MARKET DECISIONS RESEARCH

Maine Cancer Foundation

# Maine Cancer Foundation Grantmaking Outcome Evaluation Report FY23

July 2024

# Acknowledgements

**The analysis and report were sponsored by Maine Cancer Foundation (MCF).**

To measure the outcomes and impact of Challenge Cancer 2020.

*We would like to thank all the Maine Cancer Foundation grantees who provided information and data related to the grants so that outcomes could be calculated for this report.*

**The report was prepared by the research team at Market Decisions Research of Portland, Maine (www.marketdecisions.com).**

Allison Tippery, Research Manager
Patrick Madden, MBA, President
Josie Smith, BA, Research Analyst

# Table of Contents

# Background

Maine Cancer Foundation's mission is to reduce the incidence and mortality of cancer in Maine, and we do that through grant-based financial support and coalition building. Feedback from cancer stakeholders across the state and ongoing evaluation of MCF's own efforts have led the organization to focus its grantmaking on the following three pillars: cancer prevention, early detection and screening, and improving patient outcomes. Since 2015, targeted grantmaking in these three categories include:

- Cancer Screening (including Breast, Cervical, Colorectal, Lung, Skin)
- Genetic Screening
- HPV Vaccinations
- Patient Navigation
- Tobacco Prevention
- Transportation & Lodging
- Sun Safety
- General Operation Support Funding

Maine Cancer Foundation funds projects using evidence-based approaches to cancer prevention that will directly and positively affect the rate of cancer screenings, and/or improve and expedite the treatment process for cancer patients in Maine. Given the time it takes to coordinate and implement grant projects and see lasting change, most MCF grants are funded for multiple years.

This outcome analysis and evaluation conducted by Market Decisions Research examines MCF's grant-making activities on an annual basis. The goal of the outcome evaluation is to quantify the short and longer-term outcomes and cost-effectiveness of MCF grant funding.

To accomplish this, MDR used information and data previously reported by grantees as part of their initial grant evaluation. The MDR team also collected new data from MCF grantees to fill in gaps and quantify outcomes. MDR worked closely with MCF to refine and develop outcome metrics for each grant area, review the information already collected and identify where gaps exists, collect additional data needed to calculate outcomes, and conduct an outcome and cost-effectiveness analysis (where possible). The results of this effort are presented in this report.

**Please note that the data and results presented in this report represent a point in time estimate that covers the period of MCF grants from 2015 to December 2023. Due to the nature of how MCF awards grants and the fact that many are still ongoing, more recent grant funding, activities and outcomes may not be captured in the 2023 reporting cycle.**

# Executive Summary

As of December 2023, Maine Cancer Foundation has funded 559 grants, for a total of $24,226,757 dollars, to address cancer incidence and mortality in the state of Maine. MCF has funded grants in the areas of transportation and lodging, patient navigation, tobacco prevention, cancer screening (related to colorectal, lung, breast, skin, and cervical cancers) general operations, sun safety, HPV vaccination, and research. Across these topics, grantees focused on improving patient outcomes, improving screening rates, and preventative cancer incidence. Each grant emphasized several specific areas of improvement including collaboration, awareness, infrastructure, training, and capacity, and expanding access to care. In 2023, several grants focus on improving a wide range of cancer outcomes among New Mainers in the state.

**Grantees are leveraging MCF funds to effect significant changes in Maine's cancer population and those at risk of developing cancer.**

- Patient screening rates for colorectal and lung cancer have increased among grantees working to address these topics.
- Patient navigators connected a significant number of patients with resources and worked to increase referral conversions and follow-ups for cancer screening.
- HPV vaccination rates rose significantly among children at participating pediatric practices.
- Tobacco grantees reported a significant number of tobacco users quit or reduced their tobacco use after attending grant-funded programs.
- General operations funding increased organization capacity and has enabled grantees to generate additional funds through grants and fundraising.
- MCF funding allowed Maine's largest lung cancer network to grow into a stakeholder coalition addressing patient access, provider education, and improvements in screening and lung cancer care.
- A youth tobacco prevention media campaign was conducted, strategically reaching Maine youth via digital media platforms with information on the dangers and effects of smoking as well as tobacco companies' manipulative marketing tactics.
- Several grantees worked to provide sun safety education and supply much-needed sunscreen to high-risk populations across the state.
- Hospice grantees expanded their services and streamlined their operations to serve more clients each year.

Overall, organizations funded by Maine Cancer Foundation's grants have dramatically impacted cancer prevention, detection, and patient support efforts in Maine. Funding distributed to date has brought novel screening and care to practices across the state while expanding access to vulnerable populations, including those with limited resources and those at high risk of developing cancer. Each grant category has fulfilled its aim to increase screening, improve outcomes, and prevent future cases of cancer. Funding from MCF has enabled grantees to achieve a considerable amount of progress in the areas of cancer prevention, screening, and improving patient outcomes in Maine.

# Key Findings

*Note: Data represented in key findings represent the percentage of grants where data are available either from the evaluation forms provided to MCF by the grantees or from follow-up requests made by the MDR team.*

## Cancer Screening

### Colorectal Cancer

- Maine Cancer Foundation has awarded 26 colorectal cancer screening grants totaling $1,811,102.
- A total of 37 new staff members (across 14 organizations) were hired as a result of the grants.
- MCF grants have resulted in 14,331 additional CRC screenings (most commonly colonoscopies or FOBT/FITs), resulting in an estimated 2,468 life years saved and 215 fewer cancer deaths.

### Lung Cancer

- Maine Cancer Foundation has awarded 11 lung cancer grants totaling $999,857.
- This has resulted in 4,314 patients identified for lung cancer screening, 6,430 patients receiving low-dose CT scans, and the identification of 31 new lung cancer cases.

### Breast Cancer

- Four breast cancer screening grants have been awarded, totaling $280,000.
- A total of 5,699 patients were screened by mammogram, resulting in an estimated 83 deaths averted.

### Skin Cancer

- One skin cancer screening grant has been awarded, totaling $80,000.
- This has resulted in 49 additional skin cancer screenings so far.

### Cervical Cancer

- Maine Cancer Foundation has awarded 2 cervical cancer screening grants totaling $128,436.
- This has resulted in 151 additional colposcopies, resulting in an estimated 50.3 life-years gained.

## Transportation

- Maine Cancer Foundation has awarded 83 transportation grants totaling $2,867,864.
- This has helped thousands of Mainers travel to cancer care appointments, resulting in 59,557 additional rides and a total of 4,967,890 miles traveled.

## Patient Navigation

- To help increase Maine patients' access to cancer care, Maine Cancer Foundation awarded 17 patient navigation grants totaling $2,585,848

This has resulted in 21,473 patients being newly identified for screening, 5,442 additional referrals provided for diagnostic follow-ups, and over a thousand patients have been referred to cancer care resources by patient navigators.

## HPV Vaccination

- Maine Cancer Foundation has awarded 5 HPV vaccination grants totaling $573,572.
- This has resulted in 698 additional HPV vaccinations, roughly 13% of the eligible population.

## Tobacco Prevention and Cessation

- Maine Cancer Foundation has awarded 33 tobacco grants totaling $2,958,099.
- This has resulted in over 16,579 individuals receiving tobacco prevention education, in addition to over 6,596 individuals who were referred to tobacco cessation services, resulting in 556 confirmed quits or persons reducing their tobacco use.
- In partnership with the Maine Centers for Disease Control and Prevention and Rinck Advertising, Maine Cancer Foundation invested $750,000 over three years to a statewide youth tobacco media campaign.
    - Maine youth were provided education around tobacco company marketing tactics, the dangers and effects of tobacco use, and empowered youth to reject the manipulative tactics used by the tobacco companies.
    - Nearly half of teens reporting seeing a “You Are the Target” campaign ad or video. 25% of youth/young adult tobacco users quit or thought about quitting as a result of the campaign.

## Sun Safety

- Maine Cancer Foundation has awarded 7 sun safety grants totaling $303,193.
- This has resulted in 5,624 individuals receiving education on sun safety, the installation of 284 sunscreen dispensers, and 248,750 individuals receiving at least one application of sunscreen at a cost of $1.12 per person.

## General Operating Support

- Maine Cancer Foundation has awarded 11 general operating support grants totaling $380,000.
- General operations funding has increased organization capacity, allowed for restructuring and greater focus on programs, and has enabled grantees to generate additional funds through grants and fundraising.

## Cancer Research

- Maine Cancer Foundation has awarded 4 research grants totaling $1,050,784.
- This funded no-cost fluid and tissue access for researchers, a successful PCRI shared decision-making program for lung screening, a telemedicine program, ongoing EHR database consolidation, and a breast cancer diagnostic trial.

## Hospice General Operating Funds

- Maine Cancer Foundation has awarded 12 hospice general operations grants totaling $108,819.
- Hospice grantees expanded their services to more clients, increased marketing and education efforts, hired and trained more volunteers, and developed self-sustaining funding streams.

## Genetic Screening

- One genetic screening grant has been awarded totaling $199,891.
- To date, more than 90% of Maine medical oncologists have enrolled in the initiative from all Maine cancer practices.

## Multiple Cancer Types

- Three screening grants were awarded in 2023 targeting multiple types of cancer totaling $155,000.
- This has resulted in 67 educational sessions, reaching over 2,000 individuals as well as over 400 new cancer screenings.

# 1. Cancer Screening

## 1A. Colorectal Cancer Screening

### Background

Colorectal cancer (CRC) is one of the most commonly diagnosed cancers in Maine. The age-adjusted CRC rate of 35.2 per 100,000 population makes it the fourth most diagnosed cancer in Maine[2]. It is also the third most likely cause of cancer death in the state, resulting in over 200 deaths per year. Maine's CRC rate is like that of the U.S. (36.9), and it is cancer that impacts males at a slightly higher rate than females.[2]

Studies have shown that colorectal cancer screening reduces mortality by preventing and detecting the disease early, thus increasing the likelihood of survival.[2] Regular CRC screening can help to identify and treat colorectal polyps before they have the chance to become cancerous. Screening can also find colorectal cancer early when it's small and easier to treat.[2]

Maine Cancer Foundation has awarded 26 **colorectal cancer screening grants** totaling **$1,811,102**.

This has resulted in **14,331** additional CRC screenings, resulting in **2,468** life years saved and **215** fewer cancer deaths.

The U.S. Preventative Services Task Force recommends screening for colorectal cancer starting at age 45 and continuing until age 75.[3] People at increased or high risk of colorectal cancer might need to start colorectal cancer screening earlier, be screened more often, and/or get specific tests. For complete information about colorectal cancer screenings, please visit the U.S. Preventative Services Task Force.

### Summary of MCF Grants 2015-2023

Since 2015, the Maine Cancer Foundation has made significant investments in organizations around Maine with the goal of improving colorectal cancer screening rates. These organizations have implemented evidenced-based interventions, such as Electronic Health Record (EHR) systems that track and coordinate provider and patient screening reminders, that have been shown to increase CRC screening rates[4]. Many of these projects also included evidence-based components to provide education, increase awareness, and increase access for individuals who have difficulty obtaining care[4,5].

From 2015-2023, Maine Cancer Foundation has awarded $1,811,102 through 26 colorectal cancer screening grants to 22 organizations, including:

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| LincolnHealth | Strategy for Identification and Screening of Unscreened Patients at LincolnHealth (LH) | 2016 | $29,235 | CRC Screening | Damariscotta | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| MaineGeneral Medical Center | Expansion of the Role of Community Health Workers to Increase Colon Cancer Screening Rates | 2016 | $29,937 | CRC Screening | Augusta | ME |
| MaineHealth - Maine Medical Center | Building Capacity at MaineHealth to Enhance Colorectal Cancer Screening | 2016 | $28,863 | CRC Screening | Portland | ME |
| Mid Coast Hospital | Developing Systems to Increase Colorectal Screening Rates through Patient Identification | 2016 | $29,848 | CRC Screening | Brunswick | ME |
| Mount Desert Island Hospital | A Novel System to Increase Colorectal Screenings and Ensure Compliance in a Targeted Subset of Patients at Mount Desert Island Hospital | 2016 | $7,481 | CRC Screening | Bar Harbor | ME |
| Penobscot Community Health Care | Provider Reminder and Recall System for Colorectal Cancer Screening | 2016 | $30,000 | CRC Screening | Bangor | ME |
| City of Portland, Minority Health Program | Colorectal Cancer Screening for Vulnerable Populations | 2017 | $100,000 | CRC Screening | Portland | ME |
| Healthy Community Coalition of Greater Franklin County | One-by-One-Colorectal Cancer Screening and Navigation | 2017 | $99,832 | CRC Screening | Farmington | ME |
| MaineGeneral Medical Center | 80% Colon Cancer Screening Project | 2017 | $99,627 | CRC Screening | Augusta | ME |
| Penobscot Community Health Care | Expanding Systems to Increase Colorectal Cancer Screening through Patient Outreach and Recall | 2017 | $100,000 | CRC Screening | Bangor | ME |
| Waldo County General Hospital | Waldo Screen to Save | 2017 | $44,566 | CRC Screening | Belfast | ME |
| Cary Medical Center | Screen Aroostook | 2018 | $98,516 | CRC Screening | Biddeford | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Healthy Androscoggin / Central Maine Community Health | Colon Health Rx: A Unique Approach to Cancer Screening in Lewiston's Immigrant Community | 2018 | $93,051 | CRC Screening | Lewiston | ME |
| Pen Bay Medical Center | Pen Bay Medical Center: Screen to Save - Knox County | 2018 | $32,055 | CRC Screening | Rockport | ME |
| Penobscot Community Health Center | Improving Colorectal Screening Rates via Use of a Medical Support Assistant | 2018 | $100,000 | CRC Screening | Bangor | ME |
| Sebasticook Valley Health | An Outreach, education, and Navigation Program to Increase Colorectal Cancer Screenings for Eligible Adults in the Sebasticook Valley Region | 2018 | $85,791 | CRC Screening | Pittsfield | ME |
| Harrington Family Health Center | Increase Colorectal Screening through the reduction in FIT Test Barriers and Increased Community Education | 2019 | $100,000 | CRC Screening | Harrington | ME |
| Healthy Acadia | Downeast Colorectal Cancer Screening Initiative | 2019 | $100,000 | CRC Screening | Ellsworth | ME |
| Maine Access Immigrant Network | Colorectal Cancer Prevention and Screening Outreach and Education in MAIN's Communities | 2019 | $45,906 | CRC Screening | Portland | ME |
| MaineGeneral Medical Center | Mobilizing CHWs to increase access for high-risk patients due for surveillance colonoscopy screening | 2019 | $96,629 | CRC Screening | Augusta | ME |
| Penobscot Community Health Center | Improving Colorectal Screening Rates via Community Support Workers -- A Pilot Project | 2019 | $100,000 | CRC Screening | Bangor | ME |
| Islands Community Medical Services | Increasing Cancer Screenings at ICMS | 2020 | $100,000 | CRC Screening | Vinalhaven | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| MaineHealth dba Maine Medical Center | Cancer Genetic ECHO: Extending Genetic Services to Maine's Colorectal Cancer Patients and their At-Risk Family Members | 2020 | $89,055 | CRC Screening | Portland | ME |
| Northern Light A.R. Gould Hospital | Removing Stigma and Barriers: Increasing Colorectal Screenings in Aroostook County | 2020 | $70,710 | CRC Screening | Presque Isle | ME |
| Maine Primary Care Association | Colorectal Cancer Screening Project | 2021 | $20,000 | CRC Screening | Augusta | ME |
| St. Joseph Hospital - Community Care Partnership of Maine | Pre-Visit Planning: Colorectal Cancer Screening | 2023 | $80,000 | CRC Screening | Bangor | ME |

## Grant Results

The CRC grants provided by MCF from 2015-2023 resulted in many positive outcomes for grantees, Maine's communities, and those experiencing colorectal cancer in Maine. A summary of some of these outcomes is provided below.

- Grant funding resulted in 226 new or expanded partnerships with outside organizations.
- 96% of grants developed materials that were distributed to raise awareness of colorectal cancer.
- 72% utilized patient outreach and media advertising events.
- 83% of projects involved modification of CRC screening policies or protocols, and 91% provided reminders for appointment screenings and scheduling.
- 88% of grantees included components to increase patient access (i.e., provide transportation).
- 33,599 new patients who had never received CRC screening were identified for screening.
- 21 grantees saw an improvement in their CRC screening rates comparing the start of the grant period to the end. Screening rates improved from a baseline of 61% to 69% on average.
- A total of 37 new staff members across 14 organizations were hired as a result of the grants.
- 96% of grants resulted in staff receiving additional training related to colorectal cancer screening, with 418 staff members receiving training in total.

**It is estimated that because of increased screening rates, an additional 14,331 Maine individuals received CRC screening.** This includes specific high-risk populations, including those without health insurance, and those lacking transportation to reach their provider.

## Impact of MCF Grants

The effectiveness of CRC screening on reductions in mortality and the cost-effectiveness of screening have been well documented in clinical studies, starting in 1993 when the efficacy of CRC screening with guaiac FOBT was demonstrated.[6] From 1993 to 2009, a total of 55 studies were published examining 32 unique cost-effectiveness models. All studies found that colorectal cancer screening was cost-effective or even cost-saving compared with no screening.[6]

Using estimates derived from modeling conducted by the Cancer Intervention and Surveillance Modeling Network (CISNET), the U.S. Preventive Services Task Force provides estimated number of life-years gained, colorectal cancer deaths averted, lifetime colonoscopies required, and resulting complications per 1,000 screened adults aged 50 to 75 years for each of the screening strategies[3]. According to these estimates:

- The number of life-years gained per 1,000 individuals screened ranges from a low of 264 to a high of 310, depending on the type of screening tests performed.
- The number of colorectal cancer deaths averted per 1,000 individuals screened ranges from a low of 23 to a high of 27.

These ranges are based on the use of 5 different types of screening tests recommended by the US Preventative Services Task Force. These tests are stool-based tests with high sensitivity, colonoscopy, computed tomography (CT) colonography, and flexible sigmoidoscopy.[3] Currently, none of these testing strategies is recommended over the others.[3] These strategies each have their own harms, benefits, and costs. Selecting a screening strategy might be subject to personal preferences or individual risk and should be discussed by an individual patient and their physician. Ultimately, as specified by the U.S. Preventive Services Task Force, the best CRC screening test is the one that gets done.[7]

### *Methods for calculating life-years saved and cost-effectiveness*

This analysis focused primarily on life-years saved and deaths averted due to the interventions and the cost per life-year. The basis for the analysis is the number of additional screenings that occurred because of the intervention. This was calculated using the reported increase in CRC screening rates and projecting each reported rate increase on the reported patient populations eligible for screening for each grantee. This yielded a subset of the total screenings conducted by each grantee which can be attributed to the increase in screening rates achieved using grant funding.

The additional screenings were adjusted to a 60% compliance rate to reflect the national average for screening compliance as not all individuals will maintain a screening regimen during the recommended ages of 50-75[3]. Estimates in Table 1 are averaged across the grantees who provided data for this evaluation. High and low estimates are provided to illustrate the range of potential benefits and are based on estimates of life-years saved per 1,000 individuals screened provided by the U.S. Preventive Services Task Force.

**Table 1: Outcomes for MCF Colorectal Cancer Screening Grants**

| Adjusted Screenings with Compliance Rate* | Number of Life-Years Saved* | | | Number of Cancer Deaths Averted* | | |
|---|---|---|---|---|---|---|
| | Low | Mid | High | Low | Mid | High |
| 8,598 | 2,270 | 2,468 | 2,665 | 198 | 215 | 232 |

** Based on CISNET estimates and a 60% compliance rate for screenings*

**Table 2: Cost-Effectiveness of MCF Colorectal Cancer Screening Grants**

| Adjusted Screenings with Compliance Rate* | Grant $ Per Life-Year Saved* | | | Grant $ Per Cancer Death Averted* | | |
|---|---|---|---|---|---|---|
| | Low | Mid | High | Low | Mid | High |
| 8,598 | $458 | $416 | $385 | $5,193 | $4,778 | $4,424 |

** Based on CISNET estimates and a 60% compliance rate for screenings*

### *Results*

Assuming an estimated 60% compliance rate, an additional 8,598 individuals are expected to continue a recommended CRC screening protocol as a result of the grants issued through 2023. In terms of life years saved, this translates to between 2,240 and 2,665 years. The cost per life year saved in dollars ranges from $385 to $458.

## Discussion

Maine Cancer Foundation colorectal cancer grants have shown to be highly effective at increasing CRC screening rates, which will, in turn, save the lives of many Mainers. In addition to the many operational and procedural improvements that were made as a result of the grants, grantees reported identifying 33,599 new patients for screening, resulting in 14,331 additional CRC screenings for these patients. A considerable number of lives are being saved compared to the number of screenings being performed and the relatively low cost of a CRC screening. At a cost of $385 to $458 grant dollars per life-year saved, the intervention is extremely cost-effective.

Based on the results of the analysis and the estimates it produced, the colorectal cancer grantees are making significant progress towards reducing the rates of colorectal cancer incidence and mortality in Maine. However, the results of this analysis do have some limitations. While MDR has taken many efforts to ensure the validity of the data and results, the calculations are based off data provided by grantees, which may be inconsistently reported or not reported at all. Life-years saved and cancer deaths averted are calculated based on estimates for the U.S. developed by the U.S. Preventive Services Task Force. There may be confounders specific to the state that might make the estimates less accurate for Maine specifically and less representative of what will happen over time.

Also, note that the cost and number of life-years saved is an estimate of the impact the entire pool of CRC grant money had on the reported population of eligible patients. Individual grants may have overperformed or underperformed compared to this estimate. To illustrate this, the estimated low cost per life-year ranged from $90 to $9,072 by the grantee. Despite the variability, the data strongly suggest that CRC grants are having a significant positive impact both individually and overall.

## *References*


1. Yob D, Haggan K, Bancroft C, Huston S, Green-Parsons A, Teach F. Maine 2020 Annual Report of Cancer. Maine CDC Cancer Registry. Available from: https://www.maine.gov/dhhs/sites/maine.gov.dhhs/files/2021-03/Maine%202020%20Annual%20Report%20of%20Cancer_03192021_Final.pdf
2. PDQ® Screening and Prevention Editorial Board. PDQ Colorectal Cancer Screening. Bethesda, MD: National Cancer Institute. Updated 10/20/2023. Available at: https://www.cancer.gov/types/colorectal/patient/colorectal-screening-pdq. Accessed 7/11/2024.
3. US Preventive Services Task Force. Screening for Colorectal Cancer: US Preventive Services Task Force Recommendation Statement. JAMA. 2021;325(19):1965–1977. doi:10.1001/jama.2021.6238
4. Holden D, Jonas D, Porterfield D, Reuland D, Harris R. Systematic review: Enhancing the use and quality of colorectal cancer screening. Ann Intern Med. 2010;152(10):668-676
5. Escoffery C, Fernandez M, Vernon S, et al. Patient navigation in a colorectal cancer screening program. J Public Health Manag Pract. 2015;21(5):433-440. doi:10.1097/PHH.0000000000000132.
6. Barzi, A., Lenz, H. J., Quinn, D. I., & Sadeghi, S. (2017). Comparative effectiveness of screening strategies for colorectal cancer. Cancer, 123(9), 1516-1527.
7. US Preventive Services Task Force. Final Recommendation Statement. Colorectal Cancer: Screening. June 2016. Available from: https://www.uspreventiveservicestaskforce.org
8. Lansdorp-Vogelaar I, Knudsen A, Brenner H. Cost-effectiveness of colorectal cancer screening – an overview. *Best Pract Res Clin Gastroenterol*. 2010 August; 24(4): 439–449. doi:10.1016/j.bpg.2010.04.004.

## 1B. Lung Cancer Screening

### Background

Lung cancer is the leading cause of cancer death in Maine for both men and women, with an age-adjusted mortality rate of 44.9 per 100,000.[1] The incidence of lung cancer in Maine (68.6 per 100,000) is significantly higher than the national average (55.6). Lung cancer is causally linked to several environmental factors including smoking, secondhand smoke, and radon exposure.[2] These causes are very common in Maine, particularly tobacco use and radon. Among Maine adults, 15.6% are current smokers.[3] This is higher than the national rate of 14.4%.[3] According to the American Lung Association, radon exposure is the second-leading cause after smoking.[4] One in three Maine homes tested was found to be above the recommended radon level.

Maine Cancer Foundation has awarded **11 lung cancer grants** totaling **$999,857.**

This has helped Maine Lung Cancer Coalition develop a statewide initiative that has resulted in **4,314** referrals for services and screening and **6,430** low-dose CT scans.

