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FINANCING CANCER CARE:

Investing in Prevention, Early Detection, and Diagnosis

About the Milken Institute

The **Milken Institute** is a nonprofit, nonpartisan think tank focused on accelerating measurable progress on the path to a meaningful life. With a focus on financial, physical, mental, and environmental health, we bring together the best ideas and innovative resourcing to develop blueprints for tackling some of our most critical global issues through the lens of what's pressing now and what's coming next.

Milken Institute Finance tackles challenges across the financial system through thought leadership, research, and insights to influence private-sector practices and public-sector policies to improve fair access, efficiency, and reliability of markets and institutions.

Financial Innovations Labs® bring together researchers, policymakers, and business, financial, and professional practitioners to create market-based solutions to business and public policy challenges. Using real and simulated case studies, participants consider and design alternative capital structures and then apply appropriate financial technologies to them.

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Milken Institute Strategic Philanthropy's Science Philanthropy Accelerator for Research and Collaboration (SPARC) works to develop, launch, and lead initiatives that fund medical research and invest to accelerate the development of tools and treatments that will bring better health to millions of people. Our expertise lies within several medical research fields, including neuroscience, mental health, oncology, rare diseases, and immunology. We partner with philanthropists, leading them through complex medical research and clinical systems and guiding pathways for philanthropy to create a healthy, equitable world.

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Foreword

Cancer remains one of the most pressing public health challenges of our time. It touches nearly every family and community in the United States. Each year, millions are diagnosed, and far too many lives are lost to a disease that, in many cases, could have been prevented or detected earlier. Beyond the human toll, cancer creates enormous strain—driving up health-care costs, taking people out of the workforce, and placing heavy emotional and financial burdens on patients and those who love them.

And yet, there is a real reason for hope. We already know how to change the trajectory of cancer. Proven prevention strategies—like vaccination, tobacco control, and healthy lifestyles—paired with timely, accessible, and equitable early detection and diagnosis, offer the greatest opportunities to reduce cancer incidence and save lives.

At the American Cancer Society, our mission is simple and bold: to end cancer as we know it, for everyone. Reaching that goal takes more than breakthrough science or smart public health policy alone. It requires new ways of thinking about how prevention and early detection are financed, delivered, and scaled—so they reach people before cancer ever takes hold.

That is where nonprofit organizations play a uniquely powerful role. As trusted conveners, advocates, and catalysts for innovation, we can bridge the gaps among research, practice, and policy. We can mobilize resources alongside public- and private-sector investment, keep equity at the center, and push innovation forward where markets fall short. That is why we partnered with the Milken Institute to create this report—to examine where market failures persist across the cancer care continuum and to explore how innovative financing mechanisms can unlock more sustainable, scalable solutions that improve outcomes for patients.

At the end of the day, no one organization can do this work alone. Confronting cancer requires bold, cross-sector collaboration that makes prevention and early detection a priority for all. If we do that work together, we can change the future of cancer in this country and move closer to a day when fewer people ever have to hear the words, “You have cancer.”

Shane Jacobson
CEO, American Cancer Society and American Cancer Society Cancer Action Network

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Introduction

In the United States this year, nearly 2 million people will hear the words "you have cancer."[1] More than 600,000 people will die from the disease, making it the second leading annual cause of death after heart disease.[2] Globally, cancer remains one of the greatest health challenges of our time, claiming nearly 10 million lives each year.[3] The health impact, pain, and suffering caused by the disease are immeasurable. These numbers touch every family, workplace, and community.[4]

It does not have to be this way. According to a 2024 study by the American Cancer Society (ACS), at least 40 percent of cancer cases in US adults are linked to modifiable risk factors such as tobacco use, alcohol consumption, and excess weight, and nearly half of cancer deaths can be avoided by **prevention**.[5] **Early detection and screening** for cancers such as colorectal, lung, breast, and cervical dramatically improve survival rates and reduce costs. A new generation of molecular-based cancer screening tests that can detect multiple types of cancer with a single blood test may enable screening for many cancers without a screening strategy, further reducing cancer deaths. Since 1975, prevention and early-detection efforts have averted an estimated 4.75 million cancer deaths.[6]

So, why are we not investing more in prevention, early detection, and diagnosis across the country? The answer lies in market dynamics and short-term returns that fail to value what matters most. Although prevention, early detection, and diagnosis are often perceived as public goods that are essential to society, their benefits do not easily or directly translate into near-term profits or quantifiable benefits.

As a result, investment capital is directed overwhelmingly toward advanced-stage therapeutics and treatments, where revenue streams are large, recurring, and predictable. In turn, prevention initiatives are underfunded, screening rates remain stubbornly low and irregular, and promising new diagnostic tests stall before reaching the people who need them most. Consider, for example, the annual mammogram versus weekly chemotherapy infusions for late-stage breast cancer—the third leading cause of cancer deaths among US women. We spend billions of dollars treating breast cancer at its most advanced and devastating stages, often only to extend life for a short period of time, while failing to prioritize prevention or early detection of the disease to a degree commensurate with the potential impact.

Overcoming the market failures—the structural barriers that hinder investments in cancer prevention and early detection—requires new and innovative financing solutions. To this end, in June 2025, the Milken Institute organized a Financial Innovations Lab (Lab) in collaboration with ACS and its impact investment arm, BrightEdge, to explore financial models that could foster investments in this space. The Lab brought together experts from finance, biotech, clinical practice, health systems, philanthropy, and patient advocacy, as well as private employers, to develop recommendations that address market failures and expand investment opportunities for a broader, more diverse set of investors.

Building on months of research and more than 50 interviews with key opinion leaders leading up to the Lab, participants identified **two complementary strategies for coordinating operational resources and mobilizing financial resources.**

First, participants proposed a pilot Cancer Resource Hub (Hub) as a trusted neutral platform to aggregate, centralize, and manage operational resources such as health data, biospecimens, and research findings. These resources, currently siloed across institutions, are often underutilized and costly to access. The Hub would reduce duplication and improve accessibility, enabling scientists and innovators to focus on research and development (R&D) rather than navigating fragmented systems.

Second, participants explored four financing mechanisms that could unlock significant new capital for cancer prevention, early detection, and diagnosis.

- **Syndicated Investment Fund (SIF) models** that engage end users as coinvestors in early-detection and diagnostic ventures, which align financial returns with long-term health and economic benefits.
- **Revolving loan funds** that offer concessional loans for capital expenditures such as diagnostic equipment and screening infrastructure; funds are recycled into new projects as borrowers repay, which creates a self-sustaining funding stream.
- **Cancer bonds** that channel large-scale capital while offering fixed-income returns and converting anticipated long-term savings into immediate funding and financing.
- **Blended finance structures** that leverage catalytic public or philanthropic funds alongside private investments to mobilize greater resources for early-stage, high-impact cancer innovations, which reduce investor risk and enhance returns.

This report explores these strategies in detail and explains how, by acting on them, investors can mobilize to transform cancer prevention and care across the United States. The stakes could not be higher. Getting this right could save not only billions of dollars each year but also millions of lives.

Issues and Perspectives

Cancer comprises a group of diseases characterized by the uncontrolled division of abnormal or mutated cells that could spread or metastasize to secondary sites in the body if not detected early.[7] For all stages of diagnosis, cancer incidence and mortality results in a tremendous burden on individuals, families, society, and the economy. Almost 40 percent of all men and women will be diagnosed with cancer at some point in their lives.[8] Estimates indicate that more than 2 million new cases will be diagnosed and more than 618,000 deaths will occur within the US during 2025.[9]

Table 1: Incidence, Mortality, and Economic Burden of the Five Most Common Cancers

Cancer	New Cases (2025)	Deaths (2025)	Annual Economic Burden
Lung	226,650	124,730	$23.8B
Colorectal	107,370	46,950	$24.3B
Breast	316,950	42,170	$32.7B
Prostate	313,780	35,770	$22.3B
Cervical	13,360	4,320	$2.3B

Source: American Cancer Society (2025), Yue (2020), Thompson (2025)

Among these 2 million new cancer cases, breast, lung, prostate, and colorectal cancers accounts for nearly half and are responsible for 41 percent of cancer-related deaths, with lung cancer being the leading cause, as reflected in **Table 1.**[10] Notably, between 1970 and 2020, cancer prevention and screening efforts among these five cancers are estimated to have prevented roughly 4.75 million deaths—accounting for 8 of every 10 lives saved from breast, cervical, colorectal, lung, and prostate cancers. Imagine if consistent and equitable screening could be applied across all cancer types.[11]

THE SOCIAL AND ECONOMIC COSTS OF CANCER

Cancer imposes a profound toll on both human lives and the economy. In the United States, cancer care costs surpassed $200 billion in 2020 and are projected to reach $245 billion by 2030.[12] Globally, the economic impact is even more staggering, with an estimated $5.3 trillion in lost productivity anticipated by 2050. At the individual level, the burden is deeply personal, with cancer survivors facing bankruptcy rates 2.5 times higher than those of individuals without a cancer diagnosis.[13] Meanwhile, caregivers dedicate more than 33 hours per week, often at the expense of their own income, health, and stability—highlighting cancer's far-reaching ripple effects on families and society.[14]

The economic case for cancer prevention and early detection is strong. Identifying cancers such as breast or colorectal in their early stages can significantly lower treatment costs, often reducing lifetime costs by half or even three-quarters compared to those for late-stage treatment. These benefits will become even more obvious when the duration of treatment and follow-up, as well as life-years saved, are considered, because cancer diagnoses are trending younger. Across 14 cancer types, diagnoses in people aged 49 and younger are increasing,[15] which has tremendous implications for individual costs and long-term survival as well as the workforce overall. As presented in **Table 2**, the cost of cancer treatment can increase from $43,516 during the first year of treatment to $109,727 annually for end-of-life care.

Table 2: Per-Patient Annualized Average Costs (Medical Services/Oral Prescription Drugs) by Phase of Care

Phase of Care	Medical Services	Oral Prescription Drugs
End-of-Life	$109,727	$4,372
Initial (First Year)	$43,516	$1,874
Continuing (Between Phases)	$5,518	$1,041

Source: National Cancer Institute (2025)

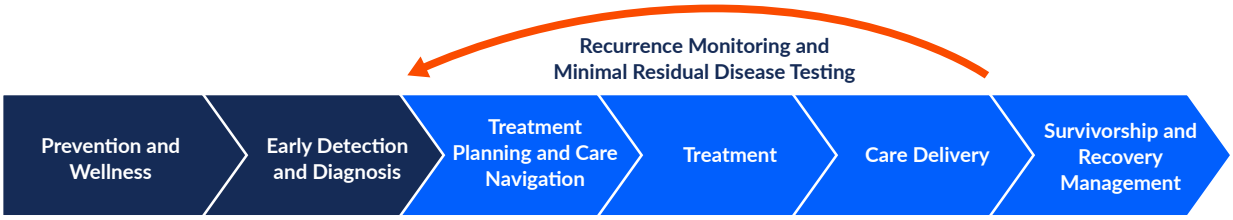
Other stakeholders, including employers, also face economic costs. Individuals diagnosed with cancer and their caregivers experience significant work disruptions, including increased missed workdays, employment loss, and disability claims. Individuals diagnosed at later stages, and their coworkers, experience these work disruptions to a greater degree. The loss of productivity from both the patient and the caregiver has a direct impact on employers.

