

**SHOULDER to SHOULDER**  
Every Step of the Way

**2022**

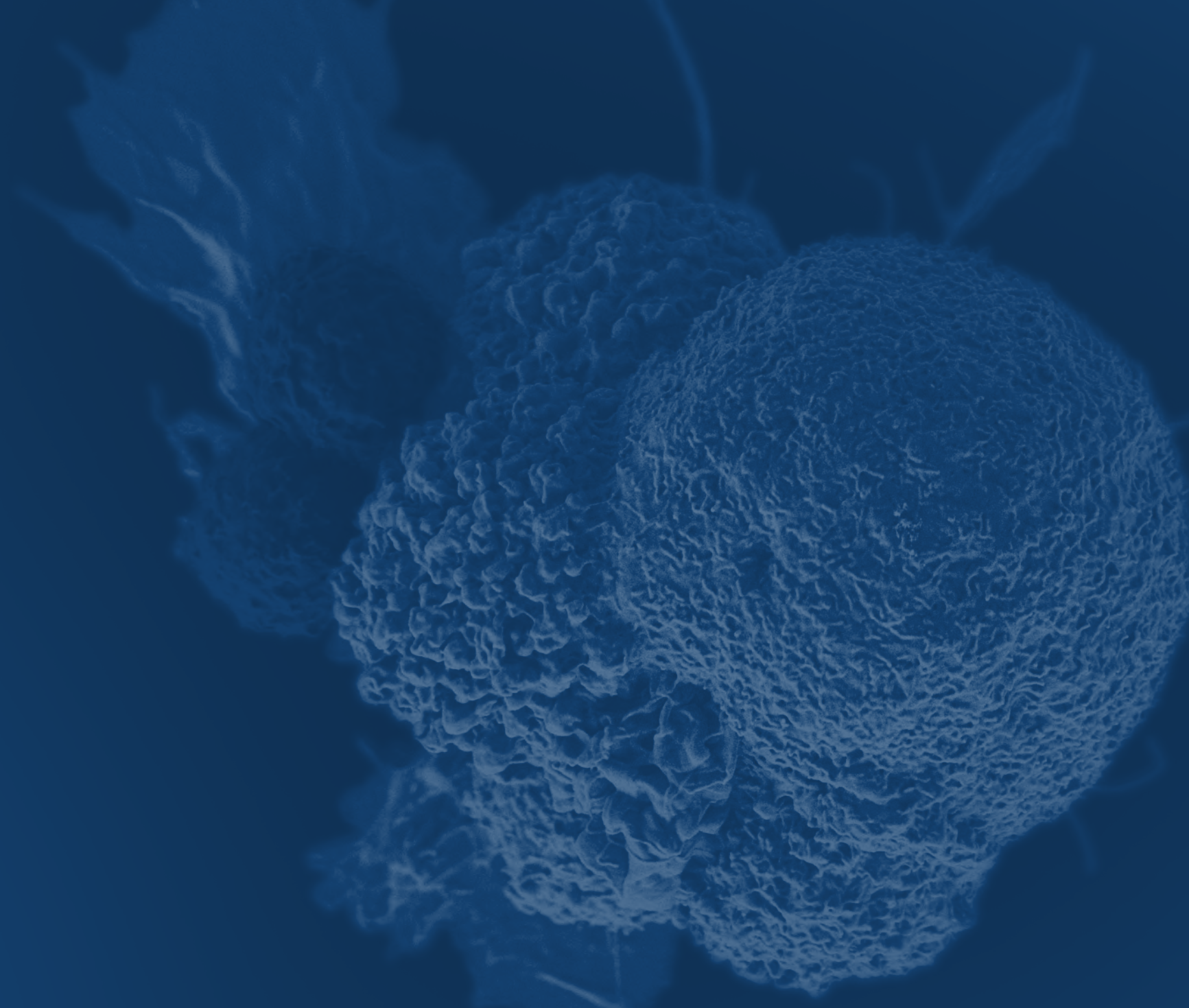
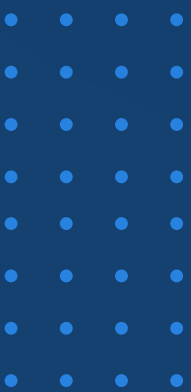
**Shoulder to Shoulder:  
Innovative Cancer Care  
for Veterans**



**Choose VA**

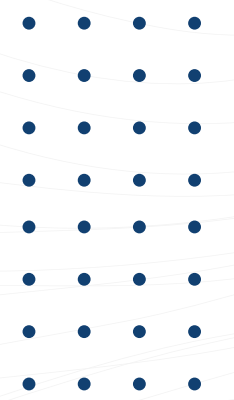


U.S. Department  
of Veterans Affairs



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# Aiming for the Moon(shot)

On February 2, 2022, President Biden announced a reignition of the Cancer Moonshot, highlighting new goals: to reduce the death rate from cancer by at least 50 percent over the next 25 years.