Currently, lung cancer screening by low-dose CT scan is recommended for adults aged 50-80 years old who have a history of smoking at least 20 packs a year who currently smoke or quit within the last 15 years.[5]

### Summary of MCF Grants 2015-2023

Since 2015, Maine Cancer Foundation has made a significant investment in Maine with the goal of reducing lung cancer incidence and mortality. In 2016, MCF awarded a lung cancer grant to Maine Lung Cancer Coalition (formerly The Maine LungCAPS Initiative). This grant totaled $400,000. The MLCC is implementing a multi-pronged set of interventions directed at two specific aims:

- Engaging and educating the general public, patients, health care providers, health care payers, and policymakers about evidence-based lung cancer prevention and screening practices and;
- Developing, implementing, and disseminating innovative strategies to increase access to evidence-based lung cancer prevention and screening services to the entire Maine population, focusing on high-risk individuals in rural, underserved areas of the state.

Additional lung cancer grants were awarded in 2018, 2021, and 2022 with the goal of increasing lung cancer screening and prevention efforts in the state. These organizations have focused on activities including developing new lung cancer screening guidelines, disseminating educational materials related to smoking cessation services, and implementing interventions to address barriers in access to care, including through targeting underserved and low-income regions of Maine.

Maine Cancer Foundation has awarded $999,857 dollars through 11 lung cancer screening grants, including:

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Maine Medical Center Research Institute | Integrating personalized risk information in Low-Dose CT (LDCT) screening for lung cancer | 2015 | $100,000 | Lung Cancer Screening | Scarborough | ME |
| Maine Medical Center | Maine Lung Cancer Coalition | 2016 | $400,000 | Lung Cancer Screening | Scarborough | ME |
| Maine Medical Center | Maine Primary Care Provider Lung Cancer Screening Survey | 2018 | $3,674 | Lung Cancer Screening | Scarborough | ME |
| Healthy Acadia | Downeast Cancer Screening Initiative | 2021 | $40,000 | Lung Cancer Screening | Ellsworth | ME |
| MaineHealth - Medical Center | Dissemination and Implementation of New Lung Cancer Screening Guidelines | 2021 | $39,979 | Lung Cancer Screening | Portland | ME |
| Cary Medical Center | Screen Aroostook for Lung Cancer | 2021 | $40,000 | Lung Cancer Screening | Caribou | ME |
| MaineHealth - Coastal Healthcare Alliance | Coastal Healthcare Alliance Comprehensive Lung Cancer Screening Program | 2021 | $39,650 | Lung Cancer Screening | Rockport | ME |
| St. Joseph Hospital - Community Care Partnership of Maine | Lung Cancer Prevention and Early Detection Project | 2021 | $39,946 | Lung Cancer Screening | Bangor | ME |
| MaineHealth - Maine Medical Center | Maine Lung Cancer Coalition - 2nd Generation | 2021 | $99,961 | Lung Cancer Screening | Portland | ME |
| MaineHealth - Healthy Community Coalition | Reducing Barriers to Lung Cancer Screening in Franklin County | 2022 | $99,824 | Lung Cancer Screening | Portland | ME |
| MaineHealth - Maine Medical Center | Improving Lung Cancer Mortality Through Increased Screening Capacity at MMC Cancer Institute | 2022 | $96,823 | Lung Cancer Screening | Portland | ME |

## Grant Results

MCF lung cancer grantees detailed a number of significant accomplishments with data to support their efforts. Among them include the following:

- Development of and launch of a new educational and informational website: https://mainelungcancercoalition.org
- 156 new partnerships have been formed between grantees and other organizations.
- 158 outreach events have been conducted. Members of the MLCC have delivered presentations both in community and academic settings.
- Two learning modules were designed to educate providers about integrating tobacco treatment along the continuum of lung cancer screening.
- 93 staff have received training and 13 new staff members have been hired.
- Provider education has been provided through webinars and learning communities. The MLCC has also engaged hospitals currently implementing or considering LDCT (low dose computed tomography) screening programs.
- 4,314 patients have been provided referrals to tobacco cessation programs or services.
- 6,430 low-dose CT (LDCT) scans were performed.
- 31 new cases of lung cancer have been identified.

### *Maine Lung Cancer Coalition*

The grant provided to the Maine Lung Cancer Coalition resulted in many achievements benefitting patients and met or exceeded the expectations they outlined at the start of the grant. Year one was spent building relationships and infrastructure and following years have focused on these partnerships working together to execute the MLCC's goals and deliverables. MLCC has been successful in forming relationships, building new partnerships, disseminating findings, and growing its membership and capacity.

The development and growth of the Lung Cancer Screening Learning Community exceeded expectations. The Learning Community has allowed MLCC to engage a wide range of providers who are leading or interested in establishing LDCT programs. The AEC has been successful in building data sets, preparing publications, and presenting findings nationally over a short period of time.

According to Maine Health's 2018 annual report, the MLCC is also engaging in health policy advocacy. In particular, it has been working with its partners to build capacity to collect and track patient screening and lung cancer diagnoses. As of 2018, 18 screening sites had been established across the state. These sites can provide LDCT scans to detect lung cancer at an early stage.

### *Screenings*

The grants awarded to the Maine Lung Cancer Coalition and other organizations have resulted in 6,430 LDCT scans performed among the target population. **It is estimated that these screening regimens will prevent between 30 to 36 cancer deaths and result in 387 to 488 life years gained**.

### *Methods for calculating life-years saved and cost-effectiveness*

Studies have found that low-dose computed tomography (LDCT) is an effective method of detecting lung cancer and reducing associated mortality. When screening adherence is high, over 90%, lung cancer mortality is reduced by at least 20%. However, studies have found that adherence to the yearly screening schedule is low. One study reported that out of 1,052,591 lung cancer patients who underwent screening from 2015-2019, only 22.3% of those eligible to continue a yearly screening regimen had a second examination within the recommended timeframe.

The US Preventative Services Task Force has found that testing by LDCT according to published guidelines yields the following outcomes:

- 23% of the population will be eligible for screening, about 23,000 individuals per 100,000 population.
- Per 23,000 individuals receiving screening out of a 100,000 population, 469 to 558 lung cancer deaths will be averted.
- Per 23,000 individuals receiving screening out of a 100,000 population, 6,018 to 7,596 life years will be gained.

Overall, MCF grants have resulted in an additional 6,430 LDCT scans being provided to patients. Receiving 1 screening has significant potential to improve health outcomes by catching lung cancer cases as early as possible, as shown by one grantee who provided 2,438 screenings resulting in the diagnosis of 31 new lung cancer cases. This is significantly higher than the average amount of cases predicted to be detected per screening when the population is adhering to yearly LDCT screening, indicating that these grants are increasing screening among an at-risk population that needs increased resources, access, outreach, and education.

Along with the benefits that come from receiving just one screening, the number of patients who will continue their yearly screening regimens started through MCF grants can be estimated using a 22% compliance rate. The outcomes of this are predicted below:

**Table 3: Outcomes for MCF Lung Cancer Screening Grants**

| Adjusted Screenings with Compliance Rate* | Number of Life-Years Saved* | | | Number of Cancer Deaths Averted* | | |
|---|---|---|---|---|---|---|
| | Low | Mid | High | Low | Mid | High |
| 1,479 | 387 | 438 | 488 | 30 | 33 | 36 |

**Table 4: Outcomes for MCF Lung Cancer Screening Grants**

| $ per Screening | Grant $ Per Life-Year Saved* | | | Grant $ Per Cancer Death Averted* | | |
|---|---|---|---|---|---|---|
| | Low | Mid | Low | Mid | Low | Mid |
| $89.65 | $1,490 | $1,317 | $1,180 | $19,114 | $17,458 | $16,065 |

## Impact of MCF Grants

The Maine Lung Cancer Coalition achieved many significant milestones and continues to grow on these achievements. This project has accomplished significantly more in terms of building infrastructure and capacity than similarly funded projects in other grant categories. As a result of these efforts, thousands of patients have been referred for screening and to tobacco cessation programs or services and nearly 6,500 LDCT scans were performed on Maine patients.

Due to these screening efforts, at least 31 new cases of lung cancer have been identified, highlighting the need for increased screening among the population served. The screenings provided by MCF are estimated to **prevent 30 to 36 cancer deaths** and result in **387 to 488 life years gained**. This number is based on a low average rate of adherence to yearly screening. The organizational infrastructure building efforts, expansion of access, and community education efforts that have resulted from this grant have the potential to increase this adherence rate, resulting in greater benefit to the targeted community.

There are likely to be additional outcomes from MCF's lung cancer grants not summarized in this report, as three grantees did not yet have data on the number of screenings provided or the change in screening rate.

### *References*


1. Yob D, Haggan K, Bancroft C, Huston S, Green-Parsons A, Teach F. Maine 2020 Annual Report of Cancer. Maine CDC Cancer Registry. Available from: https://www.maine.gov/dhhs/sites/maine.gov.dhhs/files/2021-03/Maine%202020%20Annual%20Report%20of%20Cancer_03192021_Final.pdf
2. Centers for Disease Control and Prevention. What Are the Risk Factors for Lung Cancer? Accessed November 2018. Available at: https://www.cdc.gov/cancer/lung/basic_info/risk_factors.htm.
3. Tobacco Prevention and Control Advisory Council. (2022) REPORT to Governor Janet T. Mills and the 131st Maine Legislature. Available at: https://www.maine.gov/dhhs/mecdc/population-health/hmp/ptm/documents/Tobacco_Advisory_Report_2022.pdf
4. Maine Lung Cancer Coalition. Risk Factors – Lung Cancer has many causes. Accessed November 2018. Available at: http://mainelungcancercoalition.org/.
5. US Preventive Services Task Force. Screening for Lung Cancer: US Preventive Services Task Force Recommendation Statement. JAMA. 2021;325(10):962–970. doi:10.1001/jama.2021.1117
6. Maine Health. 2018 Annual Report. Accessed April 2021. Available at: https://www.mainehealth.org/-/media/MaineHealth/PDFs/About-Us/2018-MaineHealth-Annual-Report.pdf

# 2. Transportation

## Background

Among the common barriers to health care, transportation stands out as both a geographically and economically challenging hurdle for cancer patients. Without personal transportation, patients face unfavorable odds in their efforts to access care. Even if a patient owns transportation, approximately 40% of Maine's population lives in rural areas far from the cancer care centers located in the metropolitan areas and neighboring states.[1] Previous research conducted by Maine Cancer Foundation and MDR found that patients living in rural areas of the state can travel well over 100 miles one way to receive cancer care within the state (not including out of state travel). [2]

Maine Cancer Foundation has awarded **83 transportation grants** totaling **$2,867,864**.

This has helped thousands of Mainers travel to cancer care appointments by providing a total of in **59,557** additional rides, resulting in **nearly 5 million miles** traveled.

Coordinating long distance travel or access to transportation, treatment schedule, and lodging can be significant obstacles to patients whose health is in decline or those with limited resources. Compounding the stress of coordinating travel is the financial burden of traveling long distances for care multiple times per month or week. These trips can quickly become costly in terms of fuel, highway tolls, and vehicle maintenance, and these additional costs disproportionately impact low-income and rural residents in Maine.[2] Overall, these transportation barriers are associated with greater rates of missed appointments, postponed prescriptions, and poorer care outcomes.[6]

## Summary of MCF Grants 2015-2023

Since 2015, the Maine Cancer Foundation has made significant investments in organizations around Maine with the goal of improving transportation for cancer patients. These organizations have implemented interventions such as utilizing volunteer and employee drivers to provide rides to patients, distributing gas cards or reimbursements for non-mileage expenses, participating in patient navigation programs at cancer care centers, and offering housing or lodging services/reimbursements to reduce the need to travel back and forth to cancer care centers. Some of the projects implemented awareness building components, but most served pre-established populations of need.

Maine Cancer Foundation has awarded $2,867,864 through 83 transportation grants to 39 organizations, including:

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Angel Flight Northeast | Changing Lives One Flight at a Time | 2018 | $30,000 | Transportation | North Andover | MA |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Angel Flight Northeast | Changing Lives One Flight at a Time | 2020 | $40,000 | Transportation | North Andover | MA |
| Angel Flight Northeast | Bridging the Gap Between Distance and Medical Care | 2022 | $60,000 | Transportation | North Andover | MA |
| Aroostook County Action Program | Project TEACH (Transportation, Education, Access, Care, and Housing) | 2021 | $35,000 | Transportation | Presque Isle | ME |
| Aroostook Regional Transportation System | ARTS Cancer Assistance Fund | 2022 | $60,000 | Transportation | Presque Isle | ME |
| Beth C. Wright Cancer Resource Center | Access to Cancer Treatment | 2015 | $7,000 | Transportation | Ellsworth | MA |
| Beth C. Wright Cancer Resource Center | Access to Cancer Treatment | 2016 | $15,000 | Transportation | Ellsworth | MA |
| Beth C. Wright Cancer Resource Center | Access to Cancer Treatment | 2017 | $7,500 | Transportation | Ellsworth | MA |
| Beth C. Wright Cancer Resource Center | Access To Cancer Treatment | 2017 | $50,000 | Transportation | Ellsworth | MA |
| Beth C. Wright Cancer Resource Center | Access To Cancer Treatment | 2019 | $60,000 | Transportation | Ellsworth | MA |
| Beth C. Wright Cancer Resource Center | Access To Cancer Treatment | 2021 | $50,000 | Transportation | Ellsworth | MA |
| Brians Ride Cancer Fund | Transportation and Lodging Assistance for Cancer Patients | 2018 | $40,000 | Transportation | Caribou | ME |
| Brian's Ride Cancer Fund | Transportation and Lodging Assistance for Cancer Patients | 2020 | $40,000 | Transportation | Caribou | ME |
| Cancer Resource Center of Western Maine | Cancer Resource Center of Western Maine: Access to Cancer Care | 2018 | $10,000 | Transportation | Norway | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| | through Transportation | | | | | |
| Cancer Resource Center of Western Maine | 2020-21 Transportation and Lodging Grant for Cancer Patients in Western Maine | 2019 | $30,000 | Transportation | Norway | ME |
| Cancer Resource Center of Western Maine | 2022-23 Transportation and Lodging Grant for Cancer Patients | 2021 | $40,000 | Transportation | Norway | ME |
| Central Maine Medical Center | Interim Transportation Coverage | 2022 | $31,120 | Transportation | Lewiston | ME |
| Community Concepts | Transportation | 2015 | $10,000 | Transportation | Lewiston | ME |
| Community Concepts | Transportation | 2016 | $15,000 | Transportation | Lewiston | ME |
| Community Concepts | The Cancer Patient Transportation Project | 2017 | $50,000 | Transportation | Lewiston | ME |
| Community Concepts | Community Concepts Transportation for Cancer Patients | 2019 | $60,000 | Transportation | Lewiston | ME |
| Dean Snell Cancer Foundation | Patient Transportation Assistance Program | 2015 | $10,000 | Transportation | Brunswick | ME |
| Dean Snell Cancer Foundation | Patient Transportation Assistance Program | 2016 | $15,000 | Transportation | Brunswick | ME |
| Dean Snell Cancer Foundation | Patient Transportation Assistance Program | 2017 | $7,500 | Transportation | Brunswick | ME |
| Dean Snell Cancer Foundation | Patient Transportation Program | 2017 | $45,000 | Transportation | Brunswick | ME |
| Dean Snell Cancer Foundation | Patient Transportation | 2019 | $60,000 | Transportation | Brunswick | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| | and Lodging Program | | | | | |
| Dean Snell Cancer Foundation | Patient Transportation & Lodging Program | 2021 | $50,000 | Transportation | Brunswick | ME |
| Dempsey Center | The Maine Fund for Cancer Patients | 2015 | $4,000 | Transportation | Lewiston | ME |
| Dempsey Center | The Maine Fund for Cancer Patients | 2016 | $4,000 | Transportation | Lewiston | ME |
| Dempsey Centers for Quality Cancer Care | Clayton's House, a Hospitality Home for Cancer Patients | 2021 | $35,000 | Transportation | Ellsworth | ME |
| Downeast Community Partners | DCP Rides for a Cure | 2017 | $50,000 | Transportation | Ellsworth | ME |
| Downeast Community Partners | DCP Rides for a Cure | 2019 | $60,000 | Transportation | Ellsworth | ME |
| Downeast Community Partners | DCP Rides for a Cure | 2021 | $50,000 | Transportation | Ellsworth | ME |
| Edgar J. (Guy) Paradis Cancer Fund | Support for Transportation to and from Cancer Services for St. John Valley Residents | 2020 | $40,000 | Transportation | Fort Kent | ME |
| Friends in Action | Friends in Action transportation | 2018 | $30,000 | Transportation | Ellsworth | ME |
| Friends in Action | Cancer Patient Transportation | 2020 | $20,000 | Transportation | Ellsworth | ME |
| Friends in Action | Friends in Action Transportation | 2022 | $28,250 | Transportation | Ellsworth | ME |
| Hospitality Homes | Hospitality Homes Maine Boston Network (MBN) | 2017 | $38,000 | Transportation | Boston | MA |
| Hospitality Homes | Ensuring Free Lodging and Transportation for Maine Cancer Patients Seeking Care in Boston | 2019 | $60,000 | Transportation | Boston | MA |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Hospitality Homes | Ensuring Free Lodging and Transportation for Maine Cancer Patients Seeking Care in Boston | 2021 | $50,000 | Transportation | Boston | MA |
| Island Connections | Support Increased Demand for Existing Programs | 2022 | $5,000 | Transportation | Bar Harbor | ME |
| Joe Andruzzi Foundation | Alleviating the Barrier of Transportation for Maine Residents Pilot Program | 2021 | $30,000 | Transportation | North Attleborough | MA |
| Kennebec Valley Community Action Program | KVCAP Cancer Transportation Project | 2017 | $50,000 | Transportation | Waterville | ME |
| Kennebec Valley Community Action Program | Transportation for cancer related services | 2019 | $50,000 | Transportation | Waterville | ME |
| Kennebec Valley Community Action Program | Transportation for Cancer Patients | 2022 | $60,000 | Transportation | Waterville | ME |
| Lake Region Senior Service | Healthcare Access Program | 2015 | $10,000 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Healthcare Access Program | 2016 | $15,000 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Cancer Patient Transportation | 2017 | $36,000 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Healthcare Access Program | 2017 | $7,500 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Cancer Patient Transportation Program | 2019 | $38,570 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Cancer Patient Transportation Program | 2022 | $27,000 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Transportation Mini-Grant | 2022 | $10,000 | Transportation | Bridgton | ME |
| Leukemia & Lymphoma Society | Increased Patient Transportation and Lodging for Maine Patients | 2021 | $50,000 | Transportation | Portland | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| MaineHealth - Maine Medical Center | Rideshare for Cancer Care | 2019 | $34,560 | Transportation | Portland | ME |
| Northern Light AR Gould Cancer Care | RideLink: Supporting Cancer Patient Transportation and Wellbeing | 2020 | $40,000 | Transportation | Presque Isle | ME |
| Northern Light EMMC | Supporting a Systemic Approach to Transportation and Lodging Assistance for Rural Cancer Care Patients | 2022 | $60,000 | Transportation | Bangor | ME |
| Northern Light Mercy Hospital | Piloting Uber Health as a Resource to Provide Reliable Transportation for Cancer Patients in the Portland Area | 2020 | $16,560 | Transportation | Portland | ME |
| Northern Light Eastern Maine Medical Center | Creating a Systematic Approach to Transportation and Lodging Assistance for Rural Cancer Care Patients | 2020 | $40,000 | Transportation | Bangor | ME |
| Passamaquoddy Tribe Pleasant Point Health Center | Pleasant Point Patient Assistance | 2019 | $45,840 | Transportation | Perry | ME |
| Passamaquoddy Tribe Pleasant Point Health Center | Cancer Patients Transportation and Lodging Assistance | 2022 | $59,998 | Transportation | Perry | ME |
| Passamaquoddy Tribe Pleasant Point Health Center | Transportation and Lodging for Cancer Patients | 2022 | $5,000 | Transportation | Perry | ME |
| Patient AirLife Services | Eliminating Transportation | 2022 | $60,000 | Transportation | Farmingdale | NY |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| | Barriers for Cancer Patients in Maine | | | | | |
| Patient Airlift Services | Eliminating Transportation Barriers for Patients in Maine | 2018 | $30,000 | Transportation | Farmingdale | NY |
| Patient Airlift Services | Eliminating Transportation Barriers for Cancer Patients in Maine | 2020 | $40,000 | Transportation | Farmingdale | NY |
| Penquis | Accessing Cancer Care | 2021 | $50,000 | Transportation | Bangor | ME |
| Penquis CAP | Access to Cancer Care | 2015 | $10,000 | Transportation | Bangor | ME |
| Penquis CAP | Access to Cancer Care | 2016 | $15,000 | Transportation | Bangor | ME |
| Penquis CAP | Access to Cancer Care | 2017 | $7,500 | Transportation | Bangor | ME |
| Penquis CAP | Accessing Cancer Care | 2017 | $50,000 | Transportation | Bangor | ME |
| Penquis CAP | Accessing Cancer Care | 2019 | $60,000 | Transportation | Bangor | ME |
| Snell Foundation | Transportation & Lodging Assistance Program | 2020 | $10,000 | Transportation | Biddeford | ME |
| St. Mary's Regional Medical Center | Showing Up: Improving Access to Care for Patients with Cancer | 2022 | $15,000 | Transportation | Lewiston | ME |
| The Boston House | Access for Maine Children | 2020 | $40,000 | Transportation | Brookline | MA |
| The Leukemia & Lymphoma Society | Other Medical Expenses (OME) | 2018 | $50,000 | Transportation | Wellesley | MA |
| Waldo Community Action Partners | MCPT–PBMC–WCGH Collaboration for Cancer Care Transportation | 2017 | $49,966 | Transportation | Belfast | ME |
| Waldo Community Action Partners | Midcoast Cancer Care | 2019 | $60,000 | Transportation | Belfast | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| | Transportation Network | | | | | |
| Waldo Community Action Partners | Midcoast Cancer Care Transportation Network | 2021 | $50,000 | Transportation | Belfast | ME |
| Washington Hancock Community Action | Transportation | 2016 | $12,000 | Transportation | Ellsworth | ME |
| Western Maine Transportation Services | Cancer Care-Related Transportation | 2022 | $20,000 | Transportation | Auburn | ME |
| York County Community Action Corporation | Connecting to Cancer Care | 2015 | $10,000 | Transportation | Sanford | ME |
| York County Community Action Corporation | Connecting to Cancer Care | 2017 | $50,000 | Transportation | Sanford | ME |
| York County Community Action Corporation | Connecting to Cancer Care | 2019 | $60,000 | Transportation | Sanford | ME |
| York County Community Action Corporation | Connecting to Cancer Care | 2021 | $30,000 | Transportation | Sanford | ME |

## Grant Results

The transportation grants provided by MCF from 2015-2023 resulted in several positive outcomes for grantees, Maine's communities and those receiving cancer care in Maine. A summary of some of these outcomes is provided below.

- 50 grantees reported building partnerships with outside organizations, resulting in a total of 294 additional partnerships.
- 76% involved the development and distribution of informational materials.
- 67% utilized outreach and media advertising events.
- A total of 3,564 individuals in the target population were educated about transportation options through education and outreach.
- A total of 1,799 volunteers and 393 employees provided one or more rides for cancer patients.
- Grantees provided a total of 2,493 gas cards averaging $92 per card.
- 59,557 trips were made with an average round trip of 115 miles per trip.
- A total of 8,024 repeat rides averaging 135 miles were provided.
- An estimated total of 5,881,017 miles were traveled as a result of the 48 grants providing milage data.

**As a result of transportation efforts, nearly 60,000 trips were provided to individuals in Maine to help them attend cancer care appointments; this includes populations from both rural and urban settings.**

In addition to overall findings on transportation grant outcomes and activities spanning from 2015 to 2023, the summary below provides detailed findings from grantees reporting from 2021-2023. Beginning in 2021, MDR and MCF adapted the existing survey to allow grantees to provide more specific information on the lodging and flight services they provide. Prior to 2021, several grantees did provide flight and lodging services, but this data could not be integrated into these more detailed findings and is not reflected below.

### Lodging

- 22 grantees helped 862 patients receive lodging or hotel services, totaling 2,173 nights of lodging provided since 2021.

### Flights

- Two reporting flight grants have provided air travel services, totaling 417 flights and 73,217 miles flown since 2021.
- 166 volunteer or employee pilots have provided 1 or more rides, and 58 commercial flights have been booked.
- The average number of flights per person is 5.