The costs are also staggering for the insurance industry. From a payer (public or private health insurance) perspective, early diagnoses lead to better patient outcomes, lower treatment costs, and reduced overall payments. A 2022 research study of the cost of cancer management by stage from diagnosis among Medicare beneficiaries found that the costs of care for patients diagnosed at later stages ran seven times higher than for patients diagnosed at earlier stages. For example, for prostate cancer, expenses for a Stage I diagnosis are estimated to total $17,378 during the first year of treatment, compared to $92,344 for a Stage IV diagnosis.[16]

PREVENTION, EARLY DETECTION, AND DIAGNOSIS OF CANCER

The cancer patient's journey moves across the care continuum as seen in **Figure 1**, beginning with a first engagement, for the general population, in prevention and wellness, and ending, for a smaller percentage, in survivorship and recovery management or death. Although treatment and care delivery are pivotal and essential phases of the care continuum, early investment in prevention and early detection can transform cancer care and treatment at a population health scale because treatment is more successful if the cancer is diagnosed early.

Figure 1: The Cancer Care Continuum



Source: Milken Institute (2026)

The landscape of prevention, screening, and diagnosis is broad. Prevention and wellness refers to strategies to reduce cancer risk through behavioral change, as well as interventional vaccines, such as the human papillomavirus (HPV) vaccine, to protect against HPV-caused cancers. Screening programs traditionally target the five most prevalent cancers: breast, cervical, colorectal, lung, and prostate. However, recent innovations can scan for multiple cancers through blood tests (multi-cancer early detection [MCEDs] tests), and integration of artificial intelligence (AI) into existing technologies has improved accuracy of results.

Early detection and diagnosis are highly interwoven. Early detection involves finding the disease using a screening test at an early stage, ideally when it is localized to the affected organ or has just started to spread. Diagnosis involves identifying the disease using imaging, lab, or biopsy tests.[17]

Table 3: Definitions of Prevention and Wellness, Early Detection, and Diagnosis

Category	Definition
Prevention and Wellness	The reduction of cancer risk by eliminating or reducing contact with agents known to cause cancer, by changing conditions that contribute to cancer (e.g., obesity or lack of exercise), or by using medicines that interfere with cancer development. Lifestyle changes, such as quitting smoking, for example, reduce the number of people who will get lung and other cancers.
Early Detection	Finding disease at an early stage, when it may be easier to treat, before it has grown large or spread. Certain tests are used to find cancer early, before a person has any symptoms.
Diagnosis	A process for identifying a disease or condition by its signs or symptoms and by using imaging tests, lab tests, and biopsy.

Source: American Cancer Society (2025)

Despite the well-established effectiveness of prevention, early detection, and accurate diagnosis in reducing cancer mortality, each stage faces persistent and overlapping challenges that limit its impact. These challenges include underutilization of primary prevention strategies such as tobacco control, HPV vaccination, and lifestyle interventions because of low public awareness; misinformation; and behavioral

resistance, including stigma and fatalism. High out-of-pocket costs and limited insurance coverage further deter individuals from accessing preventive services, even when clinically recommended.[18]

Social determinants of health—for example, income, geography, race, and education—play a critical role in shaping access to information, services, and follow-up care and contribute to disparities in screening rates and later-stage diagnoses. Black Americans, for example, face the highest cancer mortality rates of any demographic group, while rural populations encounter longer travel times and fewer opportunities for screening.[19] Women, LGBTQ+, and immigrant communities often experience biases in health care and exclusion from clinical trials and targeted outreach, compounding existing inequities.[20]

Systemic and structural barriers further exacerbate these inequities across the continuum. Inadequate infrastructure—including shortages of rural clinics, mobile units, biobanks, and interoperable data systems—limits both access and continuity of care. A lack of systems to invite the target population to regular screening and fragmented electronic health records (EHRs) and siloed data impede patient tracking and follow-up. Workforce shortages in primary care, key specialties, and pathology contribute to delays in screening and diagnosis. Regulatory challenges and a paucity of real-world evidence extend the time to evaluate novel new technology, and the development of care-delivery models that incentivize the adoption of proven technologies (e.g., low-dose computed tomography [LDCT] scans and colonoscopies) is difficult. The absence of patient navigation systems or coordination across care settings often leads to missed or delayed follow-up after abnormal screening results. Together, these barriers hinder the timely and equitable delivery of cancer prevention, early-detection, and diagnostic services.

Delivery and Implementation of Prevention, Early Detection, and Diagnosis

PREVENTION

Prevention is delivered through many settings, from the kitchen table and grocery store to the doctor's office and pharmacy as exhibited in **Figure 2.** It falls on the individual, health community, lawmakers, and society to encourage and implement cancer prevention strategies. Although cancer prevention will not eliminate one's chances of getting cancer over a lifetime, it can significantly reduce them. Prevention interventions include maintaining a healthy lifestyle, limiting exposure to cancer-causing substances such as tobacco and alcohol, and taking medicines or vaccines such as the HPV and hepatitis B vaccines.[21] Prevention can also occur through understanding your genetic risk for certain types of cancer due to inherited gene mutations, and undergoing screening for and treatment of precursor lesions that may become cancer.

Figure 2: Delivery of Cancer Prevention

	WHAT	WHERE	WHO	TECHNOLOGIES
	**Lifestyle and behavioral counseling** (smoking cessation, alcohol moderation, diet, exercise)	Primary care offices Community centers Workplaces Digital apps	Primary care doctors Nurses Health educators	Digital apps EHR reminders Decision-support systems
	Vaccinations (HPV, hepatitis B)	Pediatrician offices Family doctors Public health clinics Pharmacies	Pediatricians Family physicians Public health nurses Pharmacists	Vaccination technology (HPV and hepatitis B vaccines)
	**Preventive medications** (tamoxifen, raloxifene, aspirin)	Primary care offices Specialist clinics	Primary care doctors Oncologists Endocrinologists	FDA-approved medications for risk reduction
	Preventive surgeries for high-risk individuals (BRCA, polyposis)	Tertiary care centers Specialist surgical centers	Surgeons Oncologists Genetic counselors	Surgical techniques (mastectomy, oophorectomy)
	**General preventive services delivery**	Primary care offices OB/GYN clinics Community health centers Public health programs	Primary care doctors Public health staff Community health workers	EHR tracking systems Digital health tools Mobile apps

Source: Milken Institute (2026)

Because tobacco use has been linked to several types of cancer including lung, colorectal, breast, throat, cervical, bladder, mouth, and esophageal, smoking cessation programs remain among the most important cancer prevention strategies.[22]

Smoking Cessation in the United States

The concept of smoking cessation took hold after the landmark 1964 US Surgeon General's report, which announced a direct link between smoking and cancer, heart disease, and other serious health risks. The report spurred both individuals and public health organizations into action, giving rise to initiatives such as the American Cancer Society's Great American Smokeout—a 24-hour day of no smoking that has occurred annually since 1977. Although quitting for just one day yields only a 5 percent success rate, the cumulative effect of repeated attempts significantly improves the odds of quitting permanently.[23]

Since 1965, adult smoking rates have fallen from over 42 percent to approximately 12 percent, thanks to such public campaigns, anti-smoking policies, and societal changes.[24] Smoking cessation campaigns have helped to reduce cancer mortality and incidence rates. Mortality, for example, rose sharply in the 20th century, peaking in 1990 for men and 2002 for women, before declining by 58 percent and 36 percent, respectively, through 2020.[25]

Prevention reduces the incidence of disease, lowers direct medical costs, minimizes time lost to treatment and recovery, preserves workforce productivity, and helps employers retain experienced talent. In addition, it alleviates pressure on health-care infrastructure, enabling more efficient and equitable allocation of resources. In this way, prevention serves as both a personal and societal investment with systemic impacts.

EARLY DETECTION

Early detection is primarily delivered at the doctor's office or a hospital. Advances in some screening methods have made it possible to bring screening directly to the individual using mobile clinics or at-home screening tests. Current forms of early detection range from imaging with mammography, LDCT scans, and colonoscopies, to specimen tests including pap smears, to blood and stool tests. Early detection requires engagement of multiple stakeholders, as illustrated in **Figure 3.**

Figure 3: Delivery of Cancer Early Detection

	WHAT	WHERE	WHO	TECHNOLOGIES
	Breast cancer screening (mammography, ultrasound, MRI for high-risk)	Hospitals Outpatient imaging centers Mobile units Specialized breast centers	Radiologic technologists Radiologists	Mammography machines (2D, 3D) Ultrasound MRI scanners
	**Cervical cancer screening** (Pap smear, HPV testing)	OB/GYN clinics Family planning centers Community health clinics Health departments	Primary care provider OB/GYNs Nurses	Pap smear collection tools HPV DNA testing platforms
	Colorectal cancer screening (colonoscopy, stool tests, CT colonography, flexible sigmoidoscopy)	Gastrointestinal offices Hospitals Outpatient clinics Mail-order kits	Gastroenterologists Colorectal surgeons PCPs (for stool kits)	Colonoscopy equipment FIT/FOBT kits Multi-target stool DNA tests CT colonography scanners
	**Lung cancer screening** (annual LDCT scans)	Hospitals Lung cancer screening clinics within radiology departments	Radiologists Pulmonologists Nurse navigators	Low-dose CT scanners specialized for lung imaging
	Prostate cancer screening (prostate-specific antigen, blood test, and digital rectal exam)	Primary care Urology clinics	Primary care providers Urologists	PSA blood tests Pelvic ultrasound (targeted cases)
	**General screening services**	Primary care Hospitals Imaging centers Mobile vans Employer sites	Primary care providers Imaging center staff Health navigators	Mobile screening vans Portable imaging machines Reminder technologies

Source: Milken Institute (2026)

One multistakeholder early-detection initiative is the Centers for Disease Control and Prevention (CDC)'s National Breast and Cervical Cancer Early Detection Program (NBCCEDP). This program brings together federal and state health programs and institutions to partner with local communities and employers such as Walmart to improve access to breast and cervical screening for women. NBCCEDP has served more than 6.5 million women who have low incomes and no or inadequate insurance and provides them with access to breast and cervical cancer screening, diagnosis, and treatment.[26]

Existing screening tests have saved numerous lives. If everyone in the United States received regular recommended cancer screening tests, 3.3 million life-years and $1.7 trillion in economic value could be saved each year.[27] However, only four of the five major screening tests noted previously (i.e., breast, cervical, colorectal, lung, and prostate) are recommended by the US Preventive Services Task Force (USPSTF).[28] Further, these five tests represent only a small proportion of cancer types. There are currently no recommended screening tests for 57 percent of all diagnosed cancers.[29]

DIAGNOSIS

Early detection often ends with a diagnosis of the specific type and staging of the cancer. Diagnosis involves the presentation of signs or symptoms and a combination of diagnostic tests, which may include imaging, lab, and tissue biopsies. Diagnosis differs from early detection because it occurs for all types of cancer and can identify advanced staging, disease spread, and potentially actionable mutations. Diagnosis is primarily delivered in a health system setting (e.g., hospital, specialist offices, and imaging centers), with providers running a variety of tests, including biopsies, as illustrated in **Figure 4.** Often, for a definitive diagnosis, patients will visit a range of facilities and specialists, adding complexity to the diagnostic journey.

Figure 4: Delivery of Cancer Diagnosis

	WHAT	WHERE	WHO	TECHNOLOGIES
	Imaging tests for tumor detection and staging (X-ray, CT, MRI, PET)	Hospitals Imaging centers Outpatient clinics	Radiologists Imaging technicians	X-ray machines CT scanners MRI units PET/CT systems
	**Endoscopic and minimally invasive procedures** for direct visualization and biopsy	Hospitals, endoscopy centers Outpatient surgery centers	Pulmonologists Gastroenterologists Urologists, surgeons	Endoscopes (bronchoscopy, colonoscopy, cystoscopy, laparoscopes)
	Tissue sampling via biopsy (needle, surgical, endoscopic, bone marrow)	Hospitals Outpatient biopsy centers Specialist offices	Pathologists Interventional radiologists Surgeons	Biopsy needles Surgical instruments Pathology lab microscopes
	**Lab and genetic testing** (tumor markers, NGS, germline genetic testing)	Hospital labs, academic centers Commercial genomic labs	Pathologists Lab scientists, genetic counselors Oncologists	NGS platforms PCR machines Immunohistochemistry/ FISH
	Liquid biopsy for ctDNA detection	Specialized reference labs Research settings	Molecular pathologists Liquid biopsy specialists	ctDNA sequencing platforms (Guardant, GRAIL, Exact Sciences, others)

Source: Milken Institute (2026)

Innovation in Prevention, Early Detection, and Diagnosis

Existing technologies and interventions offer tremendous potential to reduce the overall burden and impacts of cancer, especially as researchers and clinicians continue to innovate in the space.