## In direct alignment with the Cancer Moonshot, VA is:

- ✓ Diagnosing cancer earlier through enhanced screening capabilities
- ✓ Preventing cancer through an aggressive tobacco cessation program
- ✓ Tackling rare cancers head on with a team-based approach.

## The Moonshot 2.0: Veterans & Their Cancer Care Needs

**Rare cancers make up 16% of all cancer in VA, so NOP has road mapped the development of clinical pathways, testing, and subspecialty clinical teams to support complex diagnoses.**

Cancer screening is a high visibility, high impact effort for Veterans. As a result, NOP is working to expand Lung cancer screening. Further, NOP is looking to expand the postal delivery of Colorectal cancer screening tests.

Research efforts into Lung cancer will encompass an expansion of the Lung Precision Oncology Program from 85 sites to every VA medical center across the nation. Environmental exposures that potentially cause cancer place Veterans in a unique position when facing diagnosis. It's critical that VA's Cancer Registry System work to establish dynamic, two-way exchanges of information. Further, tumor banking in partnership with the Centers for Disease Control, the Department of Defense, the National Cancer Institute, the Environmental Protection Agency, Health and Human Services, and National Institute of Environmental Health Sciences will support a deep repository of data that can be leveraged for significant research gains into the treatment and prevention of cancer.

The Applied Proteogenomics Organizational Learning and Outcomes (APOLLO) network is a collaboration between National Cancer Institute, the Department of Defense, and the Department of Veterans Affairs to incorporate proteogenomics into patient care. We're aiming to expand VA's participation to an additional 20 facilities. Smoking cessation remains one of the key elements to cancer prevention. Our proposal to support this effort is to develop and support an inter-agency ethics committee focused on tobacco cessation programs for Veterans.

**All of us at VA are excited to work towards and contribute to Moonshot's important goal and what it means for all Veterans.**

**The Veterans Health Administration (VHA) is one of the largest integrated providers of oncology services in the Nation, diagnosing and treating cancer in more than 43,000 Veterans every year. Often, Veterans treated for cancer at VHA receive better treatment than they would elsewhere.**

One of the ways VHA is improving cancer care is by reducing demographic disparities. Studies have shown that Black Veterans who turn to VHA for prostate cancer screening and care have significantly better outcomes than those using private health care services. As an integrated health care system, VHA reduces access barriers that are common in non-VHA settings, which in turn minimizes racial disparities. Ready availability of best-in-class treatments and care are especially important for those Veterans belonging to racial, ethnic and/or socioeconomic groups who have historically faced disproportionate challenges to accessing quality health care. At VHA, we value the diversity of our Veterans and strive daily to bring innovative oncology care to all of them.

To build on our successes and to continue to advance the health and well-being of Veterans and the Nation, VHA is participating in the Cancer Moonshot. Originally launched in 2016, President Biden re-launched the Cancer Moonshot program early this year. The goal of the effort is to reduce cancer mortality by 50 percent over the next 25 years.

## VHA's oncology goals align directly with the Moonshot in four ways:

- ✓ Working to diagnose cancer sooner through enhanced screening capabilities,
- ✓ Preventing cancer through an aggressive tobacco cessation program,
- ✓ Providing the right treatment at the right time through precision medicine, and
- ✓ Tackling rare cancers head on with a team-based approach.

Demand for our services at VHA continues to grow, and Veterans trust us to care for them more than ever. As we look forward to reduced mortality through the Cancer Moonshot efforts and improved cancer outcomes, we are focused on Veteran experience, quality outcomes, continuity of care and equity — because we know these matter most to our Veterans. We stand shoulder to shoulder with our Veterans, through every step of their cancer journey.