## Impact of MCF Grants

Published literature studying transportation initiatives is limited. More common are studies that have highlighted the extreme need for transportation services for cancer patients. As previously discussed, poorer populations are more likely to report transportation barriers when accessing health care in general. A systematic review of transportation and health needs literature suggests that between 10-51% impoverished patients experience transportation barriers that prevent care and may worsen health outcomes.[4] Another review found strong correlations between travel burden and patient quality of life and prognosis.[5] Recent research suggests that telemedicine may mitigate the burden of treatment for the most rural of cancer patients when routine care is needed, but this is reliant on a patient's access to appropriate technology and fails to relieve the travel burden when treatments such as radiation, chemotherapy, or surgery and diagnostics are needed.[6] Telemedicine may alleviate a portion of the travel burden, but it will never eliminate it for patients requiring ongoing treatment.

### *Methods for calculating cost-effectiveness*

The cost-effectiveness metrics selected for the transportation grants are the average cost per mile and ride. Total rides, rides per grant, total miles, and miles per grant are included to demonstrate the scale of impact the transportation grants have had. Out of the 83 total transportation grants awarded by the Maine Cancer Foundation, 70 have provided data on outcomes. Of grantees, 46 have provided detailed milage information. The cost measures are derived from totals and averages across the subset of 46 grantees who provided detailed data on mileage and costs.

The results of the cost-effectiveness calculations are listed below:

- Total rides provided – 52,561
- Average rides per grant – 1,143
- Total miles traveled – 4,862,190
- Average miles driven per grant – 105,700
- Average cost per mile - $0.35
- Average cost per ride - $32.63

### *Results*

Among the 46 grantees who reported detailed data, the estimated average cost per mile is about $0.35, and the average cost per ride is roughly $32.63. A total of 52,561 rides covered 4,862,190 miles in roughly five years of grant-making activity. Each grantee provided an average of 1,143 rides which spanned an average of 105,700 miles driven or flown per organization.

## Discussion

Results suggest that Maine Cancer Foundation transportation grants are achieving their short and mid-term outcomes of 1) increasing number of people in Maine utilizing transportation services to get to cancer treatments services, 2) increasing the ability of health care providers and patients to utilize transportation services made available by grantees; 3) increasing the number of patients receiving services for cancer care; and 4) decreasing the financial burden on patients with cancer or in recovery.

A total of 39,810 rides were provided to patients to receive cancer treatment, covering over three million miles of distance. It is likely that some of the patients who received transportation through these grants would not have been able to get to treatment without these services, resulting in missed appointments, lower compliance rates for screening or follow-ups, or possibly even a lack of treatment altogether. In addition, those who may have found alternative transportation may have had to pay for it themselves, potentially creating a financial burden for those unable to afford it.

If 100% of the grant funding is passed along to the patients in the form of transportation, it is reasonable to conclude that on average, each person served would save $585.54 as a result receiving transportation and lodging services. The true cost savings per person may be higher or lower than this accounting for grantee costs and cost savings provided though economies of scale. Some funding goes toward administration, marketing and advertising, networking, or vehicle maintenance. To maximize the funding benefits for the patients, as much of the money should go towards providing transportation services as possible.

Some caution should be taken when interpreting these results. They only represent the data of 31 grants (apart from the average cost per person estimate which was calculated using 44 of the grants). These estimates could change with the additional data from the other 25 grants. There is variance in the estimates produced by the analysis. The cost of transportation per person can vary dramatically for individuals based on their mode of transportation, how many rides they take, and what distance they travel. Similarly, the actual cost per ride and the average number of miles per trip can vary significantly.

## *References*


1. U.S. Census Bureau, 2020 Census.
2. Madden P, Charles J. Maine Cancer Foundation Transportation Needs Assessment Summary Report. Portland, Maine: Market Decisions Research; 2017.
3. Wolfe, M. K., McDonald, N. C., & Holmes, G. M. (2020). Transportation Barriers to Health Care in the United States: Findings From the National Health Interview Survey, 1997-2017. *American journal of public health*, *110*(6), 815–822. https://doi.org/10.2105/AJPH.2020.305579https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7204444/
4. Syed S, Gerber B, Sharp L. Traveling towards disease: Transportation barriers to health care access. J Community Health. 2013;38:976-993. doi:10.1007/s10900-013-9681-1.
5. Ambroggi M, Biasini C, Del Giovane C, Fornari F, Cavanna L. Distance as a Barrier to Cancer Diagnosis and Treatment: Review of the Literature. Oncologist. 2015;20(12):1378-85.
6. Wercholuk, A. N., Parikh, A. A., & Snyder, R. A. (2022b). The road less traveled: Transportation barriers to cancer care delivery in the rural patient population. *JCO Oncology Practice*, *18*(9), 652–662. https://doi.org/10.1200/op.22.00122

# 3. Patient Navigation

## Background

Patient navigation focuses heavily on reducing barriers to cancer care. The barriers addressed by navigators vary widely but commonly include timeliness of care, finances and insurance, transportation, and general support during the patient's experience with cancer care. Benefits from patient navigation are largely expressed during the early stages of intervention which include prevention, screening, and diagnostics.[1]

Studies have demonstrated that patient navigation can significantly reduce the time to resolution for abnormal screening results.[1,2] Improvements to the diagnostic resolution timeframe are most pronounced among socioeconomically disadvantaged populations, particularly when portions of the population are uninsured or have low levels of health literacy.[3,4]

Maine Cancer Foundation has awarded **17 patient navigation grants** totaling **$2,585,847**.

This has resulted in **21,473 patients identified for screening** and **5,442 additional referrals** for diagnostic follow-up provided.

A study of patient navigator programs in Pennsylvania hospitals found that most navigator time was spent on issues related to financial problems, transportation, and end-of-life issues such as arrangements for dependent care.[5] On average, 169 minutes were spent on financial navigation, 74 on transportation, and between 60 to 65 for end-of-life issues.[5] The navigators play an important role helping patients coordinate the various and often overwhelming aspects of their care and personal lives following abnormal screening and positive diagnostic results.

## Summary of MCF Grants 2015-2023

Since 2015, Maine Cancer Foundation has made significant investments in organizations around Maine with the goal of providing patient navigation services for cancer patients. In support of these efforts, Maine Cancer Foundation awarded three-year capacity-building grants to organizations to develop, implement, and sustain patient navigation programs that support patients through a cancer diagnosis. These organizations have implemented evidenced-based interventions, such as providing navigation for topics like insurance and financial strategies, transportation, and the coordination of cancer care. These strategies have been demonstrated to reduce the time to diagnostic resolution which, in cases of cancer positive diagnoses, can result in more expedient intervention and better health outcomes. Many of these projects involved systems changes, but also include components to provide education, increase awareness, and increase access to individuals who have problems getting preventative treatment and screening.

Since 2015, Maine Cancer Foundation has awarded $2,585,848 through 17 multi-year patient navigation grants to 15 organizations, including:

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Aroostook Medical Center | Early Access Patient Navigator | 2015 | $164,000 | Patient Navigator | Presque Isle | ME |
| Caring Connections/Bangor YMCA | Caring Connections Patient Navigator Position | 2017 | $110,386 | Patient Navigator | Bangor | ME |
| Cary Medical Center | Navigating the Journey | 2018 | $161,557 | Patient Navigator | Caribou | ME |
| Central Maine Medical Center | Lung Screening Navigator with Tracking and Reporting Software System | 2017 | $164,000 | Patient Navigator | Lewiston | ME |
| Greater Portland Health | Patient navigator to reduce cancer incidence and mortality rates among minority populations | 2018 | $164,000 | Patient Navigator | Portland | ME |
| Healthy Acadia | Downeast Cancer Patient Navigation | 2016 | $164,000 | Patient Navigator | Ellsworth | ME |
| Healthy Acadia | Downeast Cancer Patient Navigation through Continuum of Care | 2019 | $111,368 | Patient Navigator | Ellsworth | ME |
| Healthy Acadia | Downeast Cancer Patient Navigation Across the Continuum of Care | 2022 | $130,000 | Patient Navigator | Ellsworth | ME |
| Healthy Community Coalition of Greater Franklin County | Franklin's Navigator Program for Colorectal Cancer Screening | 2015 | $164,000 | Patient Navigator | Farmington | ME |
| Katahdin Valley Health Center | KVHC Patient Navigator Project | 2018 | $164,000 | Patient Navigator | Patten | ME |
| Maine Mobile Health Program | Maine Immigrant Patient navigation Project | 2016 | $138,725 | Patient Navigator | Augusta | ME |
| MaineGeneral Medical Center | Reducing Barriers to Cancer Care for Low Income, Rural Residents | 2017 | $161,562 | Patient Navigator | Augusta | ME |
| Mount Desert Island Hospital | Establishing a Patient Navigator Program at Mount Desert Island Hospital | 2017 | $161,614 | Patient Navigator | Bar Harbor | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Pen Bay Medical Center | Pen Bay Medical Center, Patient Navigator Program | 2017 | $161,388 | Patient Navigator | Rockland | ME |
| Penobscot Community Health Care | Eliminating Barriers to Cancer Screening through Use of Navigator Medical Assistants | 2015 | $164,000 | Patient Navigator | Bangor | ME |
| Sebasticook Valley Health | Patient Navigation Outreach Program | 2015 | $137,248 | Patient Navigator | Pittsfield | ME |
| Southern Maine Health Care | Ambulatory Nurse Navigator with emphasis on Lung Cancer | 2016 | $164,000 | Patient Navigator | Biddeford | ME |

## Grant Results

The patient navigation grants provided by MCF from 2015-2023 resulted in several positive outcomes for grantees, Maine's communities and those receiving cancer care in Maine. A majority of the grant-funded programs that began with seed funding from Maine Cancer Foundation continue to exist and remain sustained by the applying organization. A summary of some of these outcomes is provided below.

- More than 50,913 individuals were targeted/eligible for services as a part of the patient navigation grants.
- Grants resulted in 151 additional partnerships with 94% of grantees reporting efforts to build new partnerships.
- 94% developed materials that were distributed to raise awareness of available resources.
- 75% utilized outreach and media advertising events.
- 100% of grants resulted in staff receiving additional training related to patient navigation services, with 124 current staff members receiving training.
- 88% of the grants hired additional staff. A total of 31 new staff members were hired as a result of the grants.
- 93% of grants included components to increase patient access to care.
- More than 21,473 patients were newly identified for cancer screening.
- 5,442 referrals for follow-ups were provided.
- 83% of grantees reduced the time between referral and follow-up screening or diagnostics.
- 70% of grantees reported improved screening rates for one or more of the following – breast, lung, cervical, colorectal, and skin cancer.
- 992 individuals were provided with financial resources.
- 494 individuals were assisted with insurance navigation.
- 469 individuals were provided with social services.

- 585 individuals were assisted with transportation services.
- 684 individuals were assisted with other services.

**It is estimated that due to patient navigator efforts, more than 1,000 individuals were connected with cancer care resources**. This includes specific high-risk populations, including those without health insurance, and those lacking transportation to reach their provider. Given the continuation of many of these navigation programs, it can be assumed that this number will continue to grow over the lifetime of the programs.

## Impact of MCF Grants

The primary focus of patient navigation is increasing the expediency of diagnostic resolution and providing reliable guidance to patients as they navigate the cancer care pathway. Most patient navigation relates to issues with insurance, transportation, and coordinating care. Successful programs have been shown to reduce the diagnostic resolution time and speed up care. Additionally, navigators assisting patients with accessing resources can increase the quality of the experience and patient satisfaction.

### *MDR Methods for calculating outcomes*

The metrics for patient navigation were chosen based on the most complete data supplied by the grantees. A challenge in measuring patient navigation outcomes is that many grantees were focused on different aspects of the patient navigation experience – some with increasing access and reducing barriers for patients, others connecting patients with resources, and still others with identifying patients for screening and increasing screening rates.

**Table 3: Patient Navigation Outcomes – Referrals and Reducing Follow-up Time**

| Number of grants working to reduce time between identification and follow-up/diagnosis | Number of patients newly identified for screening | Referrals for diagnostic follow-up provided | Time between identification and follow-up/diagnosis | |
|---|---|---|---|---|
| | | | Baseline | Post |
| 10 | 21,473 | 5,442 | 72 days* | 30 days* |

**Note: Only three grantees measured and provided data on pre/post follow up times. Use caution when drawing conclusions for the larger population.*

**Table 4: Patient Navigation Outcomes – Increased Screening**

| Number of grants with components to improve screening rates | % of grants improving screening rates | Lung Cancer Screening Rate | | Cervical Cancer Screening Rate | | Colorectal Cancer Screening Rate | | Breast Cancer Screening Rate | |
|---|---|---|---|---|---|---|---|---|---|
| | | Base | Post | Base | Post | Base | Post | Base | Post |
| 7 | 67%* | 22% | 23% | 61% | 63% | 55% | 63% | 61% | 65% |

**Among grantees who provided data on pre/post screening rates*

### *Results*

Among newly identified patients needing screening, 5,442 received referrals for follow-up diagnostics. Patient navigators connected more than 1,000 patients with some type of resource or assistive services, including financial (993), insurance (494), transportation (585), social (469), and other services (684). These individuals received final assistance, health insurance navigation, connections with transportation and social services, as well as other help. In addition to these resources, 67% of grantees saw an improvement in their screening rates with lung, cervical, colorectal and breast cancer screening rates all improving from baseline.

### *Discussion*

Given the variety of activities and work being conducted by patient navigation grantees, it is difficult to summarize the overall impact or cost effectiveness of MCF's grants. However, among the data that was provided by grantees, the results suggest that MCF funding is being effectively used to hire and train navigators and other staff, educate patients, provide referrals for screening and treatment, and provide various types of resources that includes financial help, education, transportation, and help navigating insurance or coordinating care. While based on limited data from two grantees, the percentage of patients who were unable to access care decreased after receiving patient navigation services as a result of the grant efforts, from 70% at baseline to 34%. Screening rates for lung, cervical, colorectal and breast cancer improved between 1% and 8%.

Navigators can help reduce the amount of time between abnormal cancer screening tests and follow-up diagnostics by communicating and helping patients with appointments, insurance issues, and other barriers. This is especially true among low-income, uninsured, and minority populations. Nine grantees reported working on reducing the time for diagnostic follow-up and all reported a reduction in wait times. Only three grantees reported data on the number of days between diagnosis and follow-up. While all showed improvement in the days between diagnosis and follow-up (from 72 days down to 30 days), this limited information may not accurately reflect totals across all grantees. This component of patient navigation should be monitored going forward to confirm these positive findings.

Another potential issue with patient navigation is the lower rate of conversion from identification of patients needed screening to actual referrals and appointments with providers. While grantees noted 21,218 individuals were newly identified for screening, only a small percentage of individuals were provided with an actual referral. As was noted by some grantees there can be significant capacity constraints that prevent grantees from reaching out to everyone. Limited staffing, coupled with the personalized service required from patient navigation, means there simply aren't enough hours in the day to contact everyone. In addition, reluctance, or refusal from individuals to receive cancer screening and a lack of providers or availability of providers can also make it limit the ability of navigators to provide referrals to those in need of screening.

As we continue to get more complete data from grantees going forward, it will help confirm the positive impact of patient navigators in the state and allow for a more robust description of overall grant-making effectiveness. The summary statistics and estimated metrics provided here likely underrepresent the overall impact of these patient navigation grants to those in the state.

## *References*


1. Chan, R. J., Milch, V. E., Crawford-Williams, F., Agbejule, O. A., Joseph, R., Johal, J., Dick, N., Wallen, M. P., Ratcliffe, J., Agarwal, A., Nekhlyudov, L., Tieu, M., Al-Momani, M., Turnbull, S., Sathiaraj, R., Keefe, D., & Hart, N. H. (2023). Patient navigation across the cancer care continuum: An overview of systematic reviews and emerging literature. CA: A Cancer Journal for Clinicians, 73(6), 565–589. https://doi.org/10.3322/caac.21788
2. Wu, Y. L., Padmalatha K.M., S., Yu, T., Lin, Y., Ku, H., Tsai, Y., Chang, Y., & Ko, N. (2021). Is nurse-led case management effective in improving treatment outcomes for cancer patients? A systematic review and meta-analysis. Journal of Advanced Nursing, 77(10), 3953–3963. https://doi.org/10.1111/jan.14874
3. Raich PC, Whitley EM, Thorland W, Valverde P, Fairclough D, Denver Patient Navigation Research Program. Patient navigation improves cancer diagnostic resolution: an individually randomized clinical trial in an underserved population. Cancer Epidemiol Biomarkers Prev. 2012;21(10):1629-38.
4. Battaglia TA, Bak SM, Heeren T, et al. Boston Patient Navigation Research Program: the impact of navigation on time to diagnostic resolution after abnormal cancer screening. Cancer Epidemiol Biomarkers Prev. 2012;21(10):1645-54.
5. Lin C, Schwaderer K, Morgenlander K, et al. Factors associated with patient navigators' time spent on reducing barriers to cancer treatment. J Natl Med Assoc. 2008;100(11):1290-1297. doi:10.1016/S00279684(15)31507-8

# 4. HPV Vaccination

## Background

HPV is causally associated with cervical, vaginal, vulvar, penile, anal, and oropharyngeal cancers, and is the primary cause of cervical cancer among women worldwide.[1] Cervical cancer is highest in women 50+, caused by early infection that slowly progresses to cancer.[2] In Maine, the rate of HPV-related cancer is estimated to be around 14.7 per 100,000.[1] Among females in Maine, the rate of HPV-related cancers is 14.8 per 100,000, while among males, the rate is 14.6.[1] HPV-related cancers are associated most frequently with two strains of the virus, types 16 and 18, but there are over 200 variants of HPV found in the human body.[3] Vaccines in the U.S. protect against these two types 16 and 18 in addition to about ten others depending on the vaccine variant. Both boys and girls ages 9 to 26 are encouraged to get a two or three dose vaccine sequence per the CDC's recommendations.[3]

Maine Cancer Foundation has awarded **5 HPV vaccination grants** totaling **$573,572.**

This has resulted in 698 additional HPV vaccinations, roughly 13% of the eligible population.

The efficacy of HPV vaccines has been demonstrated in clinical trials evaluating HPV-associated conditions and persistent infection. In addition, modeling studies have shown consistently that the routine vaccination is a cost-effective use of public health resources, as long as vaccine duration of protection is sufficient.[4] Given that the HPV vaccine was first recommended for use in the US in 2006, more time is needed to fully assess its population-level effects on HPV associated cancers in the US. However, early studies based on incidence trends have predicted a decrease in cervical cancer among vaccinated women.[5] When received prior to first HPV infection, the vaccine is highly protective against strains 16/18, achieving between 91-100% efficacy among women under 26.[2]

## Summary of MCF Grants 2017-2023

The Maine Cancer Foundation has made a significant investment to improve HPV vaccination rates in Maine. Since 2015 Maine Cancer Foundation has awarded 5 HPV grants totaling $573,572 to the following organizations:

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Maine Quality Counts | HPV Vaccination Learning Collaborative | 2017 | $264,201 | HPV Vaccination | Manchester | ME |
| Maine Pharmacy Association | HPV Vaccination Continuous Learning Programming with Maine Pharmacy Association | 2019 | $2,269 | HPV Vaccination | Augusta | ME |
| Maine Quality Counts | Maine HPV Project ECHO | 2019 | $91,916 | HPV Vaccination | Manchester | ME |

| | | | | | | |
|---|---|---|---|---|---|---|
| Maine Medical Education Trust | HPV ECHO No-Cost Extension | 2020 | $24,238 | HPV Vaccination | Manchester | ME |
| Maine Medical Association Center for Quality | Creating Innovative Medical and Dental Pathways for HPV Vaccination Education to Increase HPV Vaccination Rates in Maine | 2021 | $190,948 | HPV Vaccination | Manchester | ME |

***Grantee implemented funding across four separate practices.*

The primary focus of the HPV grants is increasing vaccination rates with the goal of preventing HPV-associated cancers. This organization implemented evidence-based interventions, provider reminder systems linked to patient EHRs, that have been shown to increase HPV vaccination rates. The project involved extensive health care provider education, capacity assessments of participating practices, and significant updates to EHR systems used to track vaccination status and HPV data.

## Grant Results

The HPV grants provided by MCF between 2017 and 2023 resulted in several positive outcomes for the targeted pediatric practices and their patients. A summary of some of these outcomes is provided below.

- 8,724 individuals were included in the target population between the two grants, 5,474 were identified for vaccination.
- The grant resulted in 32 additional partnerships with participating practices.
- 4 grants included the development and distribution of educational materials to the participating practices.
- 3 grants provided training to practice staff, a total of 225 were trained.
- Both grants included components to expand patient access to services including establishing vaccine-only clinics, setting up nurse administered vaccine appointments, providing education for parents and patients, and enabling children and young adults to receive vaccines while at the dentist's office.
- All 3 grants reporting vaccination rates saw an increased vaccination rate across the participating practices, with an average increase of 8% across all practices.
- The grants resulted in 698 additional vaccinations.
- The estimated per vaccine cost, based on the combined value of the grants, is $478.67.

## Impact of MCF Grants

HPV vaccination has been demonstrated to be highly effective at preventing infections from common cancer-causing strains in men and women aged 9-26, particularly when received before first HPV exposure. While more time is needed to evaluate full population level impacts of widespread HPV vaccination, early models predict a decrease in cervical cancer and cervical pre-cancers caused by HPV have dropped by 40% among vaccinated women.[6]

MDR Methods

**Table 5: HPV Vaccination Outcomes**

| Total number of patients | Number of patients identified for HPV vaccination | Estimated Additional Vaccinations Provided | Grant Dollar per Vaccination |
|---|---|---|---|
| 8,724 | 5,474 | 698 | $478.67 |

## *Results*

Across all practices targeted by these grants that have reported on population served and vaccination rate, an additional 13% of the eligible population has received HPV vaccination at an estimated cost of $478.67 per vaccination. This is based on the total amount invested into the projects relative to the number of vaccinations completed. It is expected that the cost per vaccination will continue to decrease as both grants continue.

## *Discussion*

Results indicate that the HPV vaccination grants increased the rate of HPV vaccination among adolescents in the participating practices. Increased vaccination rates are likely to have long-term reductive effects on the rates of HPV-related cancer among both men and women. The procedural and infrastructural changes implanted in this initiative have proven to be successful models for increasing vaccination rates. It is likely that these methods would be highly successful in other areas as well. It appears that this was a productive, well-organized, and impactful effort to address insufficient HPV immunization among Maine children.

Most of the work has focused on building infrastructure and facilitating provider education to help increase vaccination rates. New EHRs, provider trainings, and revisions of processes and protocols were necessary to boost the rates at each practice. The quality of the data provided for this grant is relatively high, particularly with respect to the vaccination rates. All the practices involved provided target population estimates, pre-/post-intervention vaccination rates, and everything was reported consistently across the practices. The results of the analysis should be considered accurate for this grant category and are likely to represent the true impact of the grantee's activity.

## *References*


1. Yob D, Haggan K, Bancroft C, Huston S, Green-Parsons A, Teach F. Maine 2020 Annual Report of Cancer. Maine CDC Cancer Registry. Available from: https://www.maine.gov/dhhs/sites/maine.gov.dhhs/files/2021-03/Maine%202020%20Annual%20Report%20of%20Cancer_03192021_Final.pdf
2. Kamolratanakul, S., & Pitisuttithum, P. (2021). Human papillomavirus vaccine efficacy and effectiveness against cancer. Vaccines, 9(12), 1413. https://doi.org/10.3390/vaccines9121413
3. Meites E, Kempe A, Markowitz LE. Use of a 2-Dose Schedule for Human Papillomavirus Vaccination — Updated Recommendations of the Advisory Committee on Immunization Practices. MMWR Morb Mortal Wkly Rep 2016;65:1405–1408. DOI: http://dx.doi.org/10.15585/mmwr.mm6549a5
4. Chesson HW, Ekwueme DU, Saraiya M, et al. Cost-effectiveness of Human Papillomavirus Vaccination in the United States. Emerging Infectious Diseases. 2008;14(2):244-251. doi:10.3201/eid1402.070499.
5. Pei, J., Shu, T., Wu, C., Li, M., Xu, M., Jiang, M., & Zhu, C. (2023). Impact of human papillomavirus vaccine on cervical cancer epidemic: Evidence from the surveillance, epidemiology, and end results program. Frontiers in Public Health, 10. https://doi.org/10.3389/fpubh.2022.998174
6. Centers for Disease Control and Prevention. (2024, July 9). HPV vaccination. Centers for Disease Control and Prevention. https://www.cdc.gov/hpv/vaccines/?CDC_AAref_Val=https%3A%2F%2Fwww.cdc.gov%2Fhpv%2Fparents%2Fvaccine-for-hpv.html

# 5. Tobacco Prevention and Cessation

## & The Youth Tobacco Media Campaign

### Background

Maine Cancer Foundation has awarded **33 tobacco grants** totaling **$2,958,099.**

This has resulted in **6,596 individuals receiving referrals** to tobacco cessation services and **16,579 receiving tobacco prevention education**.