Precision prevention integrates genetic, environmental, and lifestyle data to develop risk-reduction strategies specific to individuals. Precision medicine is being used earlier—not only to enhance diagnosis and therapeutics but also to reduce cancer incidence. Genomic screening programs, for example, can identify high-risk cancer mutations and hereditary cancer syndromes.

With knowledge of individual risk and predisposition to cancer, health-care providers can identify beneficial behavioral and screening interventions or even identify the disease at its earliest stages by tailoring screening to risk. Notably, research on the gut microbiome—the microorganisms in the gastrointestinal tract that break down food, ensure nutrient absorption, and impact immune system regulation—has revealed a role for a healthy gut microbiome in cancer prevention.[30] A 2025 study by Greathouse and Choudhury proposed a digital gut twin that leverages AI and multimodal data integration of microbiome profiles, the individual's genomics, and clinical data to predict potential dietary interventions to prevent cancer.[31]

AI-powered tools, capable of assessing imaging data and patient histories to predict individual cancer risk, are under development. One example is the Massachusetts Institute of Technology (MIT)'s Mirai algorithm, which used screening mammograms and confirmed breast cancer outcome data to build an AI-based model that forecasts breast cancer risk up to five years in advance of potential diagnosis.[32]

AI-powered tools are also enhancing prevention through the use of behavioral and digital interventions that support smoking cessation, wearable devices that monitor ultraviolet exposure, and personalized mobile apps that guide healthy behaviors.[33] Further, advances in next-generation HPV vaccines, broader hepatitis vaccination efforts, and development of therapeutic vaccines that can reverse precancerous lesions are expanding protection against virus-related cancers.[34]

Find out more about innovation in screening and early detection:

The Promise of Multi-Cancer Early Detection Technologies in Encouraging Research and Development

The Impact of Insight: Patient Preferences in Novel Screening Technologies for Cancer

Efforts to improve cancer screening methods aim to develop a test or set of tests that can detect precancerous lesions and tumors earlier in their natural history. Here again, we are seeing a technology revolution.

Advanced computational techniques are leveraging large amounts of patient data and imaging to develop tools that improve detection accuracy and sensitivity. For example, a 2024 study by Useini and colleagues described an object detection algorithm to identify specific skin cancers using total body images. The lesions are sorted using a self-supervised AI approach for the particular patient.[35] In breast cancer, a combination of age, the ratio of white blood cell types, and red blood cell count was used to build an AI model for risk stratification.[36]

Liquid biopsies are constantly improving as well. MCED tests, which are liquid biopsies that detect signals found in DNA, RNA, protein, or other unique molecular components that cancer cells shed into the bloodstream, are evolving toward increased sensitivity and specificity.[37] In addition, triage tests are commercially available for certain cancers. For example, SelectMDx is a noninvasive urine liquid biopsy that can be collected at home, which means less discomfort and greater ease for patients.[38] It measures cancer-related biomarker expression. In combination with clinical risk factors, these biomarkers stratify patients, informing screening and detection of prostate cancer.

However, without funding to support their development and validation, these kinds of innovative tools will never reach patients. Unfortunately, the current barriers to innovation and resources will persist as long as the market does not improve.

FUNDING AND FINANCING CANCER PREVENTION, EARLY DETECTION, AND DIAGNOSIS

Comprehensive cancer prevention, early detection, and diagnosis depend on an integrated ecosystem of services, infrastructure, and innovation that is underpinned by robust participation and ongoing evaluation. This ranges from community-based screening programs and diagnostic centers to advanced technologies such as MCED tests. In an ideal system, these components would be seamlessly connected across community, workplace, and clinical settings and supported by sustainable funding and financing.

Yet, we have settled for much less than an ideal system. The current investment landscape is fragmented because each intervention is funded differently. Service delivery often relies on public-sector support, private insurance coverage, individual out-of-pocket payments, or philanthropic grants, while infrastructure is typically financed through loans and other debt capital market products. Product innovations, largely driven by biotechnology companies, rely on a mix of grants and private investment, usually venture capital (VC).

For example, a new diagnostic follows a multistage development cycle. Early research is usually conducted in academic labs with government or philanthropic grants. As the innovation matures and shows commercial potential, it must attract private capital to support validation and market entry. At this stage, VC often provides the funding essential for growth but requires a clear path to significant financial returns within a defined period. Later stages may involve private equity or acquisition by established companies, or access to public markets through initial public offerings and secondary offerings.

All of these routes require proven, scalable business models with clear revenue potential. Many promising prevention and early-detection tools never complete this cycle. Instead, they stall in the "valley of death," the critical gap between initial grant support and the point where they are attractive to commercial investors.

Federal Funding Sources

The federal government, primarily through the National Institutes of Health (NIH) and its National Cancer Institute (NCI), provides the lion's share of funding for cancer research, with a fiscal year (FY) 2024 budget of $7.2 billion for cancer research. However, only a small fraction of these funds is devoted to prevention, early detection, and diagnosis. NCI's Division of Cancer Prevention accounted for only 3 percent of NCI's total budget, with funding of around $237 million. Additionally, programs related to cancer diagnosis are

a subset of NCI's spending. For example, a $552 million division covers cancer treatment and diagnosis, but only for a portion of diagnostic research.[39] This imbalance reflects a historical focus on treatment over preventive and early-detection research.

Another source of federal funding comes from the CDC. In FY2023, total CDC funding for cancer prevention and control programs was about $289.9 million.[40] Within the CDC portfolio, flagship programs include the aforementioned NBCCEDP, which provides free or low-cost screenings to women who are low-income or lack adequate insurance, funded at roughly $200 million per year, and the Colorectal Cancer Control Program to boost colon screening rates, historically funded around $40–$50 million annually.[41]

State Funding Efforts

State governments also play a significant role, with some pioneering substantial funding models. As one example, Texas's Cancer Prevention and Research Institute (CPRIT) was established via state bond funding and recently expanded to a $6 billion commitment, enabling the award of about $300 million in cancer grants each year.[42] Texas also mandates that up to 10 percent of CPRIT funds (approximately $30 million per year) are directed toward prevention and early-detection services and public education.[43] These investments target uninsured and underinsured Texans and have yielded impressive returns. By framing cancer prevention as "health infrastructure," CPRIT has garnered bipartisan support in a traditionally conservative state by emphasizing long-term cost savings and public health benefits.

Other states have smaller-scale programs, often funded by tobacco taxes or settlements, but CPRIT's model—substantial, dedicated prevention funding with a rigorously measured economic impact—highlights what focused public investment can achieve. Evaluations show that every $1 invested in CPRIT prevention programs has generated an estimated $29 in savings.[44]

Philanthropic Funders and Organizations

America's nonprofit and philanthropic sector has long been a crucial supporter of cancer prevention and research, often funding areas overlooked by government or industry. Although philanthropic funding is smaller in scale than public funding, it nonetheless measures in the billions across countless charities, foundations, and individual donors. For perspective, the top three US cancer charities together invested more than $403 million in research in 2023, led by ACS at $195 million.[45] Other major players include the Leukemia & Lymphoma Society at $148 million[46] and the Breast Cancer Research Foundation at $60 million.[47]

These organizations direct funds raised from donors toward research grants, prevention programs, patient support, and advocacy. Philanthropic funding tends to be nimbler and more flexible than government funding; private charities can make faster decisions with fewer bureaucratic hurdles, and they often back high-risk or early-stage research and community pilot projects that larger institutions hesitate to fund. This agility enables them to seed innovative research and studies, and to address equity gaps. However, by its nature, philanthropy is also fragmented across many organizations and can fluctuate with economic conditions and donor interests.

The Private Sector

Private investment in oncology has surged in recent years, with VC firms driving much of the momentum. Investments have largely been concentrated in innovative blood-based early-detection tests. One example is GRAIL, which raised nearly $2 billion in venture funding before being acquired (and later spun out again) by Illumina.[48]

AI has become another magnet for capital: pathology platforms such as Paige AI and PathAI have together raised hundreds of millions from investors such as Goldman Sachs and General Catalyst.[49] Both have since transitioned beyond venture funding. PathAI was partially acquired by Quest, and Paige AI was fully acquired by Tempus, illustrating how innovative diagnostics can progress from venture-backed growth to strategic acquisition.[50] The VC ecosystem itself is diverse, ranging from specialized life sciences funds such as Aglaia Oncology Funds to generalist technology investors such as Andreessen Horowitz, combining deep clinical expertise with disruptive technologies.[51]

Distinct from the high-growth, early-stage focus of VC, private equity (PE) firms are acquiring and integrating oncology practices to achieve operational efficiency, scale, and market leverage. For example, General Atlantic's investment in OneOncology, a community oncology practice management company, created an integrated network of community-based practices designed to standardize care, expand access, and strengthen payer negotiations in a fragmented market.

Several large pharmaceutical companies have started to invest in diagnostics and prevention partnerships. AstraZeneca, known for its cancer medicines, collaborated with GRAIL to develop a multi-cancer liquid biopsy test and is incorporating advanced data analytics and AI into its R&D efforts for early detection.[52] Vaccine development is another key prevention avenue, and Merck's HPV vaccine, Gardasil, which protects against nine types of HPV known to cause cancer, is a significant preventive intervention.[53]

Lastly, companies are noticing that investing in prevention and diagnostics can complement their therapeutic portfolios and potentially create new markets. The venture arms of several insurance companies (BlueCross BlueShield Ventures and Kaiser Permanente Ventures) have co-funded early-detection start-ups in recent years. Kaiser Permanente Ventures joined the Series B financing round of Freenome, a biotechnology company that has pioneered the most comprehensive multi-omics platform for early cancer detection to date.[54] Freenome's test was subsequently licensed exclusively to Exact Sciences, an example of how venture-backed diagnostics can advance to commercialization through established industry players.[55]

These stakeholders see a business case for prevention and early detection: if new tools detect cancer earlier, then payers can avoid the high costs of late-stage treatment and employers can have healthier, more productive workforces. Despite the excitement, private investment is not without risk or challenges. Beneath the surface lies a set of deeper structural market failures that continue to restrain investment.

MARKET FAILURES

A market failure occurs when private incentives are misaligned with the public good, leading to underinvestment in areas of high societal value.[56] Through discussions with key opinion leaders, we identified four interrelated market failures that compound across the innovation pipeline: (1) a systemic bias toward treatment over prevention, early detection, and diagnosis; (2) a complex and uncertain regulatory environment; (3) a high evidentiary bar for reimbursement and commercialization; and (4) long development horizons.

Together, these failures make it more difficult for innovators to bring new solutions to market and for health systems to implement them, which in turn weakens the risk–return profile of prevention-, early detection-, and diagnosis-focused innovations and companies and makes them less attractive to investors.