**STEVEN L. LIEBERMAN, M.D., MBA, FACHE,**  
DEPUTY UNDER SECRETARY FOR HEALTH,  
PERFORMING THE DELEGABLE DUTIES OF THE UNDER SECRETARY FOR HEALTH



**The COVID-19 pandemic impacted and changed how healthcare was delivered, as VA medical centers and healthcare writ large, were strained at all levels – operational, economic, and workforce. For Veterans, it presented significant challenges for VA’s most vulnerable to COVID – Veterans who have been diagnosed with or are receiving treatment for cancer and/or are already immune compromised with co-morbidities.**

The National Oncology Program has become a national leader in ensuring VA cancer researchers and clinicians are equipped with world-class tools, methods, and resources to serve our Nation’s Veterans.

NOP is tasked with building and maintaining healthcare infrastructure, programs, and innovative treatment methods that support Veterans facing cancer diagnosis. Approximately 16% of the cancer diagnoses seen by VA oncologists represent “rare” cancers – from uncommon hematologic malignancies to cancers linked to service-related environmental exposures like mesothelioma. These rare cancers are supported by NOP’s subspecialty teams made accessible by the National TeleOncology service. Living near or far to a VA medical center, if a Veteran has a complex cancer diagnosis, all of NOP’s expertise and resources are brought to bear in that Veteran’s cancer journey.

More than that, the VA providers delivering the care are often closely aligned with the expertise at affiliate academic centers. In the area of telehealth, NOP physicians in the National TeleOncology service maintain academic affiliations with Duke University, University of California-San Francisco, Vanderbilt University, and more. NOP is also expanding access to and coordination of care through the establishment of the Breast and Gynecologic Oncology System of Excellence, an endeavor only possible due to NOP’s unique academic relationship with Duke University.

Oncology is a rapidly developing, fast-paced field where advancements largely take place in clinical trials. Due in part to NOP’s academic relationships, and because of innovative models like decentralized clinical trials, VA enrolls hundreds of Veterans into cutting-edge precision oncology research every year. Unique to VA, a Veteran is eligible to participate in clinical trials regardless of their diagnosis stage or prior treatment plan — meaning a Veteran doesn’t have to “fail” a traditional treatment plan to qualify for a clinical trial. This access to trials builds equity into the treatment plan.

When a Veteran is diagnosed with cancer, the whole VA can wrap around them and support them on their journey. Our providers do far more than just guide a treatment plan, they stand shoulder to shoulder with our Nation’s heroes, every step of the way.



**CAROLYN CLANCY, M.D.,**  
ASSISTANT UNDER SECRETARY FOR HEALTH FOR DISCOVERY,  
EDUCATION AND AFFILIATE NETWORKS.

VA provides Veterans with accessible, advanced cancer care and resources.

Key  
STATISTICS

**20K+** **132+** **1,000+**

Veterans had their care guided by precision oncology  
VA facilities participating in NOP initiatives  
Provider-to-Provider cancer E-Consults

VA Accomplishes  
THIS THROUGH

- ✓ Providing Veterans with access to cutting-edge treatment, screening, diagnosis, and prevention as well as opportunities to participate in clinical trials.
- ✓ Leveraging precision oncology to tailor treatment to the patient using a molecular understanding of their cancer.
- ✓ Programs that engage Veterans at every step of their cancer care journey.
- ✓ Systems of Excellence that provide consistent and high-quality care experience for all Veterans.

There are 450,000 Veterans with cancer receiving VA care, with more than 43,000 new cases diagnosed and treated each year.

Major components of the cancer care available to Veterans at VA:



TeleOncology care brings sub-specialty care to Veterans no matter where they are. They don't need connections to an academic center, we bring it to them.

DR. PRADEEP POONNEN, MD, MPH, MEDICAL ONCOLOGIST, DURHAM, NC VA MEDICAL CENTER

VA IS BRINGING THE FUTURE OF CANCER CARE TO VETERANS TODAY BY:

Access to High Quality  
CANCER CARE TREATMENT

RECENT ACCOMPLISHMENTS

- ✓ Established a Breast and Gynecologic Oncology System of Excellence that will serve the growing population of women Veterans.
- ✓ Clinical Pathways were developed to provide a high standard of care. Five Pathways have launched, addressing cancers that are frequently diagnosed in Veterans, Prostate cancer, Lung cancer, Bladder cancer, Kidney cancer, and Esophageal cancer.

LOOKING FORWARD

- ✓ Clinical Pathways developed for at least 5 additional cancers in CY22.

Cancer Care,  
EQUITY, AND VETERANS

RECENT ACCOMPLISHMENTS

- ✓ 13 VA medical centers supported and helped deliver patient care via the National TeleOncology Service (NTO).
- ✓ NOP NTO established 7 subspecialty teams to treat specific cancer types in CY21.
- ✓ In CY21, 2,100 Veterans received cancer care through TeleOncology, with 55% from rural communities.