Tobacco use is one of the most well-studied causes of cancer and the leading cause of preventable disease, disability and death in the US.[1] Using tobacco is associated with higher rates of cancer incidence and mortality for lung cancer and many other types of cancer.[2] The rate of tobacco-related cancer, excluding lung and bronchus cancer, in Maine is 132.3 per 100,000 each year, significantly higher than the US rate of 125.8.[3] The Maine rate of lung and bronchus cancer (68.6 per 100,000) is also significantly higher than the national rate (56.2).[3] Tobacco-related cancers are the leading cancer in Maine both by incidence and mortality (2,548 and 1,026 in 2017).[3]

Reducing tobacco use requires a multipronged approach involving "educational, clinical, regulatory, economic, and social strategies" aimed at increasing quitting, reducing use and secondhand smoke exposure, preventing youth from becoming new smokers, and addressing tobacco disparities between socioeconomic groups.[4] The CDC has funded tobacco interventions from the federal to local levels, and their research has found that the longest running programs are the most effective at reducing both tobacco use and tobacco-related cancer incidence.[4] Reductions in tobacco use among youth in Florida were 50% and 35% among middle and high school students following a youth-focused media campaign.[4] California, the state maintaining the longest-running tobacco control program, reduced the adult smoking prevalence from 22.7% to 11.9% in a 22-year period while its lung cancer incidence rate declined four times faster than the rest of the country.[4]

In 2021, 15.6% of adults in Maine reported using cigarettes.[5] Cigarette use among Maine youth is lower; 5.5% of high schoolers report currently smoking cigarettes.[6] Including all tobacco use, however, this figure is much higher; 18.6% of Maine high school youth reported currently using any tobacco product including e-cigarettes in 2021.[6] Tobacco companies spend an estimated $48 million in Maine to market their products.[7] Tobacco companies deny marketing to youth, but use branding, particularly for e-cigarettes, with colors and flavors appealing to young people, and 9 out of 10 daily smokers start before they are 18 years old. Tobacco companies continually look to gain replacement smokers for their products. Youth are highly influenced through digital engagement, and one in four Maine high school students report experimenting with smoking.[8]

In an effort to prevent Maine youth from using tobacco products, a collaboration between Maine Cancer Foundation, Maine Center for Disease Control and Prevention and Rinck Advertising formed to develop a youth tobacco prevention campaign. Utilizing qualitative data from Maine youth focus groups, "**You Are the Target**" is a counter-marketing campaign that strategically intercepts youth via digital media platforms. Effective and long-term programs are crucial to reducing tobacco use and decreasing the incidence of tobacco-related cancers.

## Summary of MCF Grants 2015-2023

Since 2015, Maine Cancer Foundation has made significant investments to reduce tobacco use and tobacco-related cancers in the state of Maine. The organizations receiving MCF grants have implemented a number of evidenced-based interventions which have included increasing outreach to youth, referring smokers to programs and quitting resources, and implementation of media campaigns that have been shown to reduce tobacco use. Many of these projects involved outreach and awareness aimed at connecting smokers or those considering smoking with cessation and prevention services. Referrals to cessation classes, counseling, programs, and the Maine Tobacco Quit Link comprise the bulk of grantee activities outside of awareness building.

Since 2015, Maine Cancer Foundation has awarded **$2,958,099** through 33 tobacco grants, including:

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Aroostook County Action Program | Tobacco Cessation for Aroostook County Adults | 2019 | $79,310 | Tobacco | Houlton | ME |
| Bangor Public Health and Community Services | Tobacco Treatment Partnership in Bangor | 2022 | $99,126 | Tobacco Grantee | Bangor | ME |
| Breathe Easy Coalition of Maine, City of Portland | Addressing Disparities in Tobacco Use and Exposure through Policy and Environmental Change | 2015 | $74,101 | Tobacco | Portland | ME |
| Down East AIDS Network and the Health Equity Alliance | LGBTQ Tobacco Equity Project | 2015 | $57,669 | Tobacco | Ellsworth | ME |
| Healthy Acadia | Reducing Tobacco Use in Downeast Maine | 2017 | $75,477 | Tobacco | Ellsworth | ME |
| Healthy Androscoggin | Tobacco Education and Cessation Support for Adults in Androscoggin Country | 2017 | $52,419 | Tobacco Cessation | Lewiston | ME |
| Healthy Androscoggin | Preventing Youth Smoking Through Community Education: The Tobacco 21 Law | 2018 | $94,816 | Tobacco | Lewiston | ME |
| Healthy Androscoggin | Tobacco Support Group | 2019 | $9,123 | Tobacco | Lewiston | ME |
| Healthy Androscoggin | New Mainer focused tobacco interventions | 2022 | $80,000 | Tobacco Grantee | Lewiston | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Healthy Communities of the Capital Area | Reaching More Moms, their Friends and Family | 2017 | $25,000 | Tobacco | Gardiner | ME |
| Healthy Communities of the Capital Area | Expanding Partners and Increasing Tobacco Prevention, Assessment, and Treatment for LGBTQ+ Youth and Young Adults | 2022 | $100,000 | Tobacco Grantee | Gardiner | ME |
| Healthy Community Coalition of Greater Franklin County | Tobacco Free Franklin (Two Year Request) | 2015 | $199,976 | Tobacco | Farmington | ME |
| Kennebec Behavioral Health | KBH Clubhouse Tobacco Cessation Needs Assessment | 2019 | $7,500 | Tobacco | Augusta | ME |
| Kennebec Behavioral Health | Continuing Tobacco Cessation at KBH Clubhouses | 2022 | $2,500 | Tobacco | Augusta | ME |
| Maine General Health | Quitting smoking is hard, finding support shouldn't be: Expanding individual and group treatment options in central Maine | 2022 | $100,000 | Tobacco Grantee | Augusta | ME |
| Maine Public Health Association | MPHA Tobacco Coalition Cancer Prevention | 2017 | $10,000 | Tobacco | Augusta | ME |
| Maine Public Health Association | Maine Tobacco Coalition for Cancer Prevention | 2017 | $99,264 | Tobacco | Augusta | ME |
| Maine Public Health Association | Tobacco Prevention and Control Communications Project | 2018 | $94,275 | Tobacco | Augusta | ME |
| Maine Transgender Network | Transgender Cancer reduction through Provider Education | 2022 | $80,000 | Tobacco Grantee | Portland | ME |
| MaineGeneral Medical Center | Engaging Rural, Low-Income Populations in Tobacco Cessation: A Community-Based Approach | 2018 | $91,959 | Tobacco | Waterville | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| MaineHealth – Center for Tobacco Independence | Building Capacity in Primary Care to Address Tobacco Dependence | 2016 | $50,000 | Tobacco | Portland | ME |
| MaineHealth - MaineHealth Cancer Care Network | Reducing tobacco use in oncology patients who continue to smoke while receiving treatment | 2019 | $71,398 | Tobacco | Scarborough | ME |
| MaineHealth Care at Home | Tobacco Treatment Groups and Support | 2019 | $56,437 | Tobacco | Saco | ME |
| Mid Coast Hospital | Increasing Capacity to Provide Group Tobacco Treatment at Mid Coast Hospital | 2018 | $28,987 | Tobacco | Brunswick | ME |
| Mid Coast Hospital - Access Health | Midcoast Youth Tobacco Intervention | 2015 | $16,099 | Tobacco | Brunswick | ME |
| New Mainers Public Health Initiative | Smoking Prevention Campaign for New Mainers | 2019 | $100,000 | Tobacco | Lewiston | ME |
| Penobscot Bay YMCA/Knox County Community Health Coalition | Fresh Quit Knox County | 2018 | $90,307 | Tobacco | Rockport | ME |
| Penobscot Community Health Care | Peer-Led Tobacco Cessation Training at Unlimited Solutions Clubhouse | 2017 | $26,116 | Tobacco Cessation | Bangor | ME |
| Portland Public Health Divison | Portland Smoke Free Downtown Initiative | 2022 | $40,000 | Tobacco Grantee | Portland | ME |
| Public Health Research Institute | Wetamawe (Tobacco) | 2017 | $100,000 | Tobacco | Deer Isle | ME |
| Rinck Advertising | Youth Tobacco Prevention Campaign | 2017 | $750,000 | Tobacco Prevention | Lewiston | ME |
| Wabanaki Public Health and Wellness | Wetamaweyi (Tobacco in Penobscot) | 2022 | $100,000 | Tobacco Grantee | Bangor | ME |
| Waldo County General Hospital | Reducing Smoking Rates among Patients with COPD | 2018 | $96,240 | Tobacco | Rockland | ME |

## Grant Results

The tobacco grants provided by MCF from 2015-2023 resulted in several positive outcomes for grantees, Maine's communities, and those with a smoking habit. A summary of some of these outcomes is provided below.

- 236,690 individuals were included in the target population for the grantees.

- 100% of projects resulted in new or expanded partnerships with outside organizations, totaling 210 partnerships across 26 organizations.
- 80% utilized outreach and media advertising events.
- 86% of grants resulted in staff receiving additional training related to tobacco cessation and prevention, with 660 staff members receiving training.
- 46% of the grants hired additional staff. A total of 16 new staff members were hired with the grants.
- 6,596 individuals were referred to cessation programs, 16,579 people received tobacco prevention education, and 1,934 received tobacco cessation education.
- 86% of projects provided referrals to Maine QuitLink, 67% provided referrals to cessation classes, and 53% provided referrals to one-on-one counseling.
- A total of 11,132 tobacco users were identified as a result of grantee programs.
- 60% of grants included components to increase patient access to care.

**As a result of tobacco grantee efforts, a total of 556 individuals were confirmed to have quit or reduced their tobacco use, and many more who likely quit or reduced their use.** This includes both youth and adult smokers of varying socioeconomic statuses from across the state.

Maine Cancer Foundation conducted a survey of Maine youth aged 13 to 18, representative of the population targeted with the media campaign. The survey contained a series of questions regarding awareness and perception of the "You Are the Target" campaign. Results of the survey showed that:

- Nearly half of teens (46%) said they saw a "You Are the Target" ad or video in the past year.
- Among those who saw a video, two-thirds were able to correctly describe the message of the campaign (*tobacco companies target youth with their marketing*).
- Overall, 19% of teens talked to one of their friends about tobacco or quitting after seeing the ads, while 7% said they quit using tobacco or thought about quitting.
- Among current tobacco users, 24% said they thought about quitting or reducing their use after seeing the ads.
- Based on the results of the survey, it is estimated that 41,170 teens saw an ad/video in the past year, and as a result of exposure to the campaign, nearly 8,000 Maine teens talked to one of their friends about tobacco or quitting and 3,000 quit using tobacco or thought about quitting.

## Impact of MCF Grants

The Surgeon General's report, Health Consequences of Smoking—50 Years of Progress, concludes that, "The burden of death and disease from tobacco use in the United States is overwhelmingly caused by cigarettes and other combusted tobacco products;" and "comprehensive tobacco control programs and policies have been proven effective for controlling tobacco use."[9]

Numerous studies have validated the efficacy of tobacco control and cessation programs. This includes the Maine QuitLink (formally Maine Tobacco HelpLine), which has been demonstrated to produce 6-month quit rates of between 12% and 23% among current smokers.[10] Studies have also attempted to quantify the medical costs and quality-adjusted life years associated with smoking. These results have

proven more varied, given the complex methods and assumptions required to produce the estimates. However, results from the Cancer Prevention Study II found:

> *Life expectancy among smokers who quit at age 35 exceeded that of continuing smokers by 6.9 to 8.5 years for men and 6.1 to 7.7 years for women. Smokers who quit at younger ages realized greater life extensions. However, even those who quit much later in life gained some benefits: among smokers who quit at age 65 years, men gained 1.4 to 2.0 years of life, and women gained 2.7 to 3.7 years.*[11]

Additional studies have produced similar results, showing that while quitting earlier in life produces a larger benefit, even older adults who quit smoking add years to their lives and reduce their risk of cancer.

The outcomes for the tobacco grants focused on the number of individuals seeking or being directed to cessation services and how many identified smokers reported themselves as successful quits or reduced use. The number of individuals reporting quitting or reducing their use was estimated using the data supported rate of quit/reduction and the population reportedly served by the grants. The results of the grant effectiveness analysis are tabulated below:

**Table 6: Tobacco Prevention and Cessation Outcomes**

| # Received Tobacco Prevention Education | # Referred To Cessation Services | Tobacco Users Identified | Confirmed* | | | % Decreasing Tobacco Use or Quitting** |
|---|---|---|---|---|---|---|
| | | | Quits | Reductions in Use | Total | |
| 16,579 | 6,596 | 11,132 | 226 | 330 | 556 | 7% |

** Data on quits/reduced use from 10 (out of 32) grantees that worked on, tracked, and provided this information.*

*** Calculated as 556 quits or reductions out of 7,297 newly identified tobacco users who provided follow-up information on quit status.*

### *Results*

Among the grantees reporting data, approximately 20,321 individuals sought help from a tobacco program and were referred to cessation services or were provided tobacco prevention education. A total of 11,132 tobacco users were identified and participated in grantee programming.

Among the grantees who tracked and provided data on tobacco users and quits, 556 (out of 7,297) tobacco users reported successfully quitting or reducing their tobacco use following exposure to the program. The average estimated quit or reduced use rate is 7% for smokers accessing these programs.

Maine youth were exposed to a tobacco awareness campaign through a variety of platforms and received messages that provided education about tobacco company marketing tactics, built awareness of the dangers and effects of tobacco use, and empowered youth to reject the manipulative messaging used by the tobacco companies.

### *Discussion*

Grantees addressing tobacco prevention and cessation are engaged in a wide variety of activities making it difficult to collect and aggregate data to summarize the impact and cost-effectiveness of MCF grant funding. However, the data available for MCF Tobacco grantees show that they are reaching a large target population (236,690), building important partnerships with collaborators (210 new partnerships), providing much needed training to public health workers (660 staff members trained), and providing prevention education and treatment referrals to both youth and adults across the state.

Among those who reported quit data, 556 tobacco users confirmed to have quit or reduced their tobacco use, achieving a successful 7% quit/reduction success rate following exposure to one or more of the grantee programs or referrals. At least among the grantees that provided data, MCF funding is effectively reducing tobacco use and getting tobacco users to quit.

These results suggest that the education and assistance provided to smokers and referral services have been effective. From this analysis, grantees who reported quantitative data about their referrals, number of people interacted with, and post-program outcomes are making a positive impact on the rates of tobacco use in the short-term and cancer incidence long-term. It is reasonable to extrapolate based on life expectancy studies that MCF grant funding for tobacco prevention and cessation has (conservatively) saved thousands of years of life combined for those that have quit as a result of the programs.

Additional outcome tracking and data reporting would be necessary to fully summarize the impact of MCF grant funding on tobacco use in Maine. A lack of data on short-term outputs/outcomes such as quit attempts for many of the grantees makes it challenging to quantify the overall impact of the grants. We acknowledge that there are significant gaps in the data for some of the reported summary and outcome metrics.

Only ten grantees supplied data about the number of smokers and the post-program outcomes, and the 7% quit and reduction rate is based on these data. It is likely that additional data from other grantees and more accurate data from currently reporting grantees would affect the rate and estimated numbers of quits and reduced use.

With more data, Maine Cancer Foundation would have a better understanding of the cumulative tobacco program effectiveness, the number of tobacco users being referred and going to various tobacco programs, how many are quitting or reducing their use, and how many begin using tobacco again in the long-term. These data would help support a more thorough assessment of how these interventions are performing and the per dollar impact the grants have had on smoking and tobacco-related cancer in Maine.

## *References*


1. Creamer MR, Everett Jones S, Gentzke AS, Jamal A, King BA. Tobacco Product Use Among High School Students — Youth Risk Behavior Survey, United States, 2019. MMWR Suppl 2020;69(Suppl-1):56–63. DOI: http://dx.doi.org/10.15585/mmwr.su6901a7.
2. Cancer and Tobacco Use: Tobacco Use Causes Many Cancers. Atlanta, Georgia: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion; 2016. https://www.cdc.gov/vitalsigns/pdf/2016-11-vitalsigns.pdf
3. Yob D, Haggan K, Bancroft C, Huston S, Green-Parsons A, Teach F. Maine 2020 Annual Report of Cancer. Maine CDC Cancer Registry. Available from: https://www.maine.gov/dhhs/sites/maine.gov.dhhs/files/2021-03/Maine%202020%20Annual%20Report%20of%20Cancer_03192021_Final.pdf
4. Centers for Disease Control and Prevention. Best Practices for Comprehensive Tobacco Control Programs--2014. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.
5. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. BRFSS Prevalence & Trends Data [online]. 2015. [accessed Jun 14, 2024]. URL: https://www.cdc.gov/brfss/brfssprevalence/.
6. Maine Department of Health and Human Services. (2023, October 13). Maine Integrated Youth Health Survey High School Report 2023.
7. The toll of tobacco in Maine. Campaign for Tobacco-Free Kids. (n.d.). https://www.tobaccofreekids.org/problem/toll-us/maine
8. Youth Tobacco Use. Tobacco Free Maine. Available from: http://www.tobaccofreemaine.org/explore_facts/documents/Maine-Tobacco-Fact-Sheet-Youth-Tobacco-Use.pdf
9. Centers for Disease Control and Prevention. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. Atlanta, GA: US Department of Health & Human Services; 2014.
10. Swartz SH, C. T. (2005). Use and effectiveness of tobacco telephone counseling and nicotine therapy in Maine. American Journal of Preventative Medicine, Nov;29(4):288-94.
11. Donald H. Taylor, Jr, Vic Hasselblad, S. Jane Henley, et al. Benefits of Smoking Cessation for Longevity. Am J Public Health. 2002 June; 92(6): 990–996.

# 7. Sun Safety

## Background

Skin conditions are exceedingly common in the U.S. and worldwide and are estimated to cost nearly $75 billion per year in the US alone.[1] In Maine, the melanoma incidence rate is estimated to be 25.1 per 100,000, compared to the US rate of 22.6 per 100,000.[2] Maine's incidence is approximately 445 new cases of melanoma per year[2]. The Maine mortality rate for melanoma is estimated to be 2.4 per 100,000, but most melanomas are curable if diagnosed early.[2,3]

Maine Cancer Foundation has awarded **7 sun safety grants** totaling **$303,193.**

This has resulted in as many as **248,750 individuals** receiving at least one application of sunscreen at a cost of $1.12 per person.

Both malignant and non-malignant skin cancers are caused by chronic and acute exposure to solar UV radiation.[4] Exposure can be reduced using physical barriers such as clothing or staying indoors during the most intense periods of sun during the day. Protection of exposed skin is best achieved using sunscreens and sun blocks which have been demonstrated to reduce the incidence of cancerous skin lesions in fair-skinned persons.[5] An intervention in Australia demonstrated that long-term daily use of sunscreen can dramatically reduce the incidence of skin cancers. After a four-year intervention period, a subsequent analysis projected that daily lifetime sunscreen use in the intervention group (approximately 812 persons) would prevent 33 melanomas, 168 cutaneous carcinomas, and 4 melanoma deaths.[6] The authors concluded that daily sunscreen use is a cost-effective intervention that can meaningfully reduce the incidence of skin cancer among fair-skinned people.[6] Researchers estimate that a 10-year public health intervention program moderately increasing the uptake of regular sunscreen use in the US could prevent 231,053 melanomas by 2031.[7]

## Summary of MCF Grants 2016-2023

Since 2016, the Maine Cancer Foundation has made significant investments in organizations around Maine with the goal of increasing sun safety practices. Most of these projects involved building infrastructure, training employees at intervention sites, and educating the population to increase sun safety awareness.

Maine Cancer Foundation has awarded $303,193 through 7 sun safety grants to 3 organizations, including:

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| City of Portland - Public Health | Sun Safety at Casco Bay | 2016 | $5,000 | Sun Safety | Portland | ME |
| City of Portland - Public Health | Sun Safety at the Portland Sea Dogs | 2017 | $20,000 | Sun Safety | Portland | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Dempsey Center | Sun Safe on the Slopes | 2016 | $5,750 | Sun Safety | Lewiston | ME |
| Impact Melanoma | Practice Safe Skin – Maine | 2018 | $78,543 | Sun Safety | Concord | MA |
| Impact Melanoma | Reducing the Burden of Skin Cancer for Maine Residents | 2020 | $20,000 | Sun Safety | Concord | MA |
| Impact Melanoma | Sunscreen at Maine State Parks | 2021 | $53,900 | Sun Safety | Concord | MA |
| Impact Melanoma | Sun Safety in Maine | 2022 | $120,000 | Sun Safety Grantee | Concord | MA |

## Grant Results

The sun safety grants provided by MCF from 2016-2023 resulted in several positive outcomes for grantees, Maine's communities and those at risk of developing skin cancer. A summary of some of these outcomes is provided below.

- 1,687,080 individuals were included in the target population of these grants.
- All 7 grants involved building new or expanding partnerships with outside organizations, resulting in 141 additional or expanded partnerships.
- 5 grants included training for dispenser site staff and/or skin care and beauty professionals.
- 284 sunscreen dispensers have been installed.
- 248 staff have been trained at the dispenser sites.
- 55 skin care or beauty professionals were trained
- 6 of the projects facilitated outreach and media advertising events, for a total of 56 events.
- 5,624 individuals in the target population participated in at least one educational session.
- Over 474 cases of sunscreen were used.

It is estimated that because of sun safety grantee efforts, as many as 248,750 individuals were able to apply at least one application of sunscreen over the course of these grants. The per application cost is estimated to be $1.12.

## Impact of MCF Grants

Skin cancer results primarily from exposure to ultraviolet radiation from the sun. Both acute and long-term exposure can induce the mechanisms which cause cancer to develop. Exposure can be reduced by limiting time outdoors or by wearing clothing and sunscreen. Daily use of sunscreen has been demonstrated to reduce the incidence of skin cancers in fair-skinned population. However, long-term medical follow-up is critical to assessing the effectiveness of a sunscreen-based intervention.

To the best of our knowledge, no peer-reviewed studies have examined the benefit of sunscreen dispensers or measured the impact of dispensers on increasing long-term sunscreen use. A research letter published in JAMA Dermatology in 2016 suggests that a decline in skin cancer incidence and mortality in New England may be tied to the region's strong cancer prevention programs, including Practice Safe Skin initiative, which involved funded sunscreen dispensers in public and recreational areas.[8] However, there is no research available to confirm this statement.

The lack of research studies makes it difficult to quantify the impact of MCF grants in this area beyond the short-term increase in sunscreen usage. This analysis estimates the number of people who benefited from the sun safety grant activities. It focuses on the number of sunscreen applications provided by the installed dispensers and seeks to estimate the cost per application and what percentage of the population is being protected from sun exposure.

The results of the grant effectiveness analysis are tabulated below:

**Table 8: Sun Safety Outcomes**

| Number of sunscreen dispensers installed | Cases of sunscreen used* | # of applications of sunscreen* | $ per application* |
|---|---|---|---|
| 284 | 474 | 248,750 | $1.12 |

** Two grantees did not provide data on cases of sunscreen used; unable to include in cost calculations.*

### *Results*

Six grants have provided sunscreen 284 sunscreen dispensers to the public, dispensing more than 474 cases of sunscreen for an estimated 248,750 applications of sunscreen. The per application cost is estimated to be $1.12, which can be expected to decrease given the current funding status of this initiative. Assuming the entire target population had access to these dispensers, approximately 15% or 248,750 individuals could have used a single application. If the assumption is that each person used two applications, 8% or 124,375 people would have gotten an application of sunscreen.

In addition to the sunscreen dispensers, 5,624 individuals participated in educational sessions about sun safety, 141 partnerships with outside organizations were created or expanded, and 56 outreach events were facilitated.

### *Discussion*

Results from the analysis of MCF sun safety grants are inconclusive. The grant activities were implemented successfully by grantees – installing public sunscreen dispensers, as well as providing education and outreach to employees who work in outdoor settings. However, the connection between these activities and sun safety outcomes is both difficult to measure and long term in nature.

Experts have suggested that strong cancer prevention programs may help to increase public awareness about skin cancer and help decrease cases of melanoma. Publicly available sunscreen dispensers may increase awareness of sunscreen and likely help create an environment where sunscreen use is the accepted norm. However, these outcomes are moderated by compliance with best-practice application

of sunscreen, primarily applying it regularly and consistently when exposure to sun is occurring. The results of this analysis do not provide evidence of compliance, limiting our ability to say that grantees are effectively addressing the risks of sun exposure and skin cancer in Maine.