Systemic Bias Toward Treatment

The US health-care system is structurally oriented toward treatment over prevention. With the prevailing fee-for-service payment models, health-care providers often derive more revenue from downstream services and procedures (i.e., surgeries, therapies, and advanced imaging) than from preventive or early-detection interventions.[57] Preventive tools, as well as diagnostics and screenings, can reduce the need for costly interventions but, paradoxically, can threaten provider income streams. Therefore, providers may deprioritize the adoption of innovations such as genetic testing or multi-cancer screening tools absent comparable reimbursement or alignment with existing revenue models.[58] This resistance slows the adoption of potentially transformative technologies and perpetuates a reactive, rather than proactive, approach to cancer care.

The public goods nature of the benefits compounds this structural bias. These interventions generate widespread societal value—lower cancer incidence, improved workforce productivity, and reduced treatment costs—but the initial payer rarely captures this value. The economic returns are typically dispersed across future payers, that is, different insurers, employers, or government agencies. For example, an employer that pays for a screening may never realize the savings from a cancer averted years later, if the employee switches jobs. This temporal and financial disconnect leads to chronic underinvestment by the private sector.

This market failure is particularly detrimental to underserved populations. Because traditional delivery methods are associated with lower perceived revenue potential and logistical challenges, few companies develop solutions tailored to the needs of low-income, rural, and minority communities, such as mobile screening units or affordable diagnostic tools. Although government and philanthropic programs attempt to bridge the divide where financial incentives for the private sector are absent, their reach is insufficient to meet the scale of the need, perpetuating inequities in access to care.

Complex and Uncertain Regulatory Environment

The regulatory landscape for early cancer detection and diagnostics is often complex and fragmented, creating a major barrier to innovation and adaptation. Unlike therapeutics, which follow well-established US Food and Drug Administration (FDA) approval pathways, diagnostics fall into less predictable categories that vary according to risk level, intended use, and whether they are lab-developed tests or in

vitro diagnostics, which involve samples taken from the body.[59] The requirements for clinical validation, analytical performance, and real-world evidence are often ambiguous or evolve mid-development, forcing companies to adjust course at significant cost.

For example, developers of MCED tests face uncertainty about whether their products will require premarket approval or be subject to new legislation, such as the Verifying Accurate Leading-Edge IVCT Development (VALID) Act, which proposes expanded FDA oversight of lab-developed tests.[60] A further complication is reimbursement: under current law, Medicare cannot cover MCED tests without new congressional authority granting that power to the Centers for Medicare & Medicaid Services. This combination of regulatory and legislative uncertainty raises the risk profile for start-up companies and investors, slowing innovation and discouraging entry into the field. Therefore, many promising diagnostics remain in academic or pilot phases, unable to cross the "valley of death" into clinical adoption.

High Evidentiary Bar for Reimbursement and Commercialization

Even after regulatory clearance, public and private insurers still require innovators to translate promising clinical data into extensive clinical evidence—often long-term, randomized controlled trials demonstrating a reduction in mortality—before reimbursement is approved. This requirement creates a high evidentiary bar that is especially challenging for novel tools such as MCED tests that require large sample sizes, longitudinal blood collections, and robust population-level data to validate performance. In addition, coverage decisions from programs such as Medicare are often tied to recommendations from USPSTF, which does not yet evaluate many emerging technologies.[61] Requiring such extensive evidence before coverage can slow the adoption of promising technologies and delay delivery of their potential benefits.

Therefore, key commercialization questions often remain unresolved: Who will ultimately pay—insurers, health systems, or consumers? How will the new technology integrate into clinical workflows? What is the true size of the addressable market? For investors, the lack of clear answers to these questions creates an untenable risk profile and an unclear path to profitability while making it difficult to justify the significant capital required to finance companies and projects.

Long Development Horizons

Early-detection and diagnosis technologies often stall during the transition from research to real-world impact because commercialization pathways are unclear. Many start-ups and early-stage ventures remain confined to pilot programs or academic settings. Moving from discovery to validation and commercialization requires sustained capital to conduct large trials, navigate regulatory reviews, and integrate the innovation into clinical workflow. These prolonged horizons magnify financial risk: every additional year before market entry compounds costs and dilutes investor appetite.

Many such interventions lack a viable proprietary business model entirely, requiring public or philanthropic funding to advance research and implementation. Compounding these issues is the perception of low return on investment for prevention and early-detection tools. Unlike therapeutics, which can command high prices and be administered over extended periods, preventive measures and screening diagnostics are often used once or at defined intervals per patient—and are expected to be affordable. For example, a preventive vaccine or at-home screening test may be administered a few times in an individual's lifetime

and take a decade or more to demonstrate benefit at a scale appropriate to drive consistent population-wide implementation. Therefore, market players tend to avoid investments with diffuse or delayed payoffs, leading to underinvestment in cancer prevention and early detection.

These market failures serve as a snapshot of the complexity of developing and implementing solutions for cancer prevention, early detection, and diagnosis. Addressing them will require innovative financing and cross-sector collaboration. The following section explores two complementary solutions for coordinating operational resources and mobilizing financial resources.

Innovative Solutions

A common message emerged from our conversations with more than 50 key opinion leaders, including researchers, entrepreneurs, and investors: we are missing opportunities to prevent cancer and to detect it early. The science exists and is rapidly evolving, but the ecosystem to bring existing technologies and new innovations to people is not.

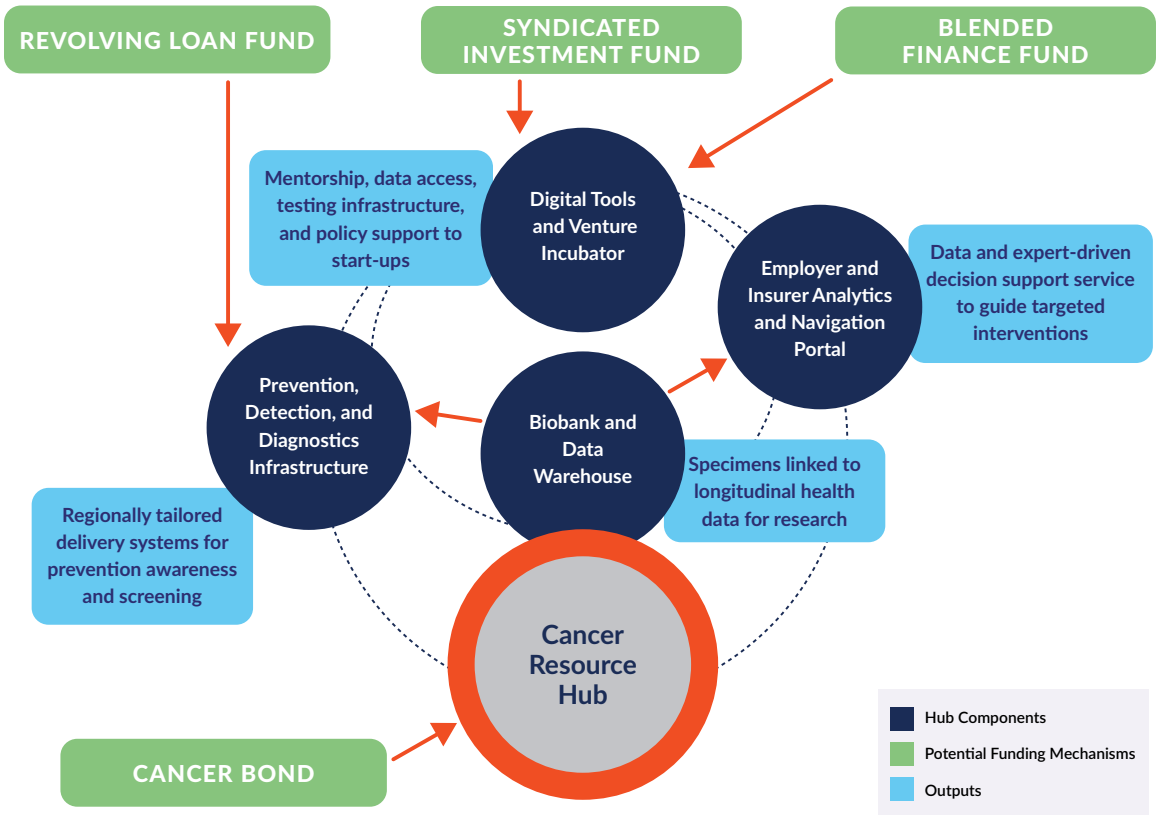
To create such an ecosystem and address the market failures discussed in the previous section, participants in the Lab and follow-on working groups explored a range of **practical solutions to better coordinate and mobilize operational and financial resources.**

1. **Create financial incentives to aggregate and monetize resources through a Cancer Resource Hub.** Participants proposed a centralized Cancer Resource Hub to address the fragmentation and inefficiencies that currently slow progress during the early stages of cancer care. By pooling resources—such as biospecimens, data, and analytics networks—the Hub would streamline operations, reduce duplication, lower costs, and improve coordination across stakeholders. It could also create new revenue opportunities through licensing and value-sharing agreements. By simultaneously reducing costs and generating value, the Hub would provide a sustainable business model that lessened reliance on public and philanthropic funding.

2. **Engage beneficiaries and lower capital costs through innovative financing models.** To address the misaligned incentives and improve the risk–return profile for private investors, participants proposed financing models that either (a) engage insurers, employers, and health-care systems (the ultimate beneficiaries of prevention, early detection, and diagnosis) through structures such as a syndicated investment model or (b) lower the cost of capital and broaden investor participation through tools such as social bonds and blended finance funds. These approaches could individually target different market failures and together translate the long-term value of prevention, early detection, and diagnosis into near-term financial returns—de-risking investments while ensuring that savings are shared by beneficiaries.

Although each solution could stand alone and deliver meaningful benefits, participants emphasized that their real power lies in combination. The Cancer Resource Hub provides the operational backbone—high-quality data, biospecimens, and infrastructure—on which financial innovations can build. In turn, financing mechanisms such as syndicated investment funds, revolving loan funds, cancer bonds, and blended finance vehicles can supply the capital needed to expand and sustain activities in prevention, early detection, and diagnosis that the Hub accelerates. This interplay ensures that scientific progress, operational capacity, and financial capital move in tandem rather than in silos (see **Figure 5**).

Figure 5: Integration of Cancer Resource Hub Components with Innovative Financing Models



Source: Milken Institute (2026)

CREATE FINANCIAL INCENTIVES TO AGGREGATE AND MONETIZE RESOURCES VIA A CANCER RESOURCE HUB

The US cancer care and research ecosystem remains fragmented, with resources such as biospecimens, data, and infrastructure scattered across siloed institutions and programs. Researchers and innovators face limited access to resources to run large-scale validation studies. Employers and insurers sometimes lack analytic tools to identify cancer risks early and take timely preventive action. Patients contribute biospecimens and data, yet often see no personal or societal benefit from their participation.

To address these challenges, participants envisioned a Cancer Resource Hub as a centralized platform that brings together the tools, data, and partnerships needed to drive progress against cancer under one roof. By design, the Hub would align stakeholders around shared benefits: researchers would have affordable access to large datasets and specimens; industry partners could license data or validate innovations more efficiently; and employers, insurers, and individuals would save long-term health costs. In addition, by aggregating and managing these shared resources, the Hub could generate sustainable revenue to support its day-to-day operations through access, analytics, and licensing—thereby monetizing resources that are currently siloed, underused, or discarded (see **Figure 6**).

