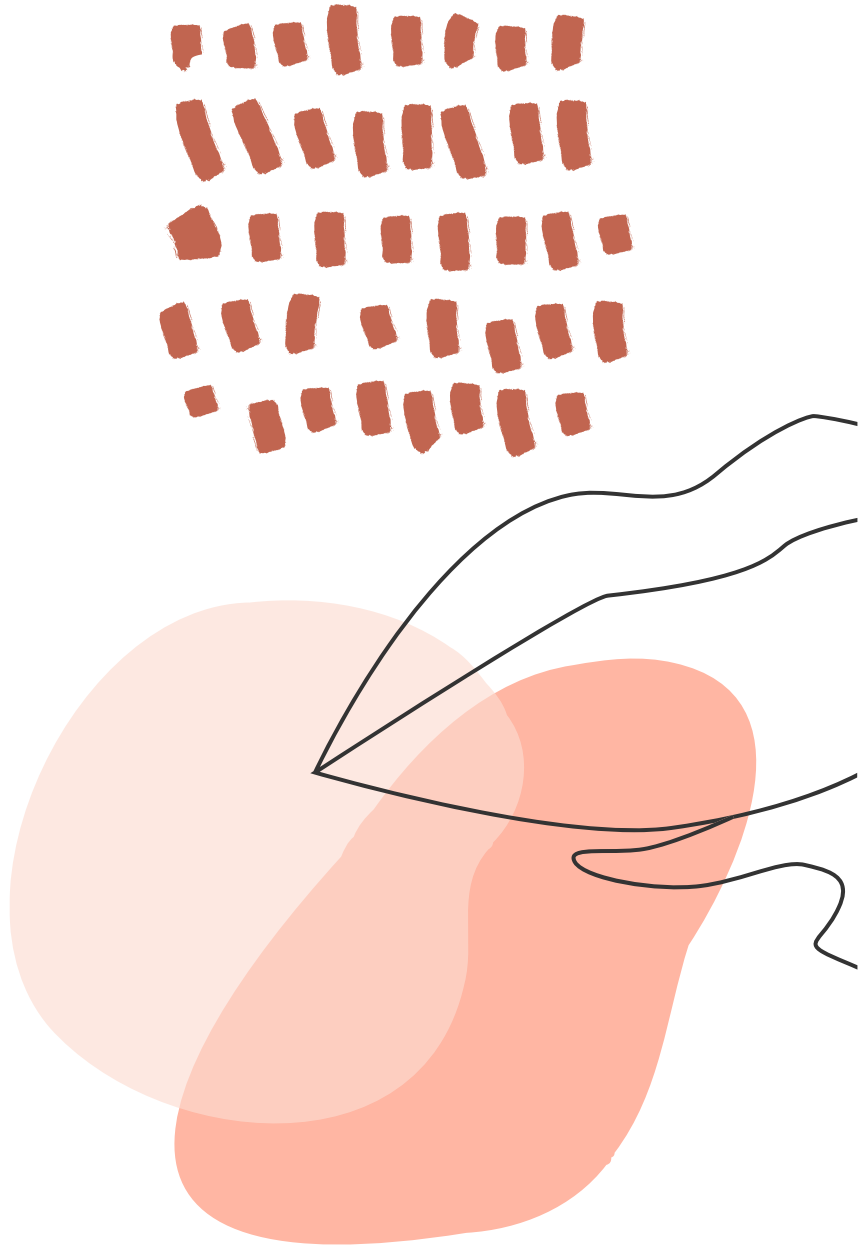
The electronic copy can only be distributed to patients with access to the internet and the Middlebury Family Health portal. None of the methods will be accessible for the visibly-impaired or illiterate population.

Some screenings, specifically mammograms, have different guidelines from ACOG and USPSTF. Different providers will likely continue to choose the one they, or their patients, prefer.

Future Interventions

While this project does cover many screening tests routinely done for traditional "Women's Health" visits, there are more interventions that could be taken to improve screening adherence for a wider audience including…

- Similar infographics for males, including PSA
- Similar infographics for the transgender community, including screening and screening maintenance that must be done for hormone therapy
- Similar infographic about mental health screening
- A patient survey about their understanding/adherence to screening before and after receiving the infographic, potentially including a questionnaire about other topics they would like more information on before visits
- Distributing this tool to other practices focused on women's health, including Planned Parenthood or local OBGYNs



References

1. *ACOG updates recommendation on when to begin breast cancer screening mammography*. ACOG. (2024, October 11). https://www.acog.org/news/news-releases/2024/10/acog-updates-recommendation-when-to-begin-breast-cancer-screening-mammography
2. Centers for Disease Control and Prevention. (2024a, May 14). *Health and economic benefits of colorectal cancer interventions*. Centers for Disease Control and Prevention. https://www.cdc.gov/nccdphp/priorities/colorectal-cancer.html
3. Centers for Disease Control and Prevention. (2024b, July 11). *Health and economic benefits of breast cancer interventions*. Centers for Disease Control and Prevention. https://www.cdc.gov/nccdphp/priorities/breast-cancer.html
4. Centers for Disease Control and Prevention. (2024c, July 11). *Health and economic benefits of cervical cancer interventions*. Centers for Disease Control and Prevention. https://www.cdc.gov/nccdphp/priorities/cervical-cancer.html
5. Centers for Disease Control and Prevention. (2024d, October 16). *Health and economic benefits of diabetes interventions*. Centers for Disease Control and Prevention. https://www.cdc.gov/nccdphp/priorities/diabetes-interventions.html
6. *Cervical cancer screening*. ACOG. (2023, May). https://www.acog.org/womens-health/faqs/cervical-cancer-screening
7. US Preventive Services Taskforce. (2021, August 24). *Prediabetes and type 2 diabetes: Screening*. Recommendation: Prediabetes and Type 2 Diabetes: Screening | United States Preventive Services Taskforce. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/screening-for-prediabetes-and-type-2-diabetes
8. US Preventive Services Taskforce. (2021, March 9). *Lung cancer: Screening*. Recommendation: Lung Cancer: Screening | United States Preventive Services Taskforce. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/lung-cancer-screening
9. US Preventive Services Taskforce. (2021, September 14). *Chlamydia and gonorrhea: Screening*. Recommendation: Chlamydia and Gonorrhea: Screening | United States Preventive Services Taskforce. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/chlamydia-and-gonorrhea-screening
10. US Preventive Services Taskforce. (2022, August 23). *Statin use for the primary prevention of cardiovascular disease in adults: Preventive medication*. Recommendation: Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: Preventive Medication | United States Preventive Services Taskforce. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/statin-use-in-adults-preventive-medication
11. US Preventive Services Taskforce. (2024, April 30). *Breast cancer: Screening*. Recommendation: Breast Cancer: Screening | United States Preventive Services Taskforce. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/breast-cancer-screening
12. US Preventive Services Taskforce. (2025, January 14). *Osteoporosis to prevent fractures: Screening*. Recommendation: Osteoporosis to Prevent Fractures: Screening | United States Preventive Services Taskforce. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/osteoporosis-screening