Grantees addressing sun safety in Maine face several challenges. First, is the lack of a data collection and monitoring infrastructure to measure the number of people using sunscreen and the number of applications per person. The use of sunscreen dispensers also does not guarantee that individuals will utilize the dispensers according to proper use guidelines – applying multiple times per day throughout the year when sun exposure is expected to occur. Second is the lack of an evidence-based link between sunscreen dispenser use and a reduction in cancer rates. Based on current research, supplying discretionary use sunscreen dispensers in public areas is not proven to have detectable effects on the incidence of skin cancer in a population.

The cost of the sunscreen is also quite high when analyzed against the total cost of the grants. The average grant-funded cost of each application of sunscreen is $1.12. The amount of sunscreen dispensed per application ranges from 1-4 ml, depending on grantee. The cost per ml dispensed in the program is $0.59. For reference, a 29 ml bottle of generic sunscreen can be purchased for as little as a dollar for a unit cost of $0.03 per ml. It is important to note that the cost of the grantee supplied sunscreen is coupled with educational efforts which raises the cost slightly. However, a more cost-effective way to supply sunscreen might be to purchase individually packaged sunscreen from a bulk retailer and distribute this sunscreen, along with comprehensive sun safety education, to those organizations and employers where people experience prolonged sun exposure. These populations would benefit most from regularly supplied sunscreen and education – much like the Australian program which supplied free sunscreen and education for five years in conjunction with medical skin screening to measure the outcome.

To assess the grantee's impact on skin cancer in Maine, better data and long-term follow-up are necessary. Some form of pre-/post-test data with a population that passes the dispensers every day would provide information about how the target population interacts with the dispensers. To make meaningful conclusions about the impact on skin cancer, a cancer screening initiative with the study population would be necessary. Without data about skin cancer in this population, it is impossible to state with any accuracy that the sunscreen dispensers are reducing the incidence rate.

Moving forward, Maine Cancer Foundation should assess sun safety grant proposals on their ability to educate the target population, increase awareness of sun safety/impact of skin cancer (and its impact on increasing likelihood to use sunscreen), and consistently supply and/or monitor sunscreen use over a longer-term period.

## *References*


1. Lim, H. W., Collins, S. A., Resneck Jr, J. S., Bolognia, J. L., Hodge, J. A., Rohrer, T. A., ... & Nerenz, D. R. (2017). The burden of skin disease in the United States. Journal of the American Academy of Dermatology, 76(5), 958-972.
2. Yob D, Schwenn M, Huston S, Green-Parsons A, Teach F. Maine 2017 Annual Report of Cancer. Maine CDC Cancer Registry. Available from: https://www.maine.gov/dhhs/mecdc/public-health-systems/data-research/vital-records/mcr/reports/documents/Maine-2017-Annual-Report-of-Cancer.pdf Replace with https://www.maine.gov/dhhs/mecdc/public-health-systems/data-research/vital-records/mcr/reports/documents/Maine%202020%20Annual%20Report%20of%20Cancer_07012022_Final.pdf
3. Johnson, M. M., Leachman, S. A., Aspinwall, L. G., Cranmer, L. D., Curiel-Lewandrowski, C., Sondak, V. K., ... & Dellavalle, R. P. (2017). Skin cancer screening: recommendations for data-driven screening guidelines and a review of the US Preventive Services Task Force controversy. Melanoma management, 4(1), 13-37.
4. Hirst, N. G., Gordon, L. G., Scuffham, P. A., & Green, A. C. (2012). Lifetime cost-effectiveness of skin cancer prevention through promotion of daily sunscreen use. Value in Health, 15(2), 261-268.
5. Green A, Williams G, Neale R, Hart V, et al. Daily sunscreen application and betacarotene supplementation in prevention of basal-cell and squamous-cell carcinomas of the skin: a randomized controlled trial. Lancet 1999;354:723-9. Erratum: Lancet 199;354:1038.
6. Hirst, N. G., Gordon, L. G., Scuffham, P. A., & Green, A. C. (2012). Lifetime cost-effectiveness of skin cancer prevention through promotion of daily sunscreen use. Value in Health, 15(2), 261-268.
7. Olsen CM, Wilson LF, Green AC, Biswas N, Loyalka J, Whiteman DC. How many melanomas might be prevented if more people applied sunscreen regularly? Br J Dermatol. 2018 Jan;178(1):140-147. doi: 10.1111/bjd.16079. Epub 2017 Dec 14. PMID: 29239489.
8. Jessica S. Mounessa, Joseph Vincent Caravaglio, Robert P. Dellavalle. Comparison of Regional and State Differences in Melanoma Rates in the United States 2003 vs 2013. March 2017. JAMA Dermatology. 2017;153(3):345-347. doi:10.1001/jamadermatol.2016.4625

# 8. General Operating Support

## Background

General operating support funding is a category of grant funding that grant-funded organizations are increasingly reliant on. General operations are those functions which keep organizations running and able to fulfill their missions. Among the common general operations are asset building and development, institutional services, provision of assets and services, research, networking, community building, and individual economic assistance.[1] Internally, these are activities like payroll, financial management, human resources, and in many cases, hiring grant writers to secure additional funds for mission-oriented operations. Externally, general operations can include fundraising, advocacy work, and civic engagement.[1]

Maine Cancer Foundation has awarded **11 general operations grants** totaling **$380,000**.

General operations funding has increased organization capacity, allowed for restructuring and greater focus on programs, and has enabled grantees to generate additional funds through grants and fundraising.

General operations funding covers these types of activities that are vital to many organizations' daily function. Funding for specific outcomes such as increasing cancer screening rates or reducing tobacco use often does not finance the general operations activities. For grant-funded organizations to achieve their institutional missions and those of their funders, they must be able to keep the bedrock of their operations in working order. General funding allows organizations to keep their doors open and continue doing their work.

## Summary of MCF Grants 2017-2019

Since 2017, Maine Cancer Foundation has made investments to support the general operations of organizations around Maine whose missions align closely with the Foundation's goals to reduce cancer incidence and mortality. Many of these organizations work to address multiple areas of cancer care and support for Maine residents. Several have additional grants in areas such as colorectal cancer screening, transportation, and patient navigation. The general operating funds allow these organizations to keep their administrative, financial, and other routine operations running smoothly as they focus on cancer care from multiple angles.

As part of Challenge Cancer 2020, Maine Cancer Foundation has awarded 11 general operations grants totaling $380,000 to 7 organizations, including:

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Beth C. Wright Cancer Resource Center | General Operating Support | 2017 | $15,000 | General Operating | Ellsworth | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Beth C. Wright Cancer Resource Center | General Operating Support | 2018 | $25,000 | General Operating | Ellsworth | ME |
| Beth C. Wright Cancer Resource Center | General Operating Support | 2019 | $30,000 | General Operating | Ellsworth | ME |
| Healthy Acadia | General Operating Support | 2017 | $50,000 | General Operating | Ellsworth | ME |
| Healthy Acadia | General Operating Support | 2018 | $50,000 | General Operating | Ellsworth | ME |
| Healthy Androscoggin / Central Maine Community Health | General Operating Support | 2019 | $50,000 | General Operating | Lewiston | ME |
| Healthy Communities of the Capital Area | General Operating Support | 2017 | $50,000 | General Operating | Gardiner | ME |
| Healthy Community Coalition of Greater Franklin County | General Operating Support | 2017 | $50,000 | General Operating | Farmington | ME |
| Sarah's House of Maine | General Operating Support | 2017 | $10,000 | General Operating | Holden | ME |
| Sarah's House of Maine | General Operating Support | 2018 | $25,000 | General Operating | Holden | ME |
| Sarah's House of Maine | General Operating Support | 2019 | $25,000 | General Operating | Holden | ME |

The primary focus of general operations fund is supporting the various cancer care and support activities grantees are engaged in.

## Grant Results

The general operations grants provided by MCF from 2017-2019 resulted in several positive outcomes for grantees and the communities they serve. Because the general operations activities differ for each grantee, they are evaluated individually below. Proposed goals from the grant applications are used as the progress metric for each grantee, and the midyear progress reports are treated as the supplied data.

### *Achieved Outcomes*

- Increased fundraising capacity including diversification of organizational funding structures, securing additional funding for programming, and developing fundraising campaigns.

- Improved organization's Information Technology through new hardware and upgraded software infrastructures to assure HIPAA compliancy and enhanced security.
- Hired staff to improve infrastructure, including bookkeeper and development staff.
- Invested in staff and board development.
- Improved organizational outreach through development of marketing plans and increased awareness of services.
- Expanded programming related to chronic disease management, health and wellbeing for cancer patients, support groups for cancer patients, and cancer prevention.
- Improved and increased collaboration with other organizations.
- Underwent strategic planning efforts.
- Established a critical reserve of funds for public health programming.
- Expanded current cancer prevention and screening programming.
- Collaboration with three transportation programs to improve the allocation of transportation resources for residents in Hancock and Washington counties.
- Increased development capacity by hiring a full-time Development Director.
- Established a critical reserve of funds for public health programming.

## Impact of MCF Grants

### *Discussion*

Across the general operations grantees, grantees continue to achieve their organizational goals, due in part to the funds obtained from Maine Cancer Foundation. Grant funds support a wide array of activities and processes that are separate from the program-specific activities. Administrative, financial, and technological improvements are among the more common applications of the general operating funds. Improving these aspects of organizational operation is an integral component to sustaining the long-term viability of programs the grantees oversee.

A cost-effectiveness analysis was not conducted due to the unique ways each grantee implemented their funds and the impact those implementations had on the various programs at each organization. In addition, data were not available on the specifics of how the funding was used by each grantee. Shared metrics for future cost-effectiveness analyses could include infrastructure and awareness building activities, as well as tracking additional funding that may have been procured as a result of the additional capacity of the grantees.

While a traditional cost-effectiveness analysis is not possible, recipients of the 2018 funding reported many and varied outcomes. One grantee said that general operating funds allowed them to secure an additional $163,000 from other funding sources that was then utilized to support additional programs. Another grantee funded expansion of programs for diabetes management, chronic disease management, and Tai-chi classes, serving more than 600 people in one year across the three. A grantee that provides housing and transportation services to cancer patients has served 369 guests in a few short years and has continually expanded support for their guests thanks to MCF funding.

The impact of these general operations efforts is intertwined with the programmatic work grantees are doing to address cancer in Maine. It is difficult to parse out the effect on cancer incidence and mortality, but it is reasonable to conclude that keeping these organizations open and even improving their operations is likely to positively impact the cancer outcomes. However, there is no presently available framework for assessing the per dollar contribution to incidence and mortality. A better assessment would focus on operational efficiency and performance. If the general funding ultimately improves both, the conclusion is that general funding has a net positive benefit.

## *References*


1. Emerson, J., & Carttar, P. (2003). Money Matters: The Structure, Operations and Challenges of Nonprofit Funding. The Bridgespan Group, 1-80.

# 9. Cancer Research

## Background

Investments in scientific research are crucial to the forward progress of cancer care. Research helps to drive bodies of knowledge and understanding regarding cancer that is integral to successfully treating existing cancer and preventing future cases. The primary focus of the research grants is advancing the edge of scientific and academic knowledge about cancer and the best medical practices for its treatment.

Maine Cancer Foundation has awarded **5 research grants** totaling **$1,050,784.**

This funded no-cost fluid and tissue access for researchers, a successful PCRI shared decision-making program for lung screening, a telemedicine program, and ongoing EHR database consolidation and a breast cancer diagnostic trial.

### Summary of MCF Grants 2015-2020

Since 2015, Maine Cancer Foundation has made investments in organizations around Maine with the goal of advancing research efforts related to cancer care.

Maine Cancer Foundation has awarded $1,050,784 through 5 research grants to 4 organizations, including:

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Eastern Maine Medical Center Cancer Care | Creating a statewide tissue banking network to promote cancer research | 2015 | $199,940 | Research | Bangor | ME |
| Maine Medical Center Research Institute | Creating a Centralized Biospecimen Resource for Cancer Research | 2015 | $199,830 | Research | Scarborough | ME |
| Maine Medical Center Research Institute | Tumor Registry Electronic Medical Record Linked Data Resource: TREMR | 2015 | $191,230 | Research | Scarborough | ME |
| Maine Dartmouth Family Medicine Residency | Structured care for individuals at risk for familial cancer syndromes | 2015 | $84,784 | Research | Augusta | ME |
| University of New England | Methods and Diagnostics for Cancer Detection and Treatment Monitoring | 2017 | $375,000 | Breast Cancer Screening | Portland | ME |

## Impact of MCF Cancer Research Grants

Each of the five grantees that concluded their research has successfully met their stated objectives and outcomes. The grant exploring breast cancer is currently in the clinical trial phase, but the investigators expect promising results upon the study's conclusion.

As stated previously, due to the lack of measurable outcomes and data from grantees, it is difficult to measure the effectiveness of MCF grant-making in this area. In the future, more data may become available that would allow a more quantitative analysis of the impact of the research grants.

Qualitatively, the investments in the research grants likely have significant long-term benefits for the field of cancer and prevention in Maine. The provision of no-cost fluid and tissue samples for cancer research, for example, reduces the cost barrier of carrying out research efforts. The successfully piloted PCRI method for LDCT screening shows promise for improving the shared decision-making process among patients at risk for lung cancer. Similarly, the remaining grantees contributed positive knowledge and outcomes to their fields of study. The net benefit of these efforts may be difficult to assess in the short-term, but over many years after they are implemented across the state, cost savings and reductions in cancer incidence and mortality are outcomes.

# 10. Hospice General Operations

## Background

Cancer requires multiple types of medical care to manage symptoms, treat the disease, and ease suffering toward the end of a person's life. Hospice fulfills the latter and focuses on palliative care for those whose cancer is no longer being treated, are unlikely to be cured, or who have less than 6 months to live. Hospice care draws on multiple care disciplines to ease suffering and alleviate symptoms related to the cancer or previous treatments. Common types of care include nursing, home health, various types of therapy, and assistance with equipment. Hospice also addresses social needs including counseling, spiritual support, and social work assistance with end-of-life decisions.

Maine Cancer Foundation has awarded **12 hospice general operations grants** totaling **$108,819**.

Hospice grantees expanded their services to more clients, increase marketing and education efforts, hire and train more volunteers, and develop self-sustaining funding streams.

Collectively, hospice care aims to help people transition from treatment to a stage where they can live as fully as possible until their passing. This often means spending less time at the doctor's office and more time meeting personal goals and being with friends or family. In some cases, hospice care can even help an individual live longer by making them more comfortable. Given the importance of hospice in the spectrum of cancer care, Maine Cancer Foundation has invested heavily in hospice volunteer organizations across Maine to increase access to this critical service in underserved communities. The non-medical support to hospice patients and their families provided by Hospice Volunteer organizations is a critical complement to medical hospice care and enriches a patient's experience at end of life. Hospice Volunteer organizations coordinate this type of non-medical care that can include such services as caregiver respite, end of life preparations, grocery shopping, pet care, transportation to care, and so much more.

## Summary

In partnership with funds from the John T. Gorman Foundation, Maine Cancer Foundation made significant investments in hospice volunteer organizations in 2018 and 2019.

Maine Cancer Foundation has awarded $108,819 through 12 grants to 6 organizations, including:

| Organization | Project Title | Year Issued | Grant Amount | Grant Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Down East Hospice Volunteers | General Operating Support | 2018 | $8,300 | Hospice | Calais | ME |
| Down East Hospice Volunteers | General Operating Support | 2019 | $8,819 | Hospice | Calais | ME |

| Organization | Project Title | Year Issued | Grant Amount | Grant Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Hospice Volunteers of Hancock County | General Operating Support | 2018 | $5,000 | Hospice | Ellsworth | ME |
| Hospice Volunteers of Hancock County | General Operating Support | 2019 | $10,000 | Hospice | Ellsworth | ME |
| Hospice Volunteers of Somerset County | General Operating Support | 2018 | $6,700 | Hospice | Skowhegan | ME |
| Hospice Volunteers of Somerset County | General Operating Support | 2019 | $10,000 | Hospice | Skowhegan | ME |
| Hospice Volunteers of Waldo County | General Operating Support | 2018 | $10,000 | Hospice | Belfast | ME |
| Hospice Volunteers of Waldo County | General Operating Support | 2019 | $10,000 | Hospice | Belfast | ME |
| Hospice Volunteers of Waterville Area | General Operating Support | 2018 | $10,000 | Hospice | Waterville | ME |
| Hospice Volunteers of Waterville Area | General Operating Support | 2019 | $10,000 | Hospice | Waterville | ME |
| Pine Tree Hospice | General Operating Support | 2018 | $10,000 | Hospice | Dover-Foxcroft | ME |
| Pine Tree Hospice | General Operating Support | 2019 | $10,000 | Hospice | Dover-Foxcroft | ME |

## Grant Results

The hospice general operations grants provided by MCF in 2018 and 2019 resulted in several positive outcomes for grantees and the communities they serve. Proposed goals from the grant applications are used as the progress metric for each grantee, and the progress reports are treated as the supplied data.

### *Achieved Outcomes*

- Expanded support group services through increased availability of space and hours allotted to group sessions.
- Increased number of clients served across hospice, bereavement, and child services

- Provided creative and non-mandated support in such forms as rides to oncology appointments, housing for out-of-town family, bedside vigils in the last hours of life, and bereavement groups.
- Increased the number of "End Stage" presentations explaining the necessity for early end of life care discussions with family and loved ones.
- Expanded bereavement program services by partnering with the local funeral home and utilizing grief counselors.
- Invested in office management staff to improve organizational efficiency.
- Increased the number of joint services delivered in collaboration with partnering agencies, leading to more comprehensive awareness among shared clientele.
- Enhanced community programs to better fit the needs of the serviced communities.
- Professional development for staff to attend trainings.
- Recruitment efforts for hospice volunteers in the community.

## Impact

Relative to investments in other grant sectors, Maine Cancer Foundation's total spending in hospice is smaller, but the impact is profound. Hospice programs that received funding are located in more rural places in Maine, places where both median and average income are lower, residents are more likely to be on public assistance, and access to critical medical care is reduced by financial and other logistical barriers.

MCF grant funds enabled the six grantees to continue serving their current number of clients and, in several cases, expand their client base. Using MCF funding, most grantees were able to recruit additional volunteers, hire more staff, and pay for needed training. This kind of capacity building is critical for smaller organizations in rural areas. Several grantees leveraged MCF funding to expand their marketing, education, and outreach efforts to increase their presence in the community. As a result of reaching more people, grantees successfully provided services to more clients. Overall, hospice grantee efforts have built new capacity and used it to improve client quality of life.

# 11. Genetic Screening

## Background

Genomic sequencing can be used effectively to better understand cancer as a disease and develop targeted treatments for individual patients. Exploring the ways cancer develops and grows can provide important information about the genomic changes that underly the disease. A key hurdle to harnessing genomic sequencing and bioinformatics in the treatment of cancer is clinician training. Developing training standards and application guidelines is a key step toward increasing clinician confidence with interpreting genomic testing results. Increasing clinician confidence will lead to more frequent use of testing, better communication of results, and ultimately, better patient outcomes. The grant will be used to support oncology clinicians by enhancing their skills, knowledge, and confidence using genomic information to inform cancer care. This information will help clinicians identify and choose treatments that are likely to be more effective for a specific patient, improving quality of life and survival. Additionally, genomic testing can help clinicians identify when a patient may have an underlying hereditary cancer syndrome.

Maine Cancer Foundation has awarded **1 genetic screening grant** totaling **$199,891**.

To date, **more than 90%** of Maine medical oncologists have enrolled in the Initiative from all Maine cancer practices.

## Summary

As part of its grantmaking efforts, Maine Cancer Foundation made a novel investment in genetic screening efforts.

Maine Cancer Foundation has awarded $199,891 through 1 grant to the following organization:

| Organization | Project Title | Year Issued | Grant Amount | Grant Category | Grantee Location | |
|---|---|---|---|---|---|---|
| The Jackson Laboratory | Developing an educational curriculum to support community oncology clinicians use of genomics in patient care | 2019 | $199,891 | Genetic Screening | Bar Harbor | ME |

## Grant Results

The Maine Cancer Genomics Initiative (MCGI) is focused on increasing the capacity of community-based oncology clinicians to deliver genomically informed cancer care to their patients. They are doing this by providing access to genomic tumor testing and supporting the appropriate use of testing through provider education. They want to ensure that the educational tools they develop meet the needs of MCGI clinicians,

including building knowledge, skills, and confidence to incorporate genomic information into their practices. They propose to develop and deliver resources monthly throughout the project (approximately 24 resources total) that are designed to support providers' confidence, skills, and knowledge associated with genomic tumor testing.

By doing this, they hope to help improve patient care by 1) supporting good communication between clinicians and patients about the benefits, limitations, and risks of genomic tumor testing and 2) increasing access to information that may impact treatment choices.

Short-term outcomes will include provider engagement in education materials and reported provider satisfaction. Long-term outcomes of MCGI include provider knowledge, confidence, and self-efficacy regarding genomic tumor testing, and the clinical use of genomic tumor testing; as well as patient uptake of MCGI research participation and reported satisfaction with tumor testing.

To date, they have enrolled more than 90% of Maine medical oncologists on the Initiative from all Maine cancer practices. Together with their staff, the oncologists will continue to benefit from the genomic education described in this proposal through already well established by us communication pathways with the providers.

## Impact

By supporting clinicians' appropriate use of genomic information, MCGI will contribute to the Maine Cancer Foundation's mission of reducing cancer incidence and mortality. Genomic data will enable patient care teams to identify treatments and/or clinical trials that can prolong their patients' lives. And, for patients with an underlying hereditary syndrome, unaffected family members can be tested, closely screened and monitored in order prevent cancer or identify it at its earliest stage.

# 12. COVID-19 Response

## Background

Maine Cancer Foundation has awarded 13 **COVID-19 Response grants** totaling **$93,000**.

COVID-19 grants provided by MCF provided in 2020 helped to address immediate needs of Maine cancer patients and the unique challenges introduced or heightened by COVID-19 pandemic. According to the Centers for Disease Control (CDC), cancer patients and cancer survivors are at increased risk for severe illness or death if they contract Covid-19 (cdc.gov, 2022). Due to this increased risk, many patients were unable to work and relied on support from others to provide them daily necessities during the onset of the pandemic and through 2021.

COVID-19 grant funds were focused on addressing needs related to transportation, food insecurity, and other basic needs to assist patients with the many financial, health and safety obstacles posed by the pandemic.

## Summary

During the height of the COVID-19 pandemic, Maine Cancer Foundation provided Covid-19 Response Grants to support cancer patients impacted by the pandemic. MCF awarded $93,000 through 13 grants to the following organization:

| Organization | Project Title | Year Issued | Grant Amount | Grant Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Beth C. Wright Cancer Resource Center | COVID-19 Response Grant | 2020 | $8,000 | COVID-19 | Ellsworth | ME |
| Cancer Resource Center of Western Maine | COVID-19 Response Grant | 2020 | $10,000 | COVID-19 | Norway | ME |
| Cary Medical Center / Brian's Ride Cancer Fund | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Caribou | ME |
| Christine B. Foundation | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Bangor | ME |
| Coastal Healthcare Alliance | COVID-19 Response Grant | 2020 | $10,000 | COVID-19 | Rockland | ME |
| Dean Snell Cancer Foundation | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Brunswick | ME |
| Healthy Acadia | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Ellsworth | ME |

| | | | | | | |
|---|---|---|---|---|---|---|
| MaineGeneral Harold Alfond Center for Cancer Care | COVID-19 Response Grant | 2020 | $10,000 | COVID-19 | Augusta | ME |
| MaineHealth - Maine Medical Partners | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Sanford | ME |
| MaineHealth Cancer Care Network | COVID-19 Response Grant | 2020 | $10,000 | COVID-19 | Scarborough | ME |
| Mid Coast Hospital | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Brunswick | ME |
| Northern Light A.R. Gould Hospital | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Presque Isle | ME |
| Northern Light Eastern Maine Medical Center | COVID-19 Response Grant | 2020 | $10,000 | COVID-19 | Bangor | ME |

## Grant Results

Maine Cancer Foundation provided funding to 10 organizations to help meet the immediate needs of Maine cancer patients and/or oncology providers who were impacted by the COVID-19 pandemic. The grant funds were used to address food insecurity, fuel costs, social isolation, and other challenges faced by patients during the pandemic.

### *Achieved Outcomes*

- Initiated or expanded food assistance programs for cancer patients across the state through several avenues (grocery gift cards, health meal kits, food bags, etc.)
- Provided financial relief in the form of gas cards, transportation, and lodging assistance for patients traveling to appointments and treatment.
- Fuel credits for patients were provided to prepare for winter heating costs.
- Increased access to telemedicine opportunities through smart tablets purchased; allowing caregivers/family members to be involved in discussion of treatment plans with providers.
- Expanded opportunities for social engagement and promote physical/mental health to reduce impact of social isolation during the pandemic.