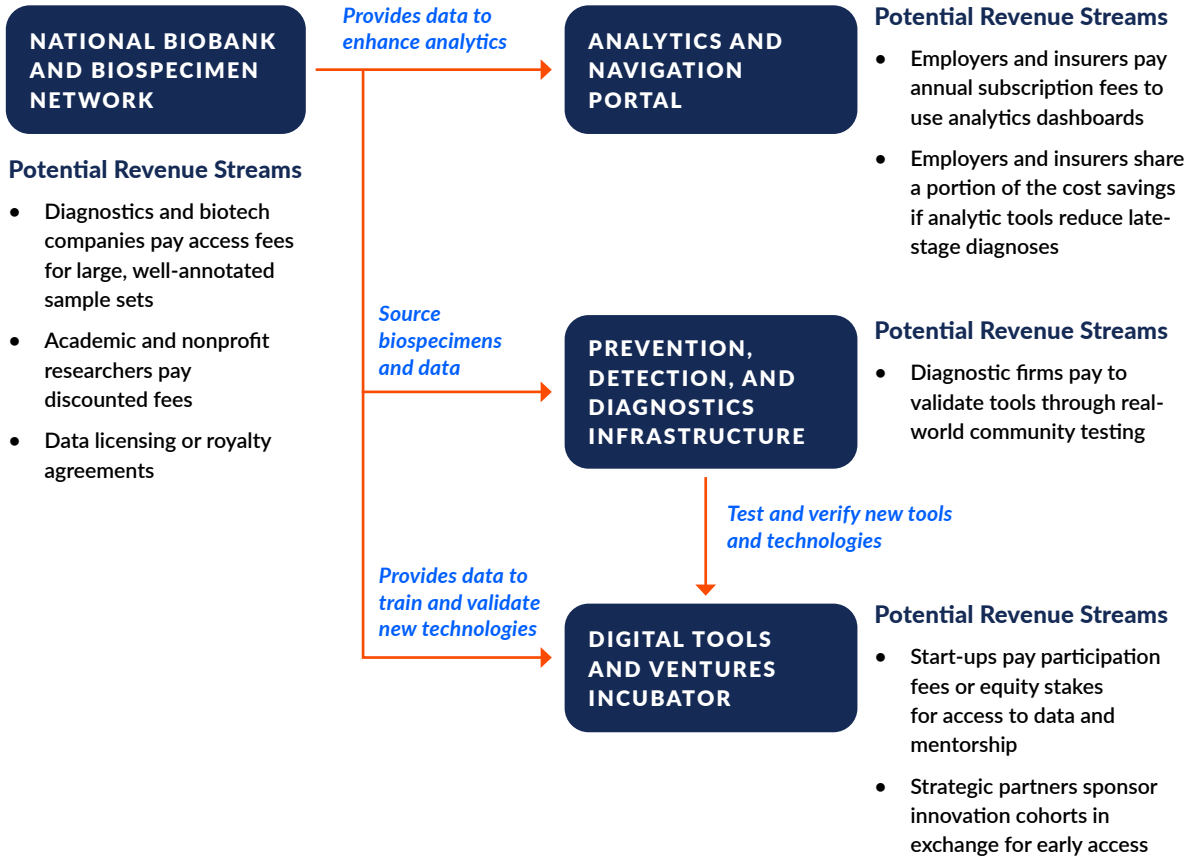
The Hub could be convened and overseen by a neutral, mission-driven host organization under a multi-stakeholder governance model that includes representatives from research institutions, patient advocacy groups, health systems, payers, and industry. This structure keeps decision-making transparent and avoids dominance by any single entity.

The Hub could integrate four core components:

- National biobank and data warehouse network
- Employer/insurer analytics and navigation portal
- Prevention, detection, and diagnostics infrastructure
- Digital tools and ventures incubator

Participants estimated that covering all four components of the Hub's work would require at least $100–$200 million in initial capital, and then $20–$50 million annually for infrastructure and operations. Initial setup costs may depend on donations or grants, but sustainable revenue streams should eventually support ongoing operations. To ensure long-term financial sustainability, the Hub should adopt a multi-revenue model, with each revenue stream tailored to the specific function of a Hub component, as described in the sections that follow.

Figure 6: A Pilot Example—Aggregate and Monetize Resources via a Cancer Resource Hub



Source: Milken Institute (2026)

Hub Structure

NATIONAL BIOBANK AND DATA NETWORK

At the heart of the Hub is the National Biobank and Data Network. This large-scale repository network would aggregate biospecimens, such as blood and tissue, from across the country into a single, accessible network. In practice, the Network could start by connecting existing repositories under a common framework rather than building entirely from scratch. As it expands, the Network would partner with major commercial labs (e.g., Quest Diagnostics, LabCorp) and health-care systems (e.g., Kaiser Permanente) to collect the raw inputs, many of which would otherwise be discarded as medical waste, and to proactively consent patients at the point of care.

A key step in partnership development would be defining the quality and types of samples required to ensure their appropriateness for the generation of high-quality data across a range of modalities. The Network's most critical role would be to impose the rigorous collection and processing protocols necessary to guarantee the quality and scientific value of every sample accepted and processed through the Hub.

In tandem with housing physical specimens, the Hub could host a data warehouse that aggregates EHRs, medical imaging, and genomics data. Where possible, these datasets would optimally be linked directly to biospecimens, providing richer clinical and molecular context for research. The Hub could also incorporate de-identified patient records with outcomes of interest that are not tied to specimens, enabling population-level analyses alongside specimen-based studies.

This warehouse could function as a one-stop, cloud-based database where researchers can query anonymized health data at scale—for example, to find patterns in early lesions, assess real-world screening outcomes, or train AI algorithms for cancer detection. The Network could coordinate data-sharing agreements with hospitals, registries, and federal programs to knit together data that currently remain siloed.

Each specimen would be linked to longitudinal health data, capturing changes in health over many years. Researchers could connect biological markers with lifestyle or environmental patterns that may signal cancer risk. The value of banking pristine samples is immense. For example, because its decades-old samples were so well preserved, ACS was able to partner with GRAIL to test new early-detection technologies that did not exist when the samples were first collected.

Once functional, the Hub would create value for everyone involved. To prevent commercial firms from having an unfair advantage, the Hub's governing board could implement a tiered-access model. This model might include arrangements, proven by the UK Biobank, wherein corporate partners who fund data generation receive embargoed access for a limited time, after which the data become available to the broader research community. Furthermore, if Hub data contribute to patentable discoveries, then licensing or royalty agreements could ensure a share of that value to support the Hub's sustainability.

Individuals—both the healthy and those with cancer—could also voluntarily contribute supplemental non-anonymized information such as annual health updates, behavior surveys, or EHRs. This action would transform a one-time donation into a continuous record of their health journey. Lab attendees emphasized that the Hub must ensure that participants receive value back for their contributions. For example, individuals may receive personalized health insights or DNA-related results to foster trust and sustain engagement.

Case Study: Learning from Existing Biobanks

UK Biobank: The UK Biobank offers a model similar to the Cancer Resource Hub. The UK Biobank recruited 500,000 volunteer participants between 2006 and 2010 to create what is considered one of the world's most comprehensive sources of biological samples and health/lifestyle information.[62] Backed by substantial upfront investment from both government and corporations (more than £200 million for genomic sequencing alone), the UK Biobank provides approved researchers globally with an unprecedented "treasure trove" of integrated data on, for example, COVID-19, dementia, aging, heart function, osteoporosis, and stroke, fueling discoveries in disease prevention and diagnosis.[63]

National Institutes of Health *All of Us* Research Program: *All of Us* aims to enroll 1 million diverse participants (nearly half from racial or ethnic minority groups) to build a rich longitudinal biomedical data resource.[64] Registered researchers can access and analyze tiered data through a cloud-based platform. In a recent milestone, *All of Us* returned DNA health-related results to more than 100,000 participants, a step that reflects a broader shift in the relationship between research institutions and the public.[65] Participants are no longer just subjects of research. They become partners in the scientific process when they receive health information insights of personal value.

American Cancer Society's Cancer Prevention Study-3 (CPS-3): Launched in 2006, CPS-3 has enrolled more than 300,000 cancer-free adults aged 30–65 from across the United States. It collects baseline health surveys, blood samples, and physical measurements and follows participants for at least 20 years with regular updates. In contrast to system-based programs, CPS-3 fosters direct, long-term relationships with its participants through an online portal and maintains a high engagement rate of 85–90 percent.[66] CPS-3 links rich biospecimens with evolving lifestyle, environmental, and health data, and it grants broad consent for integration with sources such as state cancer registries and Medicare. This individual-centric, community-driven approach overcomes US health-care fragmentation and serves as a powerful model for large-scale, longitudinal research.

EMPLOYER AND INSURER ANALYTICS AND NAVIGATION PORTAL

The Analytics and Navigation Portal would be designed for large employers and public and private insurers. Rather than serving as a passive database, the Portal would operate as an expert-driven decision support service. Employers and insurers could submit specific requests or questions—for example, identifying care gaps in a particular region or demographic—and the Hub's researchers would generate tailored, population-level analyses to guide targeted interventions.

For example, a large employer could request an analysis of screening gaps among its workforce and model the return on investment of an on-site screening program. Similarly, an insurer could commission an analysis of de-identified claims and outcomes data to pinpoint educational campaigns for cancer prevention. To complement these insights, the Portal could incorporate a navigation service (possibly

building on existing patient navigation programs) to help employees or insured members schedule screenings, connect with genetic counseling, or access follow-up care if a test is positive.

To address valid concerns about the misuse of data, the Hub's governing board and ethics advisors would enforce strict protocols and follow all applicable regulatory guidelines. Seasoned cancer control researchers would conduct all analyses to ensure rigor and relevance. The Portal would provide only anonymized, aggregated insights and would be legally and technically prohibited from sharing individual-level data that could be used for exclusionary practices in hiring or insurance underwriting. For example, an employer might learn that only 40 percent of employees over age 50 are up to date on colorectal screening, without knowing their names, and the Hub could then help coordinate on-site screening events or educational campaigns.

In return for access to these analytics, employers and insurers could pay a membership fee, with the option of additional consulting fees for tailored analyses. Some payment models could even be performance-based—for example, an employer might agree to bonus payments if the Portal and follow-up support help raise screening rates to a target, with a portion of the savings from avoided cancer treatment costs flowing back to the Hub.

The same model could also extend to state governments. Most states lack reliable snapshots of cancer prevention and care, especially for populations served by federally qualified health centers or living far from clinics. By commissioning analyses through the Portal, states could identify gaps, track disparities, and design targeted interventions.

Furthermore, insights from the Hub's broader research data could inform the portal's recommendations, while the outcomes of employer and insurer initiatives could—with permission—be fed back into the Hub's data warehouse. This continuous learning cycle would both sustain the Hub's public-good infrastructure and sharpen the effectiveness of future interventions.

PREVENTION, DETECTION, AND DIAGNOSTICS INFRASTRUCTURE

As noted, many cancers, especially those affecting underserved communities, lack routine screening tools and infrastructure. Even when tools do exist, access is often constrained by geography, income, or awareness. The Prevention, Detection, and Diagnostics Infrastructure would close this gap by building regionally tailored delivery systems through partnerships with clinical providers, community organizations, and public health agencies.

These systems could support a range of solutions, such as the following: fixed-site screening centers in trusted community locations, incentives for clinics to offer services that are currently not available, mobile diagnostic units for rural or hard-to-reach areas, mobile phlebotomy services to support blood-based screening and/or diagnostic assays, and modular infrastructure capable of supporting emerging technologies as they become ready for field testing. These implementation pathways would also serve as real-world proving grounds for tools developed through the Hub's Digital Tools and Ventures Incubator (discussed next), ensuring that promising innovations can be tested, refined, and deployed where they are needed most, rather than languishing in early-stage pilots.

This infrastructure is not only about expanding access—it is also about putting data to work. An individual-centric consent model has been proposed to ensure maximal flexibility with data use and accessibility, but ensuring participant privacy will remain crucial. An individual-centric consent would be established directly with each participant, providing the clear authority needed to link data from these real-world encounters

back to the central data warehouse. For example, if analytics reveal that a particular county, ZIP code, or clusters of each has persistently low screening uptake, then those insights could prompt targeted local interventions, such as pop-up clinics or mobile screening vans, to address specific barriers and improve early-detection rates.