LOOKING FORWARD

- ✓ TeleOncology will expand to 16 more sites in FY22.
- ✓ NOP is bringing germline testing for prostate cancer to more than 75 VA medical centers.
- ✓ NOP is bringing precision oncology approaches for lung cancer to 85 VA sites nationwide.

Developing New and Better  
FOR CANCER CURES AND CARE

RECENT ACCOMPLISHMENTS

- ✓ The Lung Precision Oncology Program conducts lung cancer research across 85 sites nationwide.
- ✓ Next Generation Sequencing of metastatic prostate cancer guided the care of over 1,300 Veterans in CY21.
- ✓ Precision Oncology Program for Cancer of the Prostate includes over 550 Veterans who receive access to cutting-edge therapeutics and diagnostics through 24 ongoing clinical trials.

LOOKING FORWARD

- ✓ VA's Cancer Registry will produce more research studies which can drive new treatment and cures.
- ✓ Increase Veteran access to clinical trials by using digital methods for participation.



We are with our patients, shoulder to shoulder, every step of the way through their cancer care journey. Whether we are treating them in-person or across the country, we deliver personalized care, that aims to target their specific cancer through a molecular and genomic approach to cancer care.

SARA AHMED, PH.D., DIRECTOR OF PRECISION ONCOLOGY, VA'S NATIONAL ONCOLOGY PROGRAM

PERSONALIZED, RESPONSIVE CANCER CARE WITHIN AN INTEGRATED SYSTEM

Resources

Clinical Pathways  
Virtual Tumor Board  
Cancer Registry  
Molecular Oncology Tumor Board  
National TeleOncology

Systems of Excellence

Breast and Gynecologic Oncology  
Lung Precision Oncology Program  
Precision Oncology Program for Cancer of the Prostate

Programs

National Precision Oncology Program  
Pharmacogenomics  
Lung Cancer Screening



We really try to individualize when a clinical trial comes into play and when it would be the best treatment option.

CHERYL CZERLANIS, MD, MEDICAL ONCOLOGIST, EDWARDS HINES JR. VA HOSPITAL



# Innovation for Cancer Cures and Care

Veterans today and tomorrow receive best-in-class cancer care



## Meet the VETERAN

Having gone through the clinical trial [that put my non-Hodgkin's Lymphoma into remission], I think it's extremely important to get people enrolled in clinical trials that provide you with possible new avenues for treatments.

**KAREN ANN MUTH,**  
U.S. ARMY VETERAN, DURHAM, NORTH CAROLINA

## Informing care

T H R O U G H   D A T A

VA's precision oncology essentially makes every Veteran have a tailored treatment approach, and VA's Cancer Registry System works on the system-level to survey the positive impact of VA's program implementation and allows for studying patient outcomes over time.

## Learning What Works

**While VA is deeply engaged in cancer research, having a learning healthcare model that adapts and addresses advancements in clinical care is one way VA providers help Veterans have positive outcomes.**

Through the concentrated effort of national-level offices and programs, providers have a plethora of tools and services available to address complex and difficult cancer diagnoses,

while also elevating and expanding the level of care delivered for more typical diagnoses.

Veterans are a unique population – and not just because of their commitment to the Nation. Due in part to their access to the largest integrated healthcare network in the Nation, in the past 25 years, Veterans have had better cancer outcomes than the general population.





# National Precision Oncology Program



## Focusing on Personalizing Progress

**The VA established the National Precision Oncology Program to meet the goals of the White House's Cancer Moonshot initiative, spearheaded by then-Vice President Joe Biden in 2016.**

This program provides best-practice guidelines across disease types, including a centralized process for molecular testing using advanced approaches such as Next Generation Sequencing to guide personalized Veteran cancer care.

NPOP focuses its efforts on improving direct patient care and giving providers access to molecular testing and a knowledge ecosystem to enable selecting the right treatment for the right patient, at the right time.

## Delivering Evolving Care

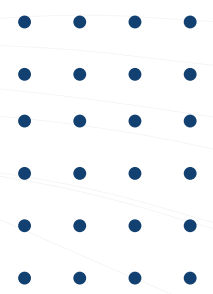
VA is committed to staying on the cutting edge of cancer advancements. Several times a year, when research produces significant clinical research changes, or when the U.S. Food & Drug Administration approves a new therapeutic, VA adopts and integrates these best practices into clinical care recommendations.