### *References*

1. Henley SJ, Dowling NF, Ahmad FB, Ellington TD, Wu M, Richardson LC. COVID-19 and other underlying causes of cancer deaths—United States, January 2018–July 2022. *MMWR* 2022.

# 13. Breast Cancer Screening

## Background

Among women, breast cancer is the leading cause of cancer mortality and the second most common type of cancer after skin cancer.[1] If breast cancer continues to occur in the U.S. at the current rate, 1 in 8 women born now will develop breast cancer at some point in their life, and 2.6% will die from it.[3] Most breast cancers are invasive, and commonly metastasize to the lymph nodes, lung, liver, and bone.[4] In Maine, the breast cancer incidence rate is estimated to be 128.5 per 100,000, compared to the US rate of 125.1 per 100,000.[2] The Maine mortality rate for breast cancer is estimated to be 18.5 per 100,000, compared to the national rate of 19.9 per 100,000.[2]

Maine Cancer Foundation has awarded **4 breast cancer screening grants** totaling **$280,000**.

This has resulted in **7,199 additional screenings** to date.

The U.S. Preventative Services Task Force recommends that women receive mammograms every other year from age 40-74.[3] Having a family or personal history of breast cancer, genetic predisposition, dense breast tissue, or prior exposure to radiation all increase the risk of breast cancer.[4] Women with these risk factors are recommended to receive earlier or more frequent screening.[4] Breast cancer mortality has decreased over the past two decades, however, disparities in outcomes persist. Despite screening from breast cancer at similar or higher rates than other demographic groups, Black women are more likely to be diagnosed with advanced stage breast cancer and 40% more likely to die from breast cancer.[4]

## Summary of MCF Grants 2021-2023

Since 2021, Maine Cancer Foundation has awarded 4 grants focusing on breast cancer screening totaling $280,000 to the following organizations:

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Northern Light Sebasticook Valley Hospital | An Outreach, Education, and Navigation Program to Increase Breast Cancer Screening Rates at Northern Light Sebasticook Valley Hospital | 2023 | $80,000 | Breast Cancer Grantee | Pittsfield | ME |
| Penobscot Community Health Center | Improving Breast Cancer Screening in Primary Care | 2023 | $80,000 | Breast Cancer Grantee | Bangor | ME |
| Northern Light Easten Maine Medical Center | Increasing Breast Cancer Screening and reducing barriers | 2021 | $40,000 | Breast Cancer Grantee | Bangor | ME |

| | | | | | | |
|---|---|---|---|---|---|---|
| | through the Caring Connections program with the Bangor Region YMCA | | | | | |
| Northern Light CA Dean | Piscataquis County Mobile Mammography Project | 2023 | $80,000 | Breast Cancer Grantee | Greenville | ME |

These grants focus on improving screening rates for breast cancer, leading to earlier identification, less severe disease, and higher survivorship rates. Grantees have implemented social media outreach, developed outreach materials, held educational events, and trained staff. Practices have reduced barriers to access by providing transportation support and childcare, streamlining scheduling processes, and addressing cost barriers.

## Grant Results

The 4 breast cancer screening grants awarded by MCF from 2021 to 2023 have allowed grantees to expand service offerings and increase resources dedicated to breast cancer screenings. A summary of grant outcomes is provided below.

- The target population across all grants included 125,017 individuals, 7,199 of whom received screenings.
- All four grants involved the development and distribution of educational materials, and at least 3 utilized social media outreach.
- A total of 39 current staff members received additional training across all 4 grantees, and 2 grantees reported that they hired additional staff.
- One grant involved newly identifying at-risk patients for screening, with 250 total patients identified.
- Among the two grants that provided scheduling assistance or appointment reminders, 2,275 patients received increased outreach.
- All 3 grants with available data saw an increase in screening rate, resulting in a cumulative increase of 3.7% across the population served

**A total of 5,699 patients were screened by mammogram, resulting in an estimated 83 deaths averted.**

## Impact of MCF Grants

Breast cancer screening has been recommended for women in some form for decades. Mammograms have been recommended for women since 1976. Currently, the U.S. Preventative Services Task Force recommends that women at average risk of developing breast cancer receive mammograms every other year from age 50-74.[3] For women aged 40-49, a discussion with their physician about beginning screening based off individual and family risk factors is recommended.[6]

Currently, more research is needed comparing the mortality outcomes and potential harms associated with different screening modalities, namely digital breast tomosynthesis (DBT) vs digital mammography.[6]

There is also ongoing research to determine if providing supplemental MRIs to people classified as having dense breasts could increase the number of breast cancer cases identified and treated at early stages. Initial findings have suggested that there are higher cancer detection rates with supplemental MRIs but have also found substantially higher rate of false positives.

The U.S. Preventive Services Task Force provides estimates of the number of cancer deaths averted per 10,000 women screened by mammography over a 10-year period.

- Among women at average risk of breast cancer, ages 50-59, there are 8 fewer breast cancer deaths per 10,000 women receiving screenings over a 10-year period.
- Among women ages 60-69, there are 21 fewer breast cancer deaths.

### *Methods for calculating life-years saved and cost-effectiveness*

Both the data provided by grantees and the U.S. Preventive Services Task Force estimates of screening mortality outcomes were used to estimate the number of breast cancer deaths averted due to screening regimens started as a result of MCF grants. Grantees directly reported the number of mammograms conducted due to the grant. Given that the number of deaths averted will vary due to the age at which screening begins, we have provided a low estimate, that assumes all patients are aged 50-59; a high estimate, that assumes all patients are aged 60-69; and a mid-range estimate, that assumes half of patients are aged 50-59 and half are aged 60-69.

The additional screenings were adjusted to a 76% adherence rate to match national adherence rates as not all individuals will maintain the recommended screening regimen.[7]

**Table 6: Outcomes of MCF Breast Cancer Screening Grants**

| Mammograms | Estimated # Adhering to Screening Regimen | Estimated Number of Cancer Deaths Averted | | |
|---|---|---|---|---|
| | | Low (Ages 50-59) | Mid-Range | High (Ages 60-69) |
| 5,699 | 4,331 | 3 | 5 | 7 |

**Table 7: Outcomes of MCF Breast Cancer Screening Grants**

| Mammograms | Other Screenings | Grant $ per Screening |
|---|---|---|
| 5,699 | 1,500 | $27.78 |

### *Results*

Across the population of 125,009 individuals targeted by MCF breast cancer grants that have reportable data on screenings provided, 5,699 patients received mammograms. If 76% of these patients continue to receive breast cancer screenings over the next 10 years, an estimated 3-7 breast cancer deaths will be averted from that initial group of patients.

The grants with reportable data on the number of screenings provided received a total of $200,000. They provided 5,699 mammograms and 1,500 screenings by other methods for a total of 7,199 screenings, resulting in an average cost of $27.78 per screening.

### *Discussion*

Results show that MCF grants increased the number of breast cancer screenings provided to women in Maine and the screening rates among the targeted population, raising the screening rate of the entire targeted population by an overall 3.7%. The mammogram regimens as a result of these grant funds are estimated to avert 3-7 breast cancer deaths.

The full impact of the mammograms provided by these grants is likely higher, as one grant has not yet reported the number of mammograms provided. Additionally, the U.S. Preventive Services Task Force mortality estimates are based off the assumption that all women screened fall into "average risk" categories. These estimates do not account for the inclusion of patients in higher risk categories due to chance or due to the higher likelihood that clinicians might refer them to screening. Additionally, grantees provided 1,500 screenings by other methods than mammogram or clinical breast exam that were not included in these calculations.

Beyond these outcomes related to screening, grantees used grant money to build lasting organizational capacity. They hired new staff, trained existing staff, developed informational materials, held educational events, and increased community outreach.

## *References*


1. Amir Qaseem, Jennifer S. Lin, Reem A. Mustafa, et al; for the Clinical Guidelines Committee of the American College of Physicians. Screening for Breast Cancer in Average-Risk Women: A Guidance Statement From the American College of Physicians. Ann Intern Med.2019;170:547-560. [Epub 9 April 2019]. doi:10.7326/M18-2147. Available from https://www.acpjournals.org/doi/full/10.7326/M18-2147
2. Melina Arnold, Eileen Morgan, Harriet Rumgay, Allini Mafra, Deependra Singh, Mathieu Laversanne, Jerome Vignat, Julie R. Gralow, Fatima Cardoso, Sabine Siesling, Isabelle Soerjomataram, Current and future burden of breast cancer: Global statistics for 2020 and 2040, The Breast, Volume 66, 2022, Pages 15-23, ISSN 0960-9776. Available from: https://doi.org/10.1016/j.breast.2022.08.010
3. Trentham-Dietz A, Chapman CH, Jayasekera J, et al. Breast Cancer Screening With Mammography: An Updated Decision Analysis for the U.S. Preventive Services Task Force [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2024 Apr. (Technical Report, No. 231s.) Chapter 3, Results. Available from: https://www.ncbi.nlm.nih.gov/books/NBK603558/
4. Henderson JT, Webber EM, Weyrich M, et al. Screening for Breast Cancer: A Comparative Effectiveness Review for the U.S. Preventive Services Task Force [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2024 Apr. (Evidence Synthesis, No. 231.) Chapter 1, Introduction. Available from: https://www.ncbi.nlm.nih.gov/books/NBK603793/
5. The Maine 2020 Annual Report on Cancer. Maine CDC Cancer Registry. Available from: https://www.maine.gov/dhhs/mecdc/public-health-systems/data-research/vital-records/mcr/reports/documents/Maine%202020%20Annual%20Report%20of%20Cancer_07012022_Final.pdf
6. Evidence Summary: Breast Cancer: Screening. U.S. Preventative Services Task Force. Available From: https://www.uspreventiveservicestaskforce.org/uspstf/document/final-evidence-summary/breast-cancer-screening
7. Narayan, A., Fischer, A., Zhang, Z. et al. Nationwide cross-sectional adherence to mammography screening guidelines: national behavioral risk factor surveillance system survey results. Breast Cancer Res Treat 164, 719–725 (2017). https://doi.org/10.1007/s10549-017-4286-5

# 14. Skin Cancer Screening

## Background

Skin cancer is exceedingly common in the U.S. and worldwide and are estimated to cost nearly $75 billion per year in the US alone.[1] Both malignant and non-malignant skin cancers are caused by chronic and acute exposure to solar UV radiation.[2] Prevention includes staying indoors during times of day with high UV radiation or utilizing sun protection barriers such as sunscreen or clothing. In Maine, the melanoma incidence rate is estimated to be 25.1 per 100,000, compared to the US rate of 22.6 per 100,000.[3] Maine's incidence is approximately 445 new cases of melanoma per year.[3] The Maine mortality rate for melanoma is estimated to be 2.4 per 100,000.[3] While the melanoma mortality rate decreasing in the country overall, Maine's melanoma mortality rate is increasing.[4]

Maine Cancer Foundation has awarded **1 skin cancer screening grant** totaling **$80,000**.

This has resulted in 49 additional skin cancer screenings so far.

While progress has been made treating and detecting melanoma in recent years, disparities persist in rural communities.[5] Generally, rural patient health outcomes are negatively impacted by limited healthcare infrastructure, socioeconomic inequality, distance barriers, and lower access to specialized care. Studies have found that lower-income patients are more likely to initially develop melanoma, due to lack of access to resources and knowledge about prevention.[5] Among rural patients, the prevalence of melanoma is 2.6 times higher than urban populations.[5] There is also a direct positive correlation between thickness of melanoma and distance from care.[5] Given the increased melanoma risk and unique systematic barriers to treatment faced by rural patients, reducing disparities in melanoma outcomes for rural populations requires increasing education and access through a highly tailored, systematic approach.

Skin cancer screening through total body skin examination is noninvasive, safe, and "possibly the most cost-effective screening test in medicine".[6] Despite this, only 8% of patients who saw a primary care provider in the last year received a total body skin examination.[6] In Maine, a recent study of a rural health system found that rural patients in areas with low appointment availability are more likely to receive their melanoma diagnoses in primary care offices, as opposed to dermatology offices.[3] Older patients and non-working patients were particularly likely to struggle to be evaluated when care may be available but would require travelling a large distance. The study concluded that in Maine, primary care provider accuracy when diagnosing melanoma or providing referrals was essential for improving rural patient outcomes.[3]

## Summary of MCF Grants 2023

In 2023, MCF awarded their first grant focused on increasing access to skin cancer screenings.

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Maine Medical Center - Melanoma | Enhanced Melanoma Screening in Rural Primary Care | 2023 | $80,000 | Skin Cancer Grantee | Portland | ME |

## Grant Results

A summary of the results of this grant since it was awarded in 2023 is available below:

- The grant resulted in 2 additional partnerships between the grantee and outside organizations.
- The grant helped develop and distribute educational materials and allowed 19 members of the target population to participate in educational sessions.
- The grant included both training existing staff and hiring new staff.
- The grant focused on increasing skin cancer screening in primary care offices for rural patients without access to a dermatologist.
- The project involved newly identifying at-risk patients for skin cancer screening.
- As of data collection, 49 patients were screened through visual examination.

## Impact of MCF Grants

### *Results*

This grant provided $80,000 to increase melanoma screening in rural primary care by training care providers to provide dermoscopy and biopsy within primary care offices.[7] This grant focused on four rural counties in Maine, identified as having the highest prevalence of melanoma and insufficient resources.

The results of this grant are difficult to evaluate quantitatively at this stage in the process, given that the provided data on the number of screenings appears to be in an early collection stage. Additionally, many portions of this grant - namely increased education, outreach, and provider education - will target the higher prevalence of melanoma among rural populations through increasing prevention awareness in areas where it is less available. The results of these prevention interventions will likely be seen in future years.

### *Discussion*

Prior research has identified that rural communities face unique risks from melanoma. Melanoma is 2.6 times more prevalent in rural communities, and rural patients experience unique barriers to care that make it more difficult to access prevention education, timely detection, and treatment. In Maine, studies have found these barriers increase the importance of primary care offices as sites of melanoma detection, particularly for older and non-working patients.

This grant addresses the challenges unique to rural Maine communities by increasing the capacity of primary care providers to identify and biopsy melanoma in primary care offices. This allows patients to receive a diagnosis without making additional trips to see a specialist, who might have limited availability or be further away than their primary care office. This grant also increased outreach and education for rural populations, addressing a key factor theorized to contribute to higher melanoma prevalence for rural patients.

## *References*


1. Lim, H. W., Collins, S. A., Resneck Jr, J. S., Bolognia, J. L., Hodge, J. A., Rohrer, T. A., ... & Nerenz, D. R. (2017). The burden of skin disease in the United States. Journal of the American Academy of Dermatology, 76(5), 958-972.
2. Hirst, N. G., Gordon, L. G., Scuffham, P. A., & Green, A. C. (2012). Lifetime cost-effectiveness of skin cancer prevention through promotion of daily sunscreen use. Value in Health, 15(2), 261-268.
3. Yob, D., Haggan, K., Bancroft, C., Huston, S., Green-Parsons, A., & Teach, F. Maine 2020 Annual Report of Cancer. Maine CDC Cancer Registry. Available from: https://www.maine.gov/dhhs/mecdc/public-health-systems/data-research/vital-records/mcr/reports/documents/Maine%202020%20Annual%20Report%20of%20Cancer_07012022_Final.pdf
4. Cyr ME, Boucher D, Korona SA, Guthrie BJ, Benneyan JC. A mixed methods analysis of access barriers to dermatology care in a rural state. *J Adv Nurs*. 2021; 77: 355–366. https://doi.org/10.1111/jan.14604
5. Brandon M. Godinich, Vince Hensperger, William Guo, Jay Patel, Jeremy Hugh, Tara L. Kaufmann, Jordan B. Slutsky. (2024) Barriers to Malignant Melanoma Diagnosis in Rural Areas in the United States: A Systematic Review. JAAD Reviews, ISSN 2950-1989, https://doi.org/10.1016/j.jdrv.2024.06.001.
6. Johnson, M. M., Leachman, S. A., Aspinwall, L. G., Cranmer, L. D., Curiel-Lewandrowski, C., Sondak, V. K., Stemwedel, C. E., Swetter, S. M., Vetto, J., Bowles, T., Dellavalle, R. P., Geskin, L. J., Grossman, D., Grossmann, K. F., Hawkes, J. E., Jeter, J. M., Kim, C. C., Kirkwood, J. M., Mangold, A. R., Meyskens, F., … Wong, M. K. (2017). Skin cancer screening: recommendations for data-driven screening guidelines and a review of the US Preventive Services Task Force controversy. *Melanoma management*, *4*(1), 13–37. https://doi.org/10.2217/mmt-2016-0022
7. Maine Cancer Foundation. Enhanced Melanoma Screening in Rural Primary Care. mainecancer.org. https://mainecancer.org/grant/enhanced-melanoma-screening-in-rural-primary-care

# 15. Cervical Cancer Screening

## Background

According to the National Institutes of Health, almost all cervical cancer cases are caused by HPV infection.[1] Over time, abnormal, pre-cancerous cells can form. If not detected and removed, they can progress into cervical cancer. Cervical cancer is highly preventable and treatable with HPV vaccination and regular screening to detect high-risk HPV infections and abnormal cells.[1] Most cervical cancer deaths occur in women who have not been screened according to recommendations.[2]

In Maine, the cervical cancer incidence rate is estimated to be 6.4 per 100,000, compared to the US rate of 7.1 per 100,000.[3] Maine's incidence is approximately 47 new cases of cervical cancer per year.[3] The Maine mortality rate for cervical cancer is estimated to be 1.5 per 100,000, which is significantly lower than the national rate of 2.2 per 100,000.[3]

Maine Cancer Foundation has awarded **2 cervical cancer screening grants** totaling **$128,436**.

This has resulted in 151 additional colposcopies, resulting in an estimated **50.3 life-years gained**.

The US Preventative Services Task Force currently recommends that women aged 21-29 are screened for cervical cancer every 3 years by cytology. For women aged 30-65, continuing to test by cytology every 3 years is recommended, as well as screening every 5 years by high-risk HPV testing alone or co-testing.[2]

## Summary of MCF Grants 2022-2023

In 2022, MCF awarded two grants focused on increasing access to cervical cancer screening, totaling $128,436.

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Maine Family Planning | Request to support cervical cancer screening | 2022 | $28,436 | Cervical Cancer Grantee | Lewiston | ME |
| Penobscot Community Health Center | Improving Cervical Cancer Screening in Primary Care | 2022 | $100,000 | Cervical Cancer Grantee | Bangor | ME |

## Grant Results

The cervical cancer screening grants provided by MCF have resulted in several positive outcomes for the targeted populations. A summary of some of these outcomes is provided below.

- The grants provided further training for 4 staff members.
- One grant increased the number of providers that could perform colposcopies, allowing patients to be screened at a clinic closer to their home.
- One grant identified at risk patients for cervical screening and provided appointment reminders or scheduled follow ups.
- 1,632 patients were screened via cervical cytology and/or HPV test and 151 patients were screened via colposcopy.
- One grantee reported the screening rate among the targeted population increased by 5.5%.

**A total of 151 patients have been screened by colposcopy, resulting in an estimated 50 life-years saved.**

## Impact of MCF Grants

According to the US Preventive Services Task Force, when carrying out screening and referring women for colposcopies according to the current recommendations, 1 life year is gained per every 3 colposcopies performed.[4] This model assumes that all women are 100% vaccinated for HPV. In reality, this number might be higher, as not all women are vaccinated against HPV and might experience higher rates of cancer or pre-cancer detected by colposcopy.

### *MDR Methods for calculating outcomes*

**Table 5: HPV Vaccination Outcomes**

| Additional colposcopy screenings | Percentage increase in screening rate | life-years gained per colposcopy | Estimated total life-years gained from MCF grants |
|---|---|---|---|
| 151 | 5.5% | 0.33 | 50.3 |

### *Results*

The screening efforts of these grantees lead to an additional 151 colposcopies being performed, resulting in an estimated 50.3 life-years gained among those participating in the grantees programs. An additional 1,632 patients received screening via cervical cytology or HPV test.

### *Discussion*

Results indicate that MCF's cervical cancer screening grants were successful in increasing access by both making screenings more accessible to where patients live and by providing appointment reminders and scheduled follow ups to patients who overwise might not get screened. The result was an increased number of colposcopies among patients in the participating practices. Initial estimates (from one of the

participating grantees) suggest that additional colposcopy screenings will result in significant life-years saved and will reduce morbidity and mortality rates of cervical cancer. In addition, both grants are relatively new, so it is likely the full and longer-term effects on the rates of cervical cancer in Maine will likely continue to be seen in future years.

## *References*


1. NIH National Cancer Institute. *Cervical cancer causes, risk factors, and prevention.* (2023, August 18). Cancer.gov. https://www.cancer.gov/types/cervical/causes-risk-prevention
2. US Preventative Services Task Force. Cervical cancer: screening. (2018, August 21). https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/cervical-cancer-screening
3. Yob, D., Haggan, K., Bancroft, C., Huston, S., Green-Parsons, A., & Teach, F. Maine 2020 Annual Report of Cancer. Maine CDC Cancer Registry. Available from: https://www.maine.gov/dhhs/mecdc/public-health-systems/data-research/vital-records/mcr/reports/documents/Maine%202020%20Annual%20Report%20of%20Cancer_07012022_Final.pdf
4. Kim JJ, Burger EA, Regan C, Sy S. Screening for Cervical Cancer in Primary Care: A Decision Analysis for the US Preventive Services Task Force. *JAMA.* 2018;320(7):706–714. doi:10.1001/jama.2017.19872

# 15. Multiple Types

## Background

There are many individual and structural factors that contribute to disparities in cancer screening rates, cancer treatment, and long-term recovery, including lack of insurance, structural barriers to health care, language difficulties, and cultural norms.[1,2] Immigrant communities in the U.S. persistently experience lower cancer screening rates, despite efforts to increase access.[1] Studies have shown that women who immigrated to the US in the past 10 years are the least likely demographic group to receive cancer screening, even compared to uninsured patients.[2]

Maine Cancer Foundation has awarded **3 screening grants targeting multiple types of cancer** totaling **$155,000**.

This has resulted in **67 educational sessions**, reaching over **2,000 individuals** as well as over 400 new **cancer screenings**.

In Maine, a study conducted at a Portland clinic among Cambodian, Vietnamese, and Somali women found that women cited these barriers as factors influencing their screening decisions, as well as specific issues like lack of transportation and discomfort with male clinicians.[2] When asked how they would like to learn about cancer screening, respondents chose written information in their own language and videos in their own language that explained the screening process.[2] The study also found that out of the groups included in the study, Somali women were the least likely to undergo all 4 types of screening (Pap test, CBE, mammography, colonoscopy, and FOBT).[2]

## Summary of MCF Grants 2022-2023

To help address barriers that impact a wide range of cancer types and improve outcomes among specific populations, MCF awarded their first three grants focused on increasing access to multiple types of cancer screenings among Maine's immigrant and BIPOC communities in 2022, totaling $155,000.

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| AK Health and Social Services | Boosting Cancer Screening Rates For Immigrants, Refugees and BIPOC Communities in Maine | 2022 | $15,000 | Multiple Types Cancer Grantee | Lewiston | ME |
| Greater Portland Health | Increasing Cancer Screenings Through Culturally Responsive Care | 2022 | $90,000 | Multiple Types Cancer Grantee | Portland | ME |
| New Mainers Public Health Initiative | Cancer Education and Awareness Project | 2022 | $50,000 | Multiple Types Cancer Grantee | Lewiston | ME |

## Grant Results

The three grants provided by MCF focusing on providing culturally competent care for New Mainers resulted in several positive outcomes for the targeted communities. A summary of some of these outcomes is provided below.

- All 3 grants focused on screening for breast cancer, cervical cancer, and colorectal cancer. 2 grantees also focused on lung cancer, and 1 on skin cancer.
- 2 organizations established new partnerships using grant funds, resulting in 6 new partnerships.
- 2 projects involved the development and distribution of educational materials.
- 2 grantees held educational or media outreach events and educational sessions, resulting in 67 total outreach events and an estimated 2,000 New Mainers receiving educational information.
- 7 current staff members received training between 2 grantees.
- 1 grant involved hiring new staff, with 2 new staff members hired.
- 2 projects involved increasing access to healthcare. Access was increased by offering transportation, translation, interpretation, expanded digital resources, and financial assistance.
- 999 new patients were newly identified for screening.
- 406 patients received increased appointment reminders or assistance scheduling screenings.
- All 3 grants involved increasing cancer screenings among New Mainers. One grantee provided information on the number of patients screened so far, reporting 39 additional breast cancer screenings, 321 cervical cancer screenings, and 44 colorectal cancer screenings.