DIGITAL TOOLS AND VENTURES INCUBATOR

The Digital Tools and Ventures Incubator would offer mentorship, data access, testing infrastructure, and policy support to start-ups and research teams developing cancer-focused digital health solutions. Although large pharmaceutical or diagnostic companies would be encouraged to act as partners and sponsors, the Incubator's services would be prioritized for early-stage ventures that lack the resources to advance independently.

The Incubator would leverage the Hub's biobank and data resources to give participants a running start (e.g., by offering free or low-cost access to datasets or specimen samples for R&D). It would also provide mentorship and expert guidance, drawing on a network of industry experts, clinicians, and scientists who can advise on clinical trial design, regulatory pathways, and go-to-market strategies. The incubator could also coordinate pilot programs—for example, linking a start-up with community infrastructure or employers to test a new screening delivery model in real-world settings.

With the leadership of a trusted governing organization, the Incubator would help bridge the "valley of death" in early innovation.

Hub Governance

A trusted, nonprofit convener would be best positioned to lead the Cancer Resource Hub. This organization would need to have convening power and public trust to lend credibility, as well as the neutrality needed to bring together companies, hospitals, and universities that have historically worked in silos.

Governance would be shared among major cancer centers and health systems, patient advocacy groups, and researchers from academia and industry. This inclusive approach helps to build buy-in from stakeholders whose participation is essential. In this way, partner organizations would co-own the Hub's vision and strategy. Clinical experts could help define research priorities, patient advocates could shape patient-centered practices, and industry leaders could advise on practical needs for innovation. Shared governance would ensure that no single entity dominates the Hub and that patient voices are at the center.

All access to the Hub's resources would be governed by clear protocols that balance openness with privacy and scientific merit. Interested parties, whether academic researchers, biotech start-ups, or public health agencies, would undergo an application and approval process overseen by the Hub's governance board and ethics advisors.

Hub Revenue Streams

Table 4 provides examples of how the Hub would generate revenue and save users costs. Dollar amounts are estimates.

Table 4: Examples of Hub Revenue Streams per Hub Components

Hub Components	Examples of Revenue Streams
National Biobank and Data Network	• Pharmaceutical companies could contribute about $25 million each for time-limited exclusive access to sequencing data. • A diagnostics firm in need of hundreds of thousands of well-annotated samples could pay $10–$30 million to use them, which is less expensive than building its own collection. • A small biotech firm developing an ovarian cancer screening test could avoid the multimillion-dollar cost of collecting 5,000 samples by paying a $1 million Hub access fee. • Academic and nonprofit researchers could receive discounted or donor-sponsored access, contributing financially to sustain the Hub and ensuring that they are not priced out. License agreements could require the Hub to retain non-commercial research rights, with royalty provisions on major commercial successes to fairly capture any upside.
Employer and Insurer Analytics and Navigation Portal	• A large employer could pay $250,000 per year to license the Hub's analytics dashboard, which helps identify low screening uptake and guides targeted workplace interventions. • An insurer entering a shared savings agreement could return 10–20 percent of treatment cost savings to the Hub if analytics tools led to a statistically significant drop in late-stage cancer diagnoses across its covered population. • Regional health plans could contract with the Hub for $50,000–$100,000 annually to access stratified risk reports and navigation services for high-need member populations.
Prevention, Detection, and Diagnostics Infrastructure	• A state Medicaid agency could fund $1–$2 million annually for mobile screening units deployed in rural counties with low early-detection rates, tied to performance metrics such as increased screening uptake. • A diagnostics company piloting a new cervical cancer test could pay $500,000 to deploy and validate the technology through the Hub's community infrastructure over a 12-month trial. • Local health systems could co-invest in regional screening hubs, contributing $200,000 per year in exchange for patient navigation services and reduced emergency cancer admissions over time.
Digital Tools and Ventures Incubator	• Early-stage companies could pay $100,000–$250,000 in annual participation fees or contribute a one-time equity stake of 2–5 percent in exchange for mentorship, data access, and real-world testing environments. • Strategic partners such as pharmaceutical companies or digital health investors could sponsor start-up cohorts with $500,000–$1 million annual contributions, securing early access to promising innovations. In return, sponsors would gain early visibility into promising innovations and potential first rights to collaborate with or invest in participating start-ups. • Start-ups using the Hub's biobank to train machine learning models for early-detection tools could pay licensing fees based on usage volume (e.g., $250,000 for 10,000 annotated samples and exclusive access for 18 months).

Source: Author analysis of Lab participant responses (2025)

Next Steps

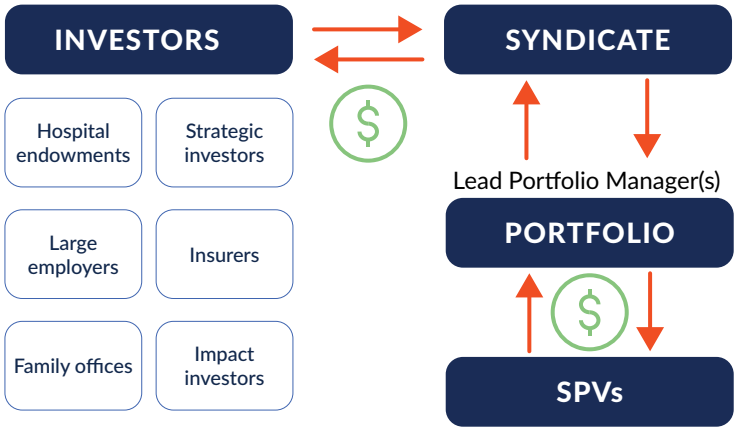
- **Form a planning consortium** to establish early commitments and explore governance structures. This consortium should bring together key stakeholders such as clinical lab companies, health systems, academic researchers, patient groups, insurance companies, and employers.
- **Identify anchor funders** to underwrite initial costs. This step includes developing a multiyear budget and investment case that highlights the long-term returns through improved health outcomes, health-care savings, and research breakthroughs.
- **Draft a standard agreement** to align consent, privacy, and data-sharing terms across all contributors and users.
- **Build and test end-to-end workflows** across the Hub's four components. This step includes evaluating engagement incentives so that labs and participants can understand the drivers of participation. Outcomes and lessons from the pilot should be documented to inform a scalable national model and financial case. Early analyses—such as of subscription uptake, data licensing revenue, or sponsored access agreements—should be conducted to serve as proof points.

FINANCING RECOMMENDATION 1: DESIGN SYNDICATED INVESTMENT FUNDS FOR EARLY-DETECTION AND DIAGNOSTICS COMPANIES

Health-care systems, insurers, and large employers stand to benefit most from new (and better) cancer early-detection and diagnostic tools and technologies, yet they rarely invest in these innovations. The long development horizon and the uncertainty around clinical adoption and reimbursement make it difficult to justify upfront capital expenditures. In particular, health-care systems, which are also the end users of new innovations, lack the financial capacity and in-house expertise to fund high-risk development and conduct due diligence alone.

To address this issue, Lab participants proposed the creation of a Syndicated Investment Fund (SIF), which enables multiple investors to pool their capital and expertise into one fund and have access to market-ready innovations (see **Figure 7**). Here, the SIF would back a diversified portfolio of early-detection and diagnostics companies and would be professionally managed by an experienced investment manager, ensuring both financial rigor and alignment with impact goals.

Figure 7: Syndicated Investment Fund Structure



Source: Milken Institute (2026)

Lab participants identified the SIF as a potential solution to attract a mix of investors—health-care systems, insurance companies, and large employers—that are also end users and payers of these new tools and technologies. Therefore, the SIF could not only offer its portfolio companies more than just capital but also provide a guaranteed market and the ability to de-risk the path to commercialization. For example, a payer such as a health insurer that invests in the SIF could also enter into offtake agreements, through value-based contracts or reimbursement arrangements, that commit to pilot or purchase a successful diagnostic tool developed by a portfolio company. This dual role (investor and customer) could help to overcome one of the largest barriers faced by early-detection start-ups—the "chicken-and-egg" problem that often stalls adoption—and give confidence to coinvestors.

To investors, the appeal would lie in both strategic and societal returns: a hospital system operating under value-based care models could invest to improve outcomes and avoid costly late-stage interventions. A health insurer might accept a longer path to profit, knowing that successful early-detection tools will eventually reduce treatment payouts and improve member health (a win-win for its business model).

Although these investors would expect financial returns in line with fiduciary obligations or internal investment policies, they could be more flexible on timing than traditional VC firms. Some might accept longer payback periods if the investment were to align with their strategic mission—whether improving patient outcomes, reducing the cost of care, or meeting their impact goals. This flexibility would allow the SIF to extend the investment horizon beyond the typical five- or seven-year VC cycle to better match the 10-year-plus timelines often required for these kinds of innovations to validate, scale, and deliver impact.

To succeed, the proposed SIF would require a structure built on two key elements: a scientific partnership and market-creation investment approach.

Scientific Partnership

A unique feature of the SIF could be the inclusion of a dedicated scientific partner alongside the fund investment manager. A nonprofit partner could serve as the lead scientific partner or work in partnership with other organizations. In doing so, it would provide specialized due diligence that complements traditional financial analysis—for example, by identifying scientific and regulatory risks in trial design, reimbursement, and market opportunities, or FDA pathways that investors might otherwise overlook.

Beyond conducting initial assessment, the scientific partner could offer strategic guidance to accelerate commercialization. This guidance could include connecting innovators with trial sites, sharing insights on regulatory considerations, or highlighting potential adoption pathways for payers and health systems. The partner could also help to identify broader market opportunities—for example, a diagnostic tool developed for one cancer type may have applications for other cancers or disease areas.

This integrated role would not only increase the likelihood of the start-ups' successes but also infuse a mission-driven ethos into the SIF's operations. In return, the partner itself would bring in revenue via management fees or profit-sharing (carry) for its advisory services—rewarding it for the tangible value it creates in de-risking and accelerating the innovations.

Market-Creation Investment Approach

Operationally, the SIF would likely have a 10—15-year lifespan, reflecting the long development cycle typical in health care, as highlighted in the "Market Failures" section. The SIF could focus on later-stage companies, where scientific risk is lower but significant barriers to commercialization, adoption, and scaling remain.

By including potential end users—such as payers, health systems, or employers—as investors, the SIF would align capital with the parties that stand to benefit directly from successful adoption. This approach would not only provide valuable market insight but also create a win-win dynamic: innovators gain an invaluable, de-risked pathway to market validation and adoption, while end-user investors can actively shape and secure access to the precise solutions for their operational and clinical needs.

Investors would commit capital for the full duration, with returns potentially generated through successful exits by portfolio companies—for example, via acquisition by a larger diagnostics firm, an initial public offering, or steady revenues from commercialized products that can pay dividends.

To accommodate the specific interests of certain investors, the SIF could create optional special purpose vehicles (SPVs), which would function as targeted sub-funds that focus on a particular cancer type or technology area. For example, investors who have narrow mandates or preferences (e.g., a foundation with a mission in prostate cancer research, a family office that is passionate about breast cancer, or an impact investor who focuses on AI) could channel their capital into the relevant SPV. They could still align their investment with their mandate while benefiting from the shared infrastructure of the overall SIF. To be effective, each SPV must have sufficient scale to support deal flow and diversification, while collectively accounting for a small portion of the overall SIF to preserve its core focus and balance.