## Impact of MCF Grants

These grants have resulted in several positive outcomes for the populations served, and more outcomes will be measurable as projects continue.

One grantee, AK Health and Social Services, used their 2022 grant to conduct a needs assessment in Androscoggin County, gathering data on screening rates among immigrant, refugee, asylum seeker, and BIPOC communities. They then used this data to design a program to increase screening rates among the target population and applied for a second grant, awarded in 2024. The 2024 grant is not included in this report, as it was awarded too recently. The full impact of this sequence of grants will be seen in future years.

Another grantee, New Mainers Public Health Initiative, conducted educational workshops in French, Portuguese, and Somali offering information on the benefits of screening and early cancer detection to increase. The goal of these educational sessions is to build trust in the medical community and increase the rates that attendees sign up for screening.

**Table 5: Screenings**

| Population | Breast Cancer Screenings | Percent of Population | Cervical Cancer Screenings | Percent of Population | Colorectal Cancer Screenings | Percent of Population |
|---|---|---|---|---|---|---|
| 1,455 | 39 | 2% | 321 | 22% | 44 | 3% |

## *Discussion*

Results indicate that while several of these grants are in the early stages and their full impacts have not yet been seen, these grants are having a positive impact on the target community. Increasing accessible outreach and education is one of the main intended outcomes of these grants. Together, two of the grantees conducted 67 outreach events, reaching over 2,000 individuals.

One grantee so far has reported data on screenings provided, reporting 39 additional breast cancer screenings, 321 cervical cancer screenings, and 44 colorectal cancer screenings, suggesting screening rate percentages of 2%, 22%, and 3% respectively per screening method among a target population of 1,455. Further impacts of these grants will be seen as grant programs reach later stages, and as the impact of educational efforts become measurable.

## *References*


1. Carolyn Y. Fang, Camille C. Ragin; Addressing Disparities in Cancer Screening among U.S. Immigrants: Progress and Opportunities. Cancer Prev Res (Phila) 1 March 2020; 13 (3): 253–260. https://doi.org/10.1158/1940-6207.CAPR-19-0249
2. Samuel, P.S., Pringle, J.P., James, N.W. *et al.* Breast, cervical, and colorectal cancer screening rates amongst female Cambodian, Somali, and Vietnamese immigrants in the USA. *Int J Equity Health* **8**, 30 (2009). https://doi.org/10.1186/1475-9276-8-30

# Appendix A

## Methodology

### *Outcome Metrics*

The outcome metrics for MCF's grant-making activities were previously defined in the Challenge Cancer 2020 evaluation plan. MDR worked closely with MCF to review and refine the metrics at the start of the project based on the current circumstances of Challenge Cancer 2020 grantees and additional data that were available on grant activities. It is important to note that metrics that are not feasible to collect data on or measure due to the cost/level of effort required were retained in the final outcome list, even though they are not reported on.

In addition to the outcomes previously identified in the evaluation plan, MDR conducted a cost-effectiveness analysis (where possible) to quantify the effectiveness of MCF grant funding across the multiple areas of focus. This return on investment for MCF funding was calculated as the number of life years saved, costs saved, etc. per MCF grant dollar awarded.

**Outcome Metrics**

Transportation & Lodging

- Reduced barriers to care
- Expanded treatment options for patients
- # of life-years saved as a result of intervention
- What is the cost-effectiveness of MCF transportation funding?

Patient Navigation

- Financial/ economic assistance, health insurance navigation, transportation, social services, lodging
- Increased rate of recommended cancer screenings for patient panel
- Increased rate of patients screened that have never been screened before
- Increased rate of high-risk patients screened
- Higher rate of early detection
- Reduced barriers to screening and care
- Improved quality of life and wellbeing of patients
- More early diagnoses/decreased % of late-stage diagnoses
- Increased workflow effectiveness
- # of life-years saved as a result of intervention
- What is the cost-effectiveness of MCF patient navigation funding?

Tobacco

- Increased number of tobacco users who successfully quit
- Decreased tobacco and other nicotine delivery systems use
- Reduced number of youth who initiate tobacco and other nicotine delivery systems use

- Decreased exposure to secondhand smoke
- Increased access to smoke-free housing options for low-income renters
- Reduction in tobacco-related cancers
- # of life-years saved as a result of intervention
- What is the cost-effectiveness of MCF tobacco funding?

Colorectal Cancer Screening

- Increased rate of recommended cancer screenings for patient panel
- Increased rate of patients screened that have never been screened before
- Increased rate of high-risk patients screened
- Higher rate of early detection
- Decreased % of late-stage diagnoses
- Increased adoption of genetic counseling
- Reduce barriers to screening and care
- Expand treatment options for patients after early detection
- Reduction in CRC rates
- What is the cost-effectiveness of MCF CRC funding?
- # of life-years saved as a result of intervention

Lung Cancer Screening

- Increased rate of patients screened that have never been screened before
- Increased rate of high-risk patients screened
- Higher rate of early detection
- Decreased % of Late-Stage Diagnoses
- Increased Use of Low-Dose CT scans
- Increased rate of smoking cessation program utilization cooccurring with screening
- Reduced barriers to screening and care
- Expanded access to and utilization of specialty care services for patients after early detection
- Reduction in lung cancer rates
- # of life-years saved as a result of intervention
- Increased provider knowledge and use of LDCT
- What is the cost-effectiveness of MCF lung cancer screening funding?

General Operating

- What is the cost-effectiveness of MCF general operations funding?
- How has general operations funding improved Maine's cancer system?

Human Papilloma Virus (HPV) Vaccinations

- Increased rate of patients receiving HPV vaccinations
- Reduction in HPV-related cancers
- # of life-years saved as a result of HPV vaccination interventions
- What is the cost-effectiveness of MCF HPV vaccinations funding?

Sun Safety

- Increased rate of patients receiving skin cancer screenings
- Higher rate of early detection
- Decreased % of Late-Stage Diagnoses
- Reduction in skin cancer rates
- # of life-years saved as a result of sun safety interventions
- What is the cost-effectiveness of MCF sun safety funding?

*Note that actual grant activities do not necessarily cover all outcomes listed above. Grantees may have only worked on some of the outcomes. In addition, it may not be feasible to collect data or estimate some outcomes, such as reduction in cancer incidence rates.*

## Data Collection

MCF and MDR developed a survey instrument to facilitate data collection. The survey was designed and programmed to ask questions that are relevant to each grant type; questions were based on the activities and outcomes specific to that area's logic model. The goal was to collect information from grantees on their actions and outcomes, using the logic model to estimate longer-term outcomes based on the established evidence-based literature that each set of programs was based on. Note that the survey is modified slightly year-to-year to ensure that it reflects changes to MCF's grantmaking and new areas of focus (such as grants that cover multiple types of cancer in 2023).

All surveys were completed on MDR's Voxco survey software. MDR sent a link to the survey via email to 107 grantees and followed up with those who did not provide information within four-six weeks. Data collection took place from December 2023 through March 2024. A total of 73 grantees completed the survey.

To supplement survey data collection, MCF provided MDR with all previous evaluation data and documentation that was collected. The data that grantees provide related to their activities (such as the number of patients that received colorectal cancer screening as a result of the intervention) to be used in the analysis to estimate or model impact and cost-effectiveness.

**Summary of Data Collection Results Among Grantees**

| Area | Total Grants (2015-2023) | Responding Grants 2023* |
|---|---|---|
| Transportation & Lodging | 83 | 26 |
| Patient Navigation | 17 | 1 |
| Tobacco | 33 | 8 |
| Colorectal Cancer Screening | 26 | 3 |
| Lung Cancer Screening | 11 | 6 |
| General Operating Support | 11 | N/A |
| HPV Vaccinations | 5 | 2 |
| Sun Safety | 7 | 2 |
| Research | 5 | N/A |
| Genetic Screening | 1 | N/A |
| Hospice General Operating Support | 12 | N/A |

| | | |
|---|---|---|
| Miscellaneous | 19 | N/A |
| Breast Cancer Screening | 4 | 4 |
| Skin Cancer Screening | 1 | 1 |
| Cervical Cancer Screening | 2 | 2 |
| Multiple Types | 3 | 3 |

**Grantees whose projects were still active at time of data collection were asked to complete a 2023 survey. Since many grant projects have already been completed, their reporting is finalized, and they were not required to complete a survey again in 2023.*

## Analysis

The analysis combined the primary data collected from grantees and information from published literature on the outcomes and cost effectiveness of MCF's evidence-based activities. By combining expected outcomes with data on program activities and reported outcomes, MDR calculated the impact and effectiveness of each grant submitting data in addition to measuring the overall impact of MCF funding.

Cost-effectiveness analysis provides a tool to weigh and synthesize benefits, harms, and costs of interventions and thus can inform the decision process for adopting population screening. Cost-effectiveness analysis cannot determine which the optimal intervention is, but rather which intervention will provide the greatest health benefits, given the decision maker's willingness to pay for a unit of benefit.

Two types of cost-effectiveness ratios are often reported in the literature: 1) a cost-effectiveness ratio comparing each intervention strategy to the standard of care, often a "no intervention" scenario; and 2) an incremental cost-effectiveness ratio comparing each strategy with the next most effective alternative, which may or may not be a "no intervention" scenario. The grants funded by MCF increase access, screening, etc. among those who would otherwise not have access to high-quality cancer care. Therefore, the cost-effectiveness analysis conducted by MDR compared grant activities against a "no intervention" scenario (where applicable). That is, we compared the results of the grant-funded interventions to a scenario where the grants were not provided (i.e., no intervention).

Where possible, MDR looked at a basic cost-effectiveness model that examines the number of life years saved compared to the amount of grant funding received. In cases where life years cannot be estimated, other cost-effectiveness metrics were developed and reported to assess the impact and relative cost-benefit of the grant funding.

## Limitations

The data and results presented in this report are subject to limitations. Note that many of these MCF grants have been recently awarded and are ongoing, meaning that outcomes for many grantees are not yet available. Additional data will need to be collected from these grantees in the future to create a more comprehensive and complete picture of MCF grant funding. Given the long-term nature of cancer prevention programs, it will likely be many years before all the benefits of MCF funding will be seen.

Also note that there are gaps in the data presented in this report where grantees chose not to follow up with our additional requests. Therefore, the results of MCFs grant-making activities presented here are likely underreported due to this non-response missing data. It also limits our ability to extrapolate the

results – meaning that MCF's grants likely had more overall impact across the state than what the data suggest here.