Case Study: Anchor Investors as End Users

This type of win-win model, wherein end users both invest in companies and procure the products developed by those companies, is not entirely novel—it has worked in other sectors. In 2024, Nouveau Monde Graphite (NMG), a mining company, secured anchor financing and long-term mineral supply commitments from General Motors (GM) and Panasonic to develop its Matawinie Mine and Bécancour Battery Material Plant in Québec. GM invested US$150 million in equity alongside a six-year supply agreement, while Panasonic signed a parallel offtake deal. Together, these commitments covered 85 percent of NMG's planned production, providing the project with bankable revenue streams and unlocking additional financing.[67] For GM and Panasonic, the agreements ensured access to a stable, carbon-neutral supply of natural graphite anode material—an essential input for electric vehicle batteries—helping to secure their own production pipelines.

Adopting the same logic to health care, hospital systems, insurers, and large employers could invest in a fund that develops later-stage detection and diagnostic tools. By pairing capital commitments with agreements to pilot or adopt successful products, these end-user investors would simultaneously finance innovation and secure access to solutions that lower costs and improve outcomes.

Next Steps

- **Form a steering committee** comprising potential anchor investors, subject matter experts, and strategic partners to finalize governance structures, legal frameworks, and investment strategies.
- **Identify and secure two or three anchor investors** (Limited Partners) to serve as cornerstone funders—ideally large philanthropic organizations or visionary high-net-worth individuals/family offices with a strong interest in cancer.
- **Structure a pilot or thematic SPV** focused on a targeted innovation area to validate operational frameworks, governance, and collaborative processes.
- **Recruit an experienced fund manager** with deep oncology and diagnostics expertise to manage day-to-day operations, source and evaluate investment opportunities, and provide strategic oversight. Assemble a joint management team (e.g., pairing an experienced VC with a scientific advisory group from a nonprofit organization).

FINANCING RECOMMENDATION 2: CREATE REVOLVING LOAN FUNDS TO LOWER COST OF CAPITAL FOR INFRASTRUCTURE

Prevention and early detection are often treated as technologies, with a traditional VC approach to development, but they are indeed public health infrastructure. Like roads or utilities, they require upfront capital, produce long-term social and economic returns, and generate stable but relatively modest cash flows. These characteristics make them poorly suited for VC, which seeks high-risk, high-reward opportunities. For this reason, debt could be an appropriate financing tool.

However, traditional commercial loans are often prohibitively expensive or unavailable to companies across the spectrum: from rural health-care providers upgrading outdated equipment to diagnostics start-ups transitioning from initial pilots to commercialization, especially when they have thin profit margins, limited credit histories, or revenue streams heavily reliant on delayed or modest reimbursements from Medicare, Medicaid, and private insurers. Although some may argue that philanthropy can help to fund individual projects, it does not offer the scalability and sustainability needed for repeated growth and expansion.

Lab participants explained that these market failures could be overcome through revolving loan funds (RLFs). An RLF is a renewable pool of capital, typically established by governments and foundations with concessional terms (e.g., low interest, long maturities) to finance projects that advance specific social or environmental goals. Unlike one-time grants, the principal (the original loan amount) is returned to the fund upon repayment, while interest payments cover operating costs. As loans are repaid, the fund is replenished, allowing the same pool of money to "revolve" through multiple rounds of financing. This structure makes the fund effectively evergreen.[68]

RLFs are well suited to cancer prevention, screening, and diagnostic services, which typically produce stable, predictable revenue through billable procedures and insurance reimbursements. This steady cash flow enables borrowers to align loan repayment with incoming revenue—reducing financial risk and making lenders more comfortable extending credit, even to organizations that may not qualify for traditional loans. RLFs could be used to finance:

- Diagnostic equipment and facility improvements—Purchasing mammography machines, building colonoscopy suites, or expanding space for early-detection services.
- Scaling innovations and technology—Providing growth capital for tech companies and start-ups moving from late-stage commercialization to market expansion.
- Community outreach and mobile screening programs—Financing mobile cancer screening units or community-based preventive programs in underserved or remote communities.

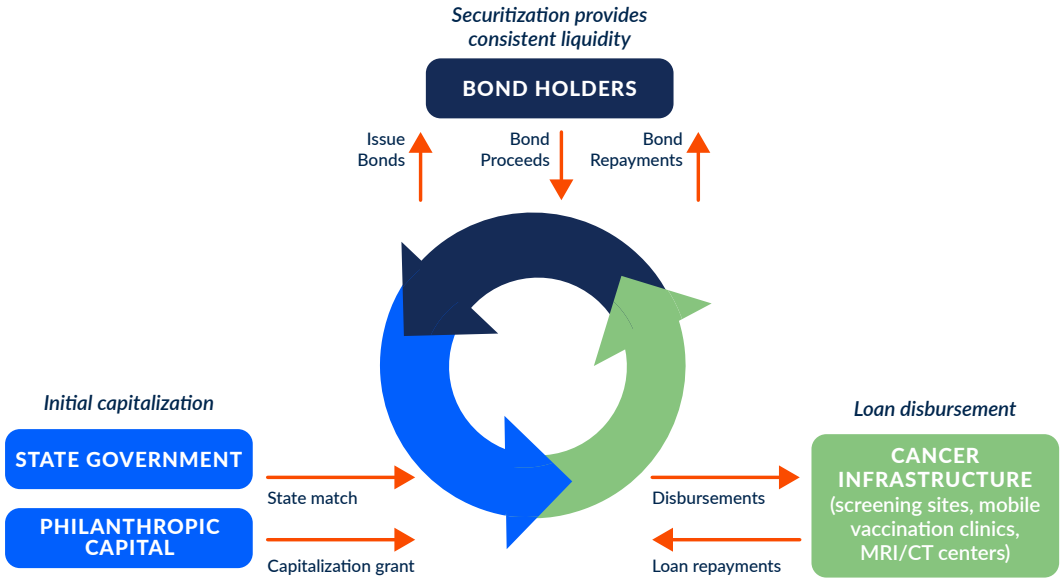
Such funds are not theoretical. For example, in 2022, Blue Ridge Energy, a North Carolina electric cooperative, used an RLF funded by the US Department of Agriculture's Rural Economic Development Loan and Grant Program to provide a $460,000 zero-interest loan to a rural hospital. This financing enabled the hospital to purchase a 3D digital mammography machine and expand its diagnostic capacity.[69]

An RLF offers the additional benefit of laying the groundwork for broader market participation from additional investors. As loans are issued and repayments begin, the pool of active, income-generating loans

within the fund becomes an asset that can be securitized. These loan portfolios can be bundled and sold to the capital markets as debt securities, in this case labeled as cancer bonds (discussed in the next section).

This vehicle could turn a catalytic pool of concessional capital into a mechanism for broader market engagement, providing institutional (VC funds, PE, banks, insurers, health-care endowments, and family offices) and retail investors with a clearly defined, mission-aligned product. The RLF would thus play a dual role: delivering low-cost, flexible capital at the front end while generating investable assets that can be leveraged to scale future financing (see **Figure 8**).

Figure 8: Revolving Loan Fund Structure



Source: Milken Institute (2026)

Case Study: Community Health Clinic Expansion

New York State's Community Health Care Revolving Capital Fund, administered by the nonprofit Primary Care Development Corporation (PCDC), provided a model in 2019 for using revolving capital in underserved health care. PCDC used the funds to help finance a new 25,000-square-foot clinic for Callen-Lorde Community Health Center in Brooklyn. Of the $18.2 million total project cost, $2.5 million came from a low-cost loan provided by the state RLF. This funding enabled Callen-Lorde to expand services to an estimated 15,000 additional patients and create approximately 100 new jobs.

The loan capital will be repaid by Callen-Lorde over time, replenishing the fund for future borrowers. Moreover, revolving capital can be combined with other financing (in this case, PCDC and state New Markets Tax Credits) to scale up facility capacity in a high-need community.[70]

Next Steps

- **Identify the financing needs** of target borrowers—such as rural hospitals and clinics—and the specific projects or equipment required (e.g., medical imaging devices, lab facilities, or pipelines).
- **Socialize and capitalize the RLF** by working with federal, state, and local government agencies, as well as foundations, to secure initial grants or low-cost loans.
- **Design the fund structure** by selecting a managing entity (e.g., state or local development agency, cooperative development bank, community development financial institution [CDFI]) and establishing governance and loan policies.
- **Engage regional banks, credit unions, or cooperatives** by offering low-risk lending opportunities. A philanthropic or public guarantee can help community banks or credit unions participate with reduced risk.

FINANCING RECOMMENDATION 3: ISSUE CANCER BONDS FOR CANCER PREVENTION, EARLY DETECTION, AND DIAGNOSIS

Cancer prevention and early-detection interventions are often underfunded, largely because their health and economic benefits take years to realize and diffuse across society, but specific entities must bear the costs upfront. No single government agency or insurance company reaps all the future savings to justify covering that upfront investment, leaving no one actor willing to foot the bill.

Throughout the Lab and interviews with key opinion leaders, participants highlighted social bonds as a promising way to address this market failure. Like a traditional bond, a social bond is a fixed-income investment used to raise capital for projects with positive social benefits in areas such as health, housing, or education. However, social bonds should not be confused with "social impact bonds," which are outcome-based contracts in which investors are repaid only if specific outcomes are achieved.[71]

A cancer bond would follow a more conventional debt model. Investors would purchase them to receive scheduled, fixed-interest payments (coupons) and full return of principal at maturity, regardless of project outcomes. This clarity and reliability would create a predefined risk–return profile that could attract a broad pool of institutional and individual investors.

Among all investors, life insurers and retirement funds might view a cancer bond as a strategic hedge against longevity risk: prevention, early detection, and diagnosis help people live longer, which increases annuity payout obligations while extending the stream of premium payments on life insurance products. A cancer bond would help to reconcile these considerations by generating steady returns from the same innovations that extend their beneficiaries' lifespans. In this way, the bond could turn a future financial liability into an investment opportunity, while supporting advances in public health.

Further, a cancer bond could transform anticipated long-term savings into immediate capital. A cancer bond could take different forms and could be issued by any number of companies or governments, but the

structure should be simple to attract a broad investor base. For example, a nonprofit or a state/municipal government could issue a long-term (10- to 20-year) bond to raise approximately $100–$200 million.

The proceeds would go directly toward programs that Lab participants described as proven, practical, and of high impact. Some examples could include opening more screening clinics in underserved areas, deploying mobile screening vans, supporting community health workers, expanding HPV vaccinations for teens, helping people quit smoking, and improving access to diagnostic tools such as imaging and lab services.

Bond Structures and Issuer Models

The structure of a cancer bond would depend first on who issues the debt. Issuance could rest with a single entity—such as a foundation, financial intermediary, or government—or be shared across multiple stakeholders through a consortium or pooled facilities. After the issuer is identified, design features such as revolving structures, mixed-use portfolios, or credit enhancements could be layered in to improve investor appeal and manage risk.

SINGLE-ISSUER BONDS

A single entity could issue a cancer bond in either the taxable or tax-exempt market, relying on the strength of its balance sheet and thus credit rating (ideally investment grade). A strong rating would lower borrowing costs and would attract more conservative institutional investors. Examples of single-issuer bonds follow.

- **Taxable corporate bond:** In 2020, the Ford Foundation issued a $1 billion taxable social bond—the first ever by a US foundation. By leveraging its AAA credit rating, the foundation raised long-term, low-cost financing (30- and 50-year maturities) to sustain grantmaking during COVID-19 without drawing down its endowment. Investor demand was overwhelming—the offering was 5.8 times oversubscribed, attracting nearly $3.5 billion from insurers, asset managers, and pension funds.[72]
- **Taxable intermediary model:** Calvert Impact Capital, a 501(c)(3) nonprofit, has raised more than $2 billion since 1995 through its Community Investment Note. With investments as small as $20, individuals and institutions can support health, housing, and education projects. Over the years, the nonprofit has raised more than $2 billion and has maintained a 100 percent repayment track record of principal and interest.[73]
- **Tax-exempt municipal bond:** In 2007, Texas voters approved $6 billion in general obligation bonds to finance the Cancer Prevention and Research Institute of Texas (CPRIT), which distributes grants or program funding for prevention, screening, vaccinations, and research. An independent analysis found that every $1 invested in prevention saved $29 in treatment costs and productivity losses.[74]

Across all single-issuer bonds, the appeal would lie in their simplicity and credit clarity. However, they would concentrate risk on a single balance sheet, potentially straining the issuer's debt capacity. Furthermore, large issuances would present a heavy political lift. In many states, authorizing a new bond would require legislative action, and in some cases, a statewide referendum, as was the case for CPRIT.