# Appendix B

## Complete Grant List

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| **Cancer Screening** | | | | | | |
| LincolnHealth | Strategy for Identification and Screening of Unscreened Patients at LincolnHealth (LH) | 2016 | $29,235 | CRC Screening | Damariscotta | ME |
| MaineGeneral Medical Center | Expansion of the Role of Community Health Workers to Increase Colon Cancer Screening Rates | 2016 | $29,937 | CRC Screening | Augusta | ME |
| MaineHealth - Maine Medical Center | Building Capacity at MaineHealth to Enhance Colorectal Cancer Screening | 2016 | $28,863 | CRC Screening | Portland | ME |
| Mid Coast Hospital | Developing Systems to Increase Colorectal Screening Rates through Patient Identification | 2016 | $29,848 | CRC Screening | Brunswick | ME |
| Mount Desert Island Hospital | A Novel System to Increase Colorectal Screenings and Ensure Compliance in a Targeted Subset of Patients at Mount Desert Island Hospital | 2016 | $7,481 | CRC Screening | Bar Harbor | ME |
| Penobscot Community Health Care | Provider Reminder and Recall System for Colorectal Cancer Screening | 2016 | $30,000 | CRC Screening | Bangor | ME |
| City of Portland, Minority Health Program | Colorectal Cancer Screening for | 2017 | $100,000 | CRC Screening | Portland | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| | Vulnerable Populations | | | | | |
| Healthy Community Coalition of Greater Franklin County | One-by-One-Colorectal Cancer Screening and Navigation | 2017 | $99,832 | CRC Screening | Farmington | ME |
| MaineGeneral Medical Center | 80% Colon Cancer Screening Project | 2017 | $99,627 | CRC Screening | Augusta | ME |
| Penobscot Community Health Care | Expanding Systems to Increase Colorectal Cancer Screening through Patient Outreach and Recall | 2017 | $100,000 | CRC Screening | Bangor | ME |
| Waldo County General Hospital | Waldo Screen to Save | 2017 | $44,566 | CRC Screening | Belfast | ME |
| Cary Medical Center | Screen Aroostook | 2018 | $98,516 | CRC Screening | Biddeford | ME |
| Healthy Androscoggin / Central Maine Community Health | Colon Health Rx: A Unique Approach to Cancer Screening in Lewiston's Immigrant Community | 2018 | $93,051 | CRC Screening | Lewiston | ME |
| Pen Bay Medical Center | Pen Bay Medical Center: Screen to Save - Knox County | 2018 | $32,055 | CRC Screening | Rockport | ME |
| Penobscot Community Health Center | Improving Colorectal Screening Rates via Use of a Medical Support Assistant | 2018 | $100,000 | CRC Screening | Bangor | ME |
| Sebasticook Valley Health | An Outreach, education, and Navigation Program to Increase Colorectal Cancer Screenings for Eligible Adults in the Sebasticook Valley Region | 2018 | $85,791 | CRC Screening | Pittsfield | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Harrington Family Health Center | Increase Colorectal Screening through the reduction in FIT Test Barriers and Increased Community Education | 2019 | $100,000 | CRC Screening | Harrington | ME |
| Healthy Acadia | Downeast Colorectal Cancer Screening Initiative | 2019 | $100,000 | CRC Screening | Ellsworth | ME |
| Maine Access Immigrant Network | Colorectal Cancer Prevention and Screening Outreach and Education in MAIN's Communities | 2019 | $45,906 | CRC Screening | Portland | ME |
| MaineGeneral Medical Center | Mobilizing CHWs to increase access for high-risk patients due for surveillance colonoscopy screening | 2019 | $96,629 | CRC Screening | Augusta | ME |
| Penobscot Community Health Center | Improving Colorectal Screening Rates via Community Support Workers -- A Pilot Project | 2019 | $100,000 | CRC Screening | Bangor | ME |
| Islands Community Medical Services | Increasing Cancer Screenings at ICMS | 2020 | $100,000 | CRC Screening | Vinalhaven | ME |
| MaineHealth dba Maine Medical Center | Cancer Genetic ECHO: Extending Genetic Services to Maine's Colorectal Cancer Patients and their At-Risk Family Members | 2020 | $89,055 | CRC Screening | Portland | ME |
| Northern Light A.R. Gould Hospital | Removing Stigma and Barriers: Increasing Colorectal Screenings in Aroostook County | 2020 | $70,710 | CRC Screening | Presque Isle | ME |
| Maine Primary Care Association | Colorectal Cancer Screening Project | 2021 | $20,000 | CRC Screening | Augusta | ME |
| St. Joseph Hospital - Community Care Partnership of Maine | Pre-Visit Planning: Colorectal Cancer Screening | 2023 | $80,000 | CRC Screening | Bangor | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Maine Medical Center Research Institute | Integrating personalized risk information in Low-Dose CT (LDCT) screening for lung cancer | 2015 | $100,000 | Lung Cancer Screening | Scarborough | ME |
| Maine Medical Center | Maine Lung Cancer Coalition | 2016 | $400,000 | Lung Cancer Screening | Scarborough | ME |
| Maine Medical Center | Maine Primary Care Provider Lung Cancer Screening Survey | 2018 | $3,674 | Lung Cancer Screening | Scarborough | ME |
| Healthy Acadia | Downeast Cancer Screening Initiative | 2021 | $40,000 | Lung Cancer Screening | Ellsworth | ME |
| MaineHealth - Medical Center | Dissemination and Implementation of New Lung Cancer Screening Guidelines | 2021 | $39,979 | Lung Cancer Screening | Portland | ME |
| Cary Medical Center | Screen Aroostook for Lung Cancer | 2021 | $40,000 | Lung Cancer Screening | Caribou | ME |
| MaineHealth - Coastal Healthcare Alliance | Coastal Healthcare Alliance Comprehensive Lung Cancer Screening Program | 2021 | $39,650 | Lung Cancer Screening | Rockport | ME |
| St. Joseph Hospital - Community Care Partnership of Maine | Lung Cancer Prevention and Early Detection Project | 2021 | $39,946 | Lung Cancer Screening | Bangor | ME |
| MaineHealth - Maine Medical Center | Maine Lung Cancer Coalition - 2nd Generation | 2021 | $99,961 | Lung Cancer Screening | Portland | ME |
| MaineHealth - Healthy Community Coalition | Reducing Barriers to Lung Cancer Screening in Franklin County | 2022 | $99,824 | Lung Cancer Screening | Portland | ME |
| MaineHealth - Maine Medical Center | Improving Lung Cancer Mortality Through Increased Screening Capacity at MMC Cancer Institute | 2022 | $96,823 | Lung Cancer Screening | Portland | ME |
| **Transportation** | | | | | | |
| Angel Flight Northeast | Changing Lives One Flight at a Time | 2018 | $30,000 | Transportation | North Andover | MA |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Angel Flight Northeast | Changing Lives One Flight at a Time | 2020 | $40,000 | Transportation | North Andover | MA |
| Angel Flight Northeast | Bridging the Gap Between Distance and Medical Care | 2022 | $60,000 | Transportation | North Andover | MA |
| Aroostook County Action Program | Project TEACH (Transportation, Education, Access, Care, and Housing) | 2021 | $35,000 | Transportation | Presque Isle | ME |
| Aroostook Regional Transportation System | ARTS Cancer Assistance Fund | 2022 | $60,000 | Transportation | Presque Isle | ME |
| Beth C. Wright Cancer Resource Center | Access to Cancer Treatment | 2015 | $7,000 | Transportation | Ellsworth | MA |
| Beth C. Wright Cancer Resource Center | Access to Cancer Treatment | 2016 | $15,000 | Transportation | Ellsworth | MA |
| Beth C. Wright Cancer Resource Center | Access to Cancer Treatment | 2017 | $7,500 | Transportation | Ellsworth | MA |
| Beth C. Wright Cancer Resource Center | Access To Cancer Treatment | 2017 | $50,000 | Transportation | Ellsworth | MA |
| Beth C. Wright Cancer Resource Center | Access To Cancer Treatment | 2019 | $60,000 | Transportation | Ellsworth | MA |
| Beth C. Wright Cancer Resource Center | Access To Cancer Treatment | 2021 | $50,000 | Transportation | Ellsworth | MA |
| Brians Ride Cancer Fund | Transportation and Lodging Assistance for Cancer Patients | 2018 | $40,000 | Transportation | Caribou | ME |
| Brian's Ride Cancer Fund | Transportation and Lodging Assistance for Cancer Patients | 2020 | $40,000 | Transportation | Caribou | ME |
| Cancer Resource Center of Western Maine | Cancer Resource Center of Western Maine: Access to Cancer Care through Transportation | 2018 | $10,000 | Transportation | Norway | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Cancer Resource Center of Western Maine | 2020-21 Transportation and Lodging Grant for Cancer Patients in Western Maine | 2019 | $30,000 | Transportation | Norway | ME |
| Cancer Resource Center of Western Maine | 2022-23 Transportation and Lodging Grant for Cancer Patients | 2021 | $40,000 | Transportation | Norway | ME |
| Central Maine Medical Center | Interim Transportation Coverage | 2022 | $31,120 | Transportation | Lewiston | ME |
| Community Concepts | Transportation | 2015 | $10,000 | Transportation | Lewiston | ME |
| Community Concepts | Transportation | 2016 | $15,000 | Transportation | Lewiston | ME |
| Community Concepts | The Cancer Patient Transportation Project | 2017 | $50,000 | Transportation | Lewiston | ME |
| Community Concepts | Community Concepts Transportation for Cancer Patients | 2019 | $60,000 | Transportation | Lewiston | ME |
| Dean Snell Cancer Foundation | Patient Transportation Assistance Program | 2015 | $10,000 | Transportation | Brunswick | ME |
| Dean Snell Cancer Foundation | Patient Transportation Assistance Program | 2016 | $15,000 | Transportation | Brunswick | ME |
| Dean Snell Cancer Foundation | Patient Transportation Assistance Program | 2017 | $7,500 | Transportation | Brunswick | ME |
| Dean Snell Cancer Foundation | Patient Transportation Program | 2017 | $45,000 | Transportation | Brunswick | ME |
| Dean Snell Cancer Foundation | Patient Transportation and Lodging Program | 2019 | $60,000 | Transportation | Brunswick | ME |
| Dean Snell Cancer Foundation | Patient Transportation & Lodging Program | 2021 | $50,000 | Transportation | Brunswick | ME |
| Dempsey Center | The Maine Fund for Cancer Patients | 2015 | $4,000 | Transportation | Lewiston | ME |
| Dempsey Center | The Maine Fund for Cancer Patients | 2016 | $4,000 | Transportation | Lewiston | ME |
| Dempsey Centers for Quality Cancer Care | Clayton's House, a Hospitality Home for Cancer Patients | 2021 | $35,000 | Transportation | Ellsworth | ME |
| Downeast Community Partners | DCP Rides for a Cure | 2017 | $50,000 | Transportation | Ellsworth | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Downeast Community Partners | DCP Rides for a Cure | 2019 | $60,000 | Transportation | Ellsworth | ME |
| Downeast Community Partners | DCP Rides for a Cure | 2021 | $50,000 | Transportation | Ellsworth | ME |
| Edgar J. (Guy) Paradis Cancer Fund | Support for Transportation to and from Cancer Services for St. John Valley Residents | 2020 | $40,000 | Transportation | Fort Kent | ME |
| Friends in Action | Friends in Action transportation | 2018 | $30,000 | Transportation | Ellsworth | ME |
| Friends in Action | Cancer Patient Transportation | 2020 | $20,000 | Transportation | Ellsworth | ME |
| Friends in Action | Friends in Action Transportation | 2022 | $28,250 | Transportation | Ellsworth | ME |
| Hospitality Homes | Hospitality Homes Maine Boston Network (MBN) | 2017 | $38,000 | Transportation | Boston | MA |
| Hospitality Homes | Ensuring Free Lodging and Transportation for Maine Cancer Patients Seeking Care in Boston | 2019 | $60,000 | Transportation | Boston | MA |
| Hospitality Homes | Ensuring Free Lodging and Transportation for Maine Cancer Patients Seeking Care in Boston | 2021 | $50,000 | Transportation | Boston | MA |
| Island Connections | Support Increased Demand for Existing Programs | 2022 | $5,000 | Transportation | Bar Harbor | ME |
| Joe Andruzzi Foundation | Alleviating the Barrier of Transportation for Maine Residents Pilot Program | 2021 | $30,000 | Transportation | North Attleborough | MA |
| Kennebec Valley Community Action Program | KVCAP Cancer Transportation Project | 2017 | $50,000 | Transportation | Waterville | ME |
| Kennebec Valley Community Action Program | Transportation for cancer related services | 2019 | $50,000 | Transportation | Waterville | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Kennebec Valley Community Action Program | Transportation for Cancer Patients | 2022 | $60,000 | Transportation | Waterville | ME |
| Lake Region Senior Service | Healthcare Access Program | 2015 | $10,000 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Healthcare Access Program | 2016 | $15,000 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Cancer Patient Transportation | 2017 | $36,000 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Healthcare Access Program | 2017 | $7,500 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Cancer Patient Transportation Program | 2019 | $38,570 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Cancer Patient Transportation Program | 2022 | $27,000 | Transportation | Bridgton | ME |
| Lake Region Senior Service | Transportation Mini-Grant | 2022 | $10,000 | Transportation | Bridgton | ME |
| Leukemia & Lymphoma Society | Increased Patient Transportation and Lodging for Maine Patients | 2021 | $50,000 | Transportation | Portland | ME |
| MaineHealth - Maine Medical Center | Rideshare for Cancer Care | 2019 | $34,560 | Transportation | Portland | ME |
| Northern Light AR Gould Cancer Care | RideLink: Supporting Cancer Patient Transportation and Wellbeing | 2020 | $40,000 | Transportation | Presque Isle | ME |
| Northern Light EMMC | Supporting a Systemic Approach to Transportation and Lodging Assistance for Rural Cancer Care Patients | 2022 | $60,000 | Transportation | Bangor | ME |
| Northern Light Mercy Hospital | Piloting Uber Health as a Resource to Provide Reliable Transportation for Cancer Patients in the Portland Area | 2020 | $16,560 | Transportation | Portland | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Northern Light Eastern Maine Medical Center | Creating a Systematic Approach to Transportation and Lodging Assistance for Rural Cancer Care Patients | 2020 | $40,000 | Transportation | Bangor | ME |
| Passamaquoddy Tribe Pleasant Point Health Center | Pleasant Point Patient Assistance | 2019 | $45,840 | Transportation | Perry | ME |
| Passamaquoddy Tribe Pleasant Point Health Center | Cancer Patients Transportation and Lodging Assistance | 2022 | $59,998 | Transportation | Perry | ME |
| Passamaquoddy Tribe Pleasant Point Health Center | Transportation and Lodging for Cancer Patients | 2022 | $5,000 | Transportation | Perry | ME |
| Patient AirLife Services | Eliminating Transportation Barriers for Cancer Patients in Maine | 2022 | $60,000 | Transportation | Farmingdale | NY |
| Patient Airlift Services | Eliminating Transportation Barriers for Patients in Maine | 2018 | $30,000 | Transportation | Farmingdale | NY |
| Patient Airlift Services | Eliminating Transportation Barriers for Cancer Patients in Maine | 2020 | $40,000 | Transportation | Farmingdale | NY |
| Penquis | Accessing Cancer Care | 2021 | $50,000 | Transportation | Bangor | ME |
| Penquis CAP | Access to Cancer Care | 2015 | $10,000 | Transportation | Bangor | ME |
| Penquis CAP | Access to Cancer Care | 2016 | $15,000 | Transportation | Bangor | ME |
| Penquis CAP | Access to Cancer Care | 2017 | $7,500 | Transportation | Bangor | ME |
| Penquis CAP | Accessing Cancer Care | 2017 | $50,000 | Transportation | Bangor | ME |
| Penquis CAP | Accessing Cancer Care | 2019 | $60,000 | Transportation | Bangor | ME |
| Snell Foundation | Transportation & Lodging Assistance Program | 2020 | $10,000 | Transportation | Biddeford | ME |
| St. Mary's Regional Medical Center | Showing Up: Improving Access to Care for Patients with Cancer | 2022 | $15,000 | Transportation | Lewiston | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| The Boston House | Access for Maine Children | 2020 | $40,000 | Transportation | Brookline | MA |
| The Leukemia & Lymphoma Society | Other Medical Expenses (OME) | 2018 | $50,000 | Transportation | Wellesley | MA |
| Waldo Community Action Partners | MCPT–PBMC–WCGH Collaboration for Cancer Care Transportation | 2017 | $49,966 | Transportation | Belfast | ME |
| Waldo Community Action Partners | Midcoast Cancer Care Transportation Network | 2019 | $60,000 | Transportation | Belfast | ME |
| Waldo Community Action Partners | Midcoast Cancer Care Transportation Network | 2021 | $50,000 | Transportation | Belfast | ME |
| Washington Hancock Community Action | Transportation | 2016 | $12,000 | Transportation | Ellsworth | ME |
| Western Maine Transportation Services | Cancer Care-Related Transportation | 2022 | $20,000 | Transportation | Auburn | ME |
| York County Community Action Corporation | Connecting to Cancer Care | 2015 | $10,000 | Transportation | Sanford | ME |
| York County Community Action Corporation | Connecting to Cancer Care | 2017 | $50,000 | Transportation | Sanford | ME |
| York County Community Action Corporation | Connecting to Cancer Care | 2019 | $60,000 | Transportation | Sanford | ME |
| York County Community Action Corporation | Connecting to Cancer Care | 2021 | $30,000 | Transportation | Sanford | ME |
| **Patient Navigation** | | | | | | |
| Aroostook Medical Center | Early Access Patient Navigator | 2015 | $164,000 | Patient Navigator | Presque Isle | ME |
| Caring Connections/Bangor YMCA | Caring Connections Patient Navigator Position | 2017 | $110,386 | Patient Navigator | Bangor | ME |
| Cary Medical Center | Navigating the Journey | 2018 | $161,557 | Patient Navigator | Caribou | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Central Maine Medical Center | Lung Screening Navigator with Tracking and Reporting Software System | 2017 | $164,000 | Patient Navigator | Lewiston | ME |
| Greater Portland Health | Patient navigator to reduce cancer incidence and mortality rates among minority populations | 2018 | $164,000 | Patient Navigator | Portland | ME |
| Healthy Acadia | Downeast Cancer Patient Navigation | 2016 | $164,000 | Patient Navigator | Ellsworth | ME |
| Healthy Acadia | Downeast Cancer Patient Navigation through Continuum of Care | 2019 | $111,368 | Patient Navigator | Ellsworth | ME |
| Healthy Acadia | Downeast Cancer Patient Navigation Across the Continuum of Care | 2022 | $130,000 | Patient Navigator | Ellsworth | ME |
| Healthy Community Coalition of Greater Franklin County | Franklin's Navigator Program for Colorectal Cancer Screening | 2015 | $164,000 | Patient Navigator | Farmington | ME |
| Katahdin Valley Health Center | KVHC Patient Navigator Project | 2018 | $164,000 | Patient Navigator | Patten | ME |
| Maine Mobile Health Program | Maine Immigrant Patient navigation Project | 2016 | $138,725 | Patient Navigator | Augusta | ME |
| MaineGeneral Medical Center | Reducing Barriers to Cancer Care for Low Income, Rural Residents | 2017 | $161,562 | Patient Navigator | Augusta | ME |
| Mount Desert Island Hospital | Establishing a Patient Navigator Program at Mount Desert Island Hospital | 2017 | $161,614 | Patient Navigator | Bar Harbor | ME |
| Pen Bay Medical Center | Pen Bay Medical Center, Patient Navigator Program | 2017 | $161,388 | Patient Navigator | Rockland | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Penobscot Community Health Care | Eliminating Barriers to Cancer Screening through Use of Navigator Medical Assistants | 2015 | $164,000 | Patient Navigator | Bangor | ME |
| Sebasticook Valley Health | Patient Navigation Outreach Program | 2015 | $137,248 | Patient Navigator | Pittsfield | ME |
| Southern Maine Health Care | Ambulatory Nurse Navigator with emphasis on Lung Cancer | 2016 | $164,000 | Patient Navigator | Biddeford | ME |
| Healthy Acadia | Downeast Cancer Patient Navigation through Continuum of Care | 2019 | $111,368 | Patient Navigator | Ellsworth | ME |
| Healthy Community Coalition of Greater Franklin County | Franklin's Navigator Program for Colorectal Cancer Screening | 2015 | $164,000 | Patient Navigator | Farmington | ME |
| Katahdin Valley Health Center | KVHC Patient Navigator Project | 2018 | $164,000 | Patient Navigator | Patten | ME |
| Maine Mobile Health Program | Maine Immigrant Patient navigation Project | 2016 | $138,725 | Patient Navigator | Augusta | ME |
| MaineGeneral Medical Center | Reducing Barriers to Cancer Care for Low Income, Rural Residents | 2017 | $161,562 | Patient Navigator | Augusta | ME |
| Mount Desert Island Hospital | Establishing a Patient Navigator Program at Mount Desert Island Hospital | 2017 | $161,614 | Patient Navigator | Bar Harbor | ME |
| Pen Bay Medical Center | Pen Bay Medical Center, Patient Navigator Program | 2017 | $161,388 | Patient Navigator | Rockland | ME |
| Penobscot Community Health Care | Eliminating Barriers to Cancer Screening through Use of Navigator Medical Assistants | 2015 | $164,000 | Patient Navigator | Bangor | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Sebasticook Valley Health | Patient Navigation Outreach Program | 2015 | $137,248 | Patient Navigator | Pittsfield | ME |
| Southern Maine Health Care | Ambulatory Nurse Navigator with emphasis on Lung Cancer | 2016 | $164,000 | Patient Navigator | Biddeford | ME |
| **HPV Vaccination** | | | | | | |
| Maine Quality Counts** | HPV Vaccination Learning Collaborative | 2017 | $264,201 | HPV Vaccination | Manchester | ME |
| Maine Quality Counts | HPV Vaccination Learning Collaborative | 2017 | $264,201 | HPV Vaccination | Manchester | ME |
| Maine Pharmacy Association | HPV Vaccination Continuous Learning Programming with Maine Pharmacy Association | 2019 | $2,269 | HPV Vaccination | Augusta | ME |
| Maine Quality Counts | Maine HPV Project ECHO | 2019 | $91,916 | HPV Vaccination | Manchester | ME |
| Maine Medical Education Trust | HPV ECHO No-Cost Extension | 2020 | $24,238 | HPV Vaccination | Manchester | ME |
| Maine Medical Association Center for Quality | Creating Innovative Medical and Dental Pathways for HPV Vaccination Education to Increase HPV Vaccination Rates in Maine | 2021 | $190,948 | HPV Vaccination | Manchester | ME |
| **Tobacco** | | | | | | |
| Aroostook County Action Program | Tobacco Cessation for Aroostook County Adults | 2019 | $79,310 | Tobacco | Houlton | ME |
| Bangor Public Health and Community Services | Tobacco Treatment Partnership in Bangor | 2022 | $99,126 | Tobacco Grantee | Bangor | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Breathe Easy Coalition of Maine, City of Portland | Addressing Disparities in Tobacco Use and Exposure through Policy and Environmental Change | 2015 | $74,101 | Tobacco | Portland | ME |
| Down East AIDS Network and the Health Equity Alliance | LGBTQ Tobacco Equity Project | 2015 | $57,669 | Tobacco | Ellsworth | ME |
| Healthy Acadia | Reducing Tobacco Use in Downeast Maine | 2017 | $75,477 | Tobacco | Ellsworth | ME |
| Healthy Androscoggin | Tobacco Education and Cessation Support for Adults in Androscoggin Country | 2017 | $52,419 | Tobacco Cessation | Lewiston | ME |
| Healthy Androscoggin | Preventing Youth Smoking Through Community Education: The Tobacco 21 Law | 2018 | $94,816 | Tobacco | Lewiston | ME |
| Healthy Androscoggin | Tobacco Support Group | 2019 | $9,123 | Tobacco | Lewiston | ME |
| Healthy Androscoggin | New Mainer focused tobacco interventions | 2022 | $80,000 | Tobacco Grantee | Lewiston | ME |
| Healthy Communities of the Capital Area | Reaching More Moms, their Friends and Family | 2017 | $25,000 | Tobacco | Gardiner | ME |
| Healthy Communities of the Capital Area | Expanding Partners and Increasing Tobacco Prevention, Assessment, and Treatment for LGBTQ+ Youth and Young Adults | 2022 | $100,000 | Tobacco Grantee | Gardiner | ME |
| Healthy Community Coalition of Greater Franklin County | Tobacco Free Franklin (Two Year Request) | 2015 | $199,976 | Tobacco | Farmington | ME |
| Kennebec Behavioral Health | KBH Clubhouse Tobacco Cessation Needs Assessment | 2019 | $7,500 | Tobacco | Augusta | ME |
| Kennebec Behavioral Health | Continuing Tobacco Cessation at KBH Clubhouses | 2022 | $2,500 | Tobacco | Augusta | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Maine General Health | Quitting smoking is hard, finding support shouldn't be: Expanding individual and group treatment options in central Maine | 2022 | $100,000 | Tobacco Grantee | Augusta | ME |
| Maine Public Health Association | MPHA Tobacco Coalition Cancer Prevention | 2017 | $10,000 | Tobacco | Augusta | ME |
| Maine Public Health Association | Maine Tobacco Coalition for Cancer Prevention | 2017 | $99,264 | Tobacco | Augusta | ME |
| Maine Public Health Association | Tobacco Prevention and Control Communications Project | 2018 | $94,275 | Tobacco | Augusta | ME |
| Maine Transgender Network | Transgender Cancer reduction through Provider Education | 2022 | $80,000 | Tobacco Grantee | Portland | ME |
| MaineGeneral Medical Center | Engaging Rural, Low-Income Populations in Tobacco Cessation: A Community-Based Approach | 2018 | $91,959 | Tobacco | Waterville | ME |
| MaineHealth – Center for Tobacco Independence | Building Capacity in Primary Care to Address Tobacco Dependence | 2016 | $50,000 | Tobacco | Portland | ME |
| MaineHealth - MaineHealth Cancer Care Network | Reducing tobacco use in oncology patients who continue to smoke while receiving treatment | 2019 | $71,398 | Tobacco | Scarborough | ME |
| MaineHealth Care at Home | Tobacco Treatment Groups and Support | 2019 | $56,437 | Tobacco | Saco | ME |
| Mid Coast Hospital | Increasing Capacity to Provide Group Tobacco Treatment at Mid Coast Hospital | 2018 | $28,987 | Tobacco | Brunswick | ME |
| Mid Coast Hospital - Access Health | Midcoast Youth Tobacco Intervention | 2015 | $16,099 | Tobacco | Brunswick | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| New Mainers Public Health Initiative | Smoking Prevention Campaign for New Mainers | 2019 | $100,000 | Tobacco | Lewiston | ME |
| Penobscot Bay YMCA/Knox County Community Health Coalition | Fresh Quit Knox County | 2018 | $90,307 | Tobacco | Rockport | ME |
| Penobscot Community Health Care | Peer-Led Tobacco Cessation Training at Unlimited Solutions Clubhouse | 2017 | $26,116 | Tobacco Cessation | Bangor | ME |
| Portland Public Health Divison | Portland Smoke Free Downtown Initiative | 2022 | $40,000 | Tobacco Grantee | Portland | ME |
| Public Health Research Institute | Wetamawe (Tobacco) | 2017 | $100,000 | Tobacco | Deer Isle | ME |
| Rinck Advertising | Youth Tobacco Prevention Campaign | 2017 | $750,000 | Tobacco Prevention | Lewiston | ME |
| Wabanaki Public Health and Wellness | Wetamaweyi (Tobacco in Penobscot) | 2022 | $100,000 | Tobacco Grantee | Bangor | ME |
| Waldo County General Hospital | Reducing Smoking Rates among Patients with COPD | 2018 | $96,240 | Tobacco | Rockland | ME |
| **Sun Safety** | | | | | | |
| City of Portland - Public Health | Sun Safety at Casco Bay | 2016 | $5,000 | Sun Safety | Portland | ME |
| Dempsey Center | Sun Safe on the Slopes | 2016 | $5,750 | Sun Safety | Lewiston | ME |
| City of Portland - Public Health | Sun Safety at the Portland Sea Dogs | 2017 | $20,000 | Sun Safety | Portland | ME |
| Impact Melanoma | Practice Safe Skin – Maine | 2018 | $78,543 | Sun Safety | Concord | MA |
| Impact Melanoma | Reducing the Burden of Skin Cancer for Maine Residents | 2020 | $20,000 | Sun Safety | Concord | MA |
| Impact Melanoma | Sunscreen at Maine State Parks | 2021 | $53,900 | Sun Safety | Concord | MA |
| **General Operating Support** | | | | | | |
| Beth C. Wright Cancer Resource Center | General Operating Support | 2017 | $15,000 | General Operating | Ellsworth | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Beth C. Wright Cancer Resource Center | General Operating Support | 2018 | $25,000 | General Operating | Ellsworth | ME |
| Beth C. Wright Cancer Resource Center | General Operating Support | 2019 | $30,000 | General Operating | Ellsworth | ME |
| Healthy Acadia | General Operating Support | 2017 | $50,000 | General Operating | Ellsworth | ME |
| Healthy Acadia | General Operating Support | 2018 | $50,000 | General Operating | Ellsworth | ME |
| Healthy Androscoggin / Central Maine Community Health | General Operating Support | 2019 | $50,000 | General Operating | Lewiston | ME |
| Healthy Communities of the Capital Area | General Operating Support | 2017 | $50,000 | General Operating | Gardiner | ME |
| Healthy Community Coalition of Greater Franklin County | General Operating Support | 2017 | $50,000 | General Operating | Farmington | ME |
| Sarah's House of Maine | General Operating Support | 2017 | $10,000 | General Operating | Holden | ME |
| Sarah's House of Maine | General Operating Support | 2018 | $25,000 | General Operating | Holden | ME |
| Sarah's House of Maine | General Operating Support | 2019 | $25,000 | General Operating | Holden | ME |
| **Cancer Research** | | | | | | |
| Eastern Maine Medical Center Cancer Care | Creating a statewide tissue banking network to promote cancer research | 2015 | $199,940 | Research | Bangor | ME |
| Maine Medical Center Research Institute | Creating a Centralized Biospecimen Resource for Cancer Research | 2015 | $199,830 | Research | Scarborough | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Maine Medical Center Research Institute | Tumor Registry Electronic Medical Record Linked Data Resource: TREMR | 2015 | $191,230 | Research | Scarborough | ME |
| Maine Dartmouth Family Medicine Residency | Structured care for individuals at risk for familial cancer syndromes | 2015 | $84,784 | Research | Augusta | ME |
| University of New England | Methods and Diagnostics for Cancer Detection and Treatment Monitoring | 2017 | $375,000 | Breast Cancer Screening | Portland | ME |
| **Hospice** | | | | | | |
| Down East Hospice Volunteers | General Operating Support | 2018 | $8,300 | Hospice | Calais | ME |
| Down East Hospice Volunteers | General Operating Support | 2019 | $8,819 | Hospice | Calais | ME |
| Hospice Volunteers of Hancock County | General Operating Support | 2018 | $5,000 | Hospice | Ellsworth | ME |
| Hospice Volunteers of Hancock County | General Operating Support | 2019 | $10,000 | Hospice | Ellsworth | ME |
| Hospice Volunteers of Somerset County | General Operating Support | 2018 | $6,700 | Hospice | Skowhegan | ME |
| Hospice Volunteers of Somerset County | General Operating Support | 2019 | $10,000 | Hospice | Skowhegan | ME |
| Hospice Volunteers of Waldo County | General Operating Support | 2018 | $10,000 | Hospice | Belfast | ME |
| Hospice Volunteers of Waldo County | General Operating Support | 2019 | $10,000 | Hospice | Belfast | ME |
| Hospice Volunteers of Waterville Area | General Operating Support | 2018 | $10,000 | Hospice | Waterville | ME |
| Hospice Volunteers of Waterville Area | General Operating Support | 2019 | $10,000 | Hospice | Waterville | ME |
| Pine Tree Hospice | General Operating Support | 2018 | $10,000 | Hospice | Dover-Foxcroft | ME |
| Pine Tree Hospice | General Operating Support | 2019 | $10,000 | Hospice | Dover-Foxcroft | ME |
| **Genetic Screening** | | | | | | |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| The Jackson Laboratory | Developing an educational curriculum to support community oncology clinicians use of genomics in patient care | 2019 | $199,891 | Genetic Screening | Bar Harbor | ME |
| **COVID-19** | | | | | | |
| Beth C. Wright Cancer Resource Center | COVID-19 Response Grant | 2020 | $8,000 | COVID-19 | Ellsworth | ME |
| Cancer Resource Center of Western Maine | COVID-19 Response Grant | 2020 | $10,000 | COVID-19 | Norway | ME |
| Cary Medical Center / Brian's Ride Cancer Fund | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Caribou | ME |
| Christine B. Foundation | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Bangor | ME |
| Coastal Healthcare Alliance | COVID-19 Response Grant | 2020 | $10,000 | COVID-19 | Rockland | ME |
| Dean Snell Cancer Foundation | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Brunswick | ME |
| Healthy Acadia | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Ellsworth | ME |
| MaineGeneral Harold Alfond Center for Cancer Care | COVID-19 Response Grant | 2020 | $10,000 | COVID-19 | Augusta | ME |
| MaineHealth - Maine Medical Partners | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Sanford | ME |
| MaineHealth Cancer Care Network | COVID-19 Response Grant | 2020 | $10,000 | COVID-19 | Scarborough | ME |
| Mid Coast Hospital | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Brunswick | ME |
| Northern Light A.R. Gould Hospital | COVID-19 Response Grant | 2020 | $5,000 | COVID-19 | Presque Isle | ME |
| Northern Light Eastern Maine Medical Center | COVID-19 Response Grant | 2020 | $10,000 | COVID-19 | Bangor | ME |
| **Miscellaneous** | | | | | | |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Bangor YMCA | Increased Wellness Opportunities to Those Affected by Cancer through LIVESTRONG at the Bangor YMCA | 2018 | $10,896 | Miscellaneous | Bangor | ME |
| Beth C. Wright Cancer Resource Center | Charting a Course for Patient Navigation in Maine | 2018 | $2,308 | Miscellaneous | Ellsworth | ME |
| Beth C. Wright Cancer Resource Center | The Healing Circle: Skills for Reclaiming Wholeness on the Cancer Journey | 2019 | $8,000 | Miscellaneous | Ellsworth | ME |
| Beth C. Wright Cancer Resource Center | Virtual Support Group | 2019 | $9,800 | Miscellaneous | Ellsworth | ME |
| Christine B. Foundation | Cancer Resource Center Collaborative | 2019 | $2,555 | Miscellaneous | Brewer | ME |
| Dempsey Center | Sugarloaf Charity Summit | 2018 | $54,687 | Miscellaneous | Lewiston | ME |
| Dempsey Center | Sugarloaf Charity Summit | 2019 | $63,410 | Patient Support | Lewiston | ME |
| Environmental Health Strategy Center | Increase Testing for Arsenic-Contaminated Well Water | 2017 | $10,000 | Environmental Factors | Augusta | ME |
| Maine Pharmacy Association | HPV Vaccination Continuous Learning Programming | 2019 | $2,269 | Miscellaneous | Augusta | ME |
| MaineHealth – Let's Go Program | Obesity: Making the Connection to Cancer | 2020 | $2,500 | Mini-Grant Obesity | Portland | ME |
| Martha B. Webber Breast Cancer Center | Sugarloaf Charity Summit | 2015 | $67,112 | Miscellaneous | Farmington | ME |
| Martha B. Webber Breast Cancer Center | Sugarloaf Charity Summit | 2016 | $79,836 | Miscellaneous | Farmington | ME |
| Martha B. Webber Breast Cancer Center | Sugarloaf Charity Summit | 2017 | $57,312 | Miscellaneous | Farmington | ME |
| Martha B. Webber Breast Cancer Center | Sugarloaf Charity Summit | 2018 | $54,687 | Miscellaneous | Farmington | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Martha B. Webber Breast Cancer Center | Sugarloaf Charity Summit | 2019 | $63,411 | Patient Support | Farmington | ME |
| New Mainers Public Health Initiative | Community Education Workshops on Cancer for Refugees and Asylum Seekers | 2018 | $25,000 | Miscellaneous | Lewiston | ME |
| Penobscot Community Health Care | Improving Patient Outcomes via Dermatology eConsult | 2018 | $12,174 | Miscellaneous | Bangor | ME |
| Penquis CAP | Maine Regional Cancer Transportation Brochure | 2018 | $545 | Miscellaneous | Bangor | ME |
| **Breast Cancer** | | | | | | |
| Northern Light Sebasticook Valley Hospital | An Outreach, Education, and Navigation Program to Increase Breast Cancer Screening Rates at Northern Light Sebasticook Valley Hospital | 2023 | $80,000 | Breast Cancer Grantee | Pittsfield | ME |
| Penobscot Community Health Center | Improving Breast Cancer Screening in Primary Care | 2023 | $80,000 | Breast Cancer Grantee | Bangor | ME |
| Northern Light Easten Maine Medical Center | Increasing Breast Cancer Screening and reducing barriers through the Caring Connections program with the Bangor Region YMCA | 2021 | $40,000 | Breast Cancer Grantee | Bangor | ME |
| Northern Light CA Dean | Piscataquis County Mobile Mammography Project | 2023 | $80,000 | Breast Cancer Grantee | Greenville | ME |
| **Skin Cancer** | | | | | | |
| Maine Medical Center - Melanoma | Enhanced Melanoma Screening in Rural Primary Care | 2023 | $80,000 | Skin Cancer Grantee | Manchester | ME |
| **Cervical Cancer** | | | | | | |
| Maine Family Planning | Request to support cervical cancer screening | 2022 | $28,436 | Cervical Cancer Grantee | Lewiston | ME |

| Organization | Project Title | Year Issued | Amount | Category | Grantee Location | |
|---|---|---|---|---|---|---|
| Penobscot Community Health Center | Improving Cervical Cancer Screening in Primary Care | 2022 | $100,000 | Cervical Cancer Grantee | Bangor | ME |
| **Multiple Cancer Types** | | | | | | |
| AK Health and Social Services | Boosting Cancer Screening Rates For Immigrants, Refugees and BIPOC Communities in Maine | 2022 | $15,000 | Multiple Types Cancer Grantee | Lewiston | ME |
| Greater Portland Health | Increasing Cancer Screenings Through Culturally Responsive Care | 2022 | $90,000 | Multiple Types Cancer Grantee | Portland | ME |
| New Mainers Public Health Initiative | Cancer Education and Awareness Project | 2022 | $50,000 | Multiple Types Cancer Grantee | Lewiston | ME |