To overcome these challenges, a trusted national health organization could champion policy and advocacy efforts to build the necessary bipartisan support while ensuring that funds are directed to proven, cost-effective interventions.

MULTI-ISSUER BONDS

When no single entity can—or should—bear the risk, cancer bonds could be issued through a private consortium or a pooled financing facility. Examples of multi-issuer bonds follow.

- **Private consortium:** In 2014, Tandem Health Partners, a private investment and service delivery consortium, issued a 32-year, $231 million green bond to finance the construction, design, and maintenance of two new hospitals in British Columbia, Canada.[75] Investors, including insurance companies and fund managers, were attracted by the province's contractual commitment to provide predictable annual service payments to the consortium, underpinned by its AAA credit rating.
- **Donor-backed pooled facility:** By converting long-term donor government pledges into upfront cash through vaccine bonds, the International Finance Facility for Immunisation spreads repayment risk across multiple sovereign backers while maintaining strong credit ratings (AA-/Aa1/AA). Since 2006, the bonds have provided more than US$5 billion in upfront financing for Gavi programs that have immunized more than 1.1 billion children and saved 18.8 million lives.[76]

A cancer bond could follow this model. A group of private actors—such as diagnostic and pharmaceutical companies, hospital systems, large employers, health insurers, and nonprofits—could form a consortium to issue the bond and deploy capital upfront. Private partners within the consortium would be responsible for delivery: hospital systems expanding screening facilities, pharmaceutical companies supplying vaccines or diagnostics, and nonprofits deploying community health programs. Government, insurers, and employers, in turn, would commit to long-term service or outcome-based payments (e.g., a social impact bond), tied to measurable benchmarks such as the number of screenings completed, vaccination coverage achieved, or smoking cessation enrollments.

Bond Design Features

Once the issuer model is defined, the bond could be tailored with specific features to broaden investor appeal, mitigate risk, and align with programmatic needs. Examples of features follow.

- **Mixed-use social bonds:** To increase the scale and appeal of the bond, cancer prevention, early detection, and diagnosis could be bundled with related health priorities—just as Eli Lilly has bundled cancer alongside diabetes, immunology diseases, antibiotic development, and other health-care programs within its labeled bonds.[77] With social bonds still underrepresented in US sustainable debt markets, a clearly branded "health bond" or "cancer bond" could stand out and appeal to high-net-worth individuals, family offices, and retail investors who connect personally with the cause.

- **Credit enhancements:** For issuers with weak or unrated balance sheets, such as a nonprofit or a consortium, credit enhancements could ease investors' concerns. Risk guarantees or subordinate debt tranches from highly rated third parties—such as philanthropic foundations or government agencies—could absorb initial risk. Credit enhancements would raise the bond's overall credit rating, lower borrowing costs, and expand access to conservative institutional investors.
- **ICMA-compliant frameworks:** To maximize credibility and investor confidence, a cancer bond should follow the International Capital Market Association (ICMA) Social Bond Principles. These principles require a clear definition of proceeds use, transparent project selection, and ongoing impact reporting. Independent reviews (Second-Party Opinions) are now standard for quality issuances, as seen in Royalty Pharma's $600 million social bond.[78] A scientific, nonprofit partner could be involved and use its expertise to validate the use of proceeds by ensuring that project selection would be grounded in evidence-based public health priorities—thereby lending scientific credibility to the bond's social mission.

Next Steps

- **Conduct targeted outreach to impact investors, philanthropic foundations, pension funds, and municipal bond buyers** to assess investor appetite and help shape bond terms such as coupon rate and maturity.
- **Identify potential issuers and structures** by working with state or municipal governments, large 501(c)(3) nonprofits, or private consortia to determine the most suitable issuance based on credit strength, political feasibility, and programmatic reach.
- **Collaborate with scientific and public health partners** to design a menu of evidence-based programs that the bond will fund and to ensure that the use of proceeds is aligned with ICMA's Social Bond Principles.
- **Structure repayment sources and explore diversified repayment models** that extend beyond government service payments to include diversified sources such as insurance savings, employer contributions, or securitized royalties.

FINANCING RECOMMENDATION 4: ESTABLISH BLENDED FINANCE FUNDS TO MOBILIZE INVESTMENT IN DIAGNOSTIC TOOLS AND TECHNOLOGIES

Private capital markets hold the greatest potential to scale investment in early-stage cancer diagnostics, but investors are cautious. The risk–return profile for diagnostics is often less attractive than that for therapeutics because uncertainty about their adoption and reimbursement is greater. Blended finance funds can address this barrier. These funds would use public and philanthropic "catalytic" capital to attract private investment by improving a project's return or lowering its risk. In the context of cancer diagnostics, they could accelerate innovation by bridging gaps in early-stage financing.

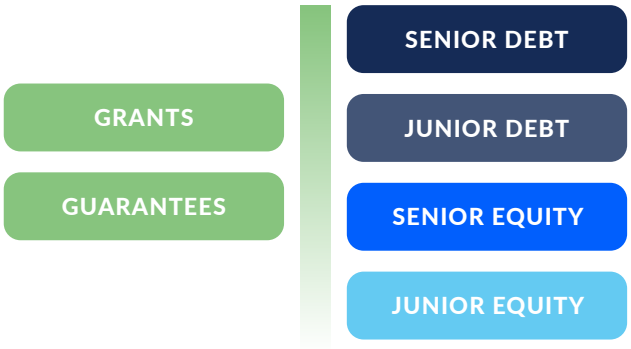
With this model, government or philanthropic investors typically would provide concessional capital (accepting below-market-rate returns and higher risks) that would serve as a baseline protective layer in the capital stack. Once this layer is in place, commercial investors such as private equities, family offices,

and endowments would perceive a more favorable risk–return profile and would become more willing to participate in opportunities they would otherwise avoid. Many senior investors might accept modest returns, knowing that catalytic capital would be positioned to absorb first losses. In this way, a single dollar of catalytic capital could leverage several dollars of private investment—a multiplier effect that would expand total financing for high-impact projects to develop tools and technologies needed to diagnose more people, earlier.

A blended finance fund would work by deliberately stacking junior (concessional) capital, risk-sharing instruments, and senior (commercial) capital to bridge the investment gap (see **Figure 9**). Examples of these layers follow.

- **Catalytic (junior) capital:** Junior capital would take the form of grants or concessional funding from government agencies (such as NIH, CDC) and philanthropic donors. This layer would catalyze private investments by either taking the first-loss position—absorbing initial failures or write-downs—or by accepting capped returns that leave more upside for commercial investors.
- **Risk mitigation instruments (guarantees and credit enhancements):** Philanthropic or public donors can also provide guarantees of repayment of a portion of losses if projects fail, which would significantly reduce perceived investment risk. For example, a partial credit guarantee might promise to repay a share of a loan if a borrower defaults, which could reassure private investors who might otherwise view early-stage diagnostic companies as too risky.
- **Senior capital (private investors):** With the lower-risk catalytic and guarantee layers in place, institutional investors could provide debt or equity on commercial terms. These investors are attracted to the improved investment case and risk–return profile created by earlier layers of capital, knowing that the catalytic layer will absorb early losses.

Figure 9: A Typical Blended Fund Structure



Source: Milken Institute (2026)

Beyond these layers, outcome-based contracts could also help to align returns with public health impact and could strengthen the case for investors. These contracts would link repayment to measurable health outcomes such as earlier-stage diagnoses or improved screening uptake.

An experienced intermediary—serving as fund manager or co–general partner—could design the capital stack, set investment criteria, source and conduct due diligence on deals, and manage risk-sharing

instruments. Examples include impact fund managers (e.g., Lion's Head Global Partners), outcomes-based intermediaries (e.g., Social Finance), and CDFI-affiliated program managers (e.g., LOCUS Impact Investing). An intermediary could assume this role independently or in partnership with one of these actors, contributing cancer-specific expertise, networks, and credibility to complement professional fund management.

Case Study: Community Investment Guarantee Pool

Blended guarantees have successfully mobilized capital in other sectors. One notable example is the Virginia-based Community Investment Guarantee Pool (CIGP), a nonprofit that aggregates philanthropic financial guarantees to backstop loans in affordable housing, small business, and climate-related projects. Foundations and health systems commit guarantee pledges to CIGP, which then issues credit enhancements to community lenders.

As of 2023, CIGP had secured $58 million in guarantees from 17 organizations and issued $26 million to mobilize more than $70 million in direct investments, achieving a 2.7x leverage ratio. Over time, the initiative is expected to activate up to $230 million in total capital for community-based nonprofits and other borrowers.[79]

Next Steps

- **Form a coalition and governance structure** to convene government and philanthropic leaders to define the fund's mission, prioritize cancers and technologies, and develop a governance model. In this step, investment criteria and metrics of success (e.g., increases in early-stage diagnosis or lives saved) should be agreed upon.
- **Secure seed catalytic capital** by obtaining initial public and philanthropic funding to fill the junior tranche or to provide risk guarantees. In addition to monetary support, technical assistance could be provided to clinical trials or go-to-market strategies.
- **Select a fund manager** by identifying experienced intermediaries (e.g., CDFIs or impact fund managers) to structure and manage investments. The fund manager would be responsible for deploying the capital stack—loans, equity, or reimbursement for pilot costs—and for monitoring performance.
- **Address policy barriers** in parallel with financing. Public partners should work to remove systemic obstacles that slow the adoption of early-detection tools. For public insurers, this would mean clarifying reimbursement policies for new diagnostics, such as introducing value-based payments for proven screening methods. For regulatory agencies, it would involve streamlining approval pathways for early detection tests to reduce delays in bringing innovations to market.

Conclusion

Cancer remains one of the greatest health challenges of our time, claiming millions of lives globally each year. Prevention and early detection can save countless lives and reduce health-care costs by billions of dollars annually, but these opportunities are often missed. The reasons are not rooted in science or capability alone, but in the persistent market failures that shape investment and innovation in health care.

The innovative financing solutions outlined in this report demonstrate how these challenges can be overcome. Coordinating operational resources through platforms such as a Cancer Resource Hub and mobilizing capital through mechanisms such as syndicated investment funds, revolving loan funds, social bonds, and blended finance, can realign incentives, reduce risk, and attract a broader and more diverse set of investors. Redirecting resources toward prevention and early detection offers not only a more cost-effective approach to cancer but also a more equitable and sustainable one.

The greater opportunity lies in combining these approaches. The Cancer Resource Hub provides the backbone of data, biospecimens, and infrastructure, while financing mechanisms provide the capital to scale and sustain them. Together, they overcome multiple market failures and align investment, innovation, and care delivery goals at once.

Moving from concept to action will require commitment from all stakeholders. Governments and nonprofit health systems can champion initial bond issuances, philanthropists and public actors can seed blended finance vehicles to crowd in commercial investors, and employers and insurers can serve as anchor investors in syndicated funds tied to measurable reductions in cancer costs and improved outcomes. With the right financing mechanisms in place, prevention, early detection, and diagnosis can shift from aspiration to standard practice—saving lives, reducing suffering, and lessening the burden of cancer for generations to come.

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