Then, a retro-analysis is performed of all Veterans currently leveraging precision oncology in their treatment plans. Through this process, Veterans are identified who may benefit from the latest advancement in oncology treatment.

## Equipping Providers Across the Nation

- ✓ E-consults with precision medicine experts for advice on suitable molecular testing and therapy selection for patients
- ✓ A monthly virtual molecular tumor board consisting of cross disciplinary teams for challenging cases
- ✓ Matching to clinical trials using precision oncology biomarkers detected through molecular tests
- ✓ Weekly oncology office hours, where leadership is available for questions
- ✓ Internally facing resource sharing through VA's intranet
- ✓ Onsite trainings, as needed, with vendors and subspecialty providers.

Because of VA's infrastructure, providers spend less time staying current with advancements in precision oncology, managing testing logistics, and coordinating data management, allowing them to focus on the individual Veteran.



# Cancer Registry System

# 132

VA medical centers and clinics contribute oncology data.

## Big Data

### A N D B I G U S E S

**VA's Cancer Registry System is a long-standing program created to collect, store, and manage the data on Veterans with cancer. In fact, VA has been collecting this type of information since 1995.**

VA's Cancer Registry System collects, consolidates, and maintains detailed diagnosis and treatment information from each cancer patient. VA hospital leadership, researchers, and statisticians use this data to modify provision of care, develop innovative therapies and improve evidence for new standards of care.

#### VA Cancer Registry System has multiple broad-use functions:

- ✓ It serves a critical role in cancer surveillance and control efforts, allowing VA leadership and others to understand the broad impact of system-level intervention implementation.
- ✓ The surveillance allows for broad focus areas to be established, as cancer diagnosis rates and outcomes change over time.
- ✓ The data works to create new opportunities for the research community to support Veterans facing a life-threatening disease, ultimately reducing cancer's burden on America's Veterans.

## Leveraging Details For NATIONAL IMPACT

**Registry data is also shared with state and national central cancer registries. Details shared include:**

- Extensive demographics
- Cancer identification
- Extent of disease and staging
- First course of treatment
- Outcomes.

**The information is de-identified and sent encoded to protect patient privacy and meet the site-specific requirements for registry inclusion as established by several oversight bodies, including:**

- North American Association of Central Cancer Registries
- American College of Surgeons, Commission on Cancer
- American Joint Commission on Cancer
- NCI, Surveillance, Epidemiology, and End Results
- CDC, National Program of Cancer Registries.

## Serving Tomorrow's VETERANS

**VA's Cancer Registry System follows national standards and includes information unique to our Veterans. There are 132 VA medical centers and clinics that contribute oncology patient data.**

As the clinical oncology data repository evolves to record and notate shifts in clinical information and criteria, it continues to capture elements of a Veteran's lifetime medical history like service history, occupation, and environmental exposures that could contribute to the diagnosis and outcome.





# Abhishek Solanki, M.D.

PHYSICIAN-RESEARCHER



DR. ABHISHEK SOLANKI IS AN EDWARD HINES, JR. VA HOSPITAL AND LOYOLA UNIVERSITY CHICAGO STRITCH SCHOOL of Medicine Radiation Oncologist and Physician-Researcher. He received his medical degree from the University of Chicago Pritzker School of Medicine. He began work at VA in 2014.

"I want to make the world a better place. Veterans have a similar mentality and so I think I jive well with that mentality. Veterans have challenges that people in the community may not have, and I think it's a wonderful opportunity to help them overcome these challenges in an individualized way. I truly feel that I can give any Veteran the best possible treatment without worrying about whether insurance will cover it or not because it's a closed healthcare system."

He recently received an \$8.6 million merit grant from VA's Office of Research and Development to study new treatments for metastatic prostate cancer. Named **VA STARPORT**, the study is looking into the idea that prostate cancer can spread beyond the prostate itself yet not fan out uncontrollably through the body. By targeting defined areas of metastasis, aggressive local therapy—surgery or radiation—might be capable of diminishing further spread in "oligometastatic" cancer.

**VA STARPORT is designed to provide more definitive evidence of whether local therapy along with systemic treatments will lead to better outcomes for some Veterans with limited spread of their prostate cancer.**

## TeleOncology SPOTLIGHT

Bringing advanced precision medicine to disadvantaged populations through a new telehealth effort called TelePharmacogenomics.

A GROWING POPULATION AND A GROWING NEED

**700** Women Veterans enrolled in VA healthcare are diagnosed with breast cancer each year.

## Clinical Trials SPOTLIGHT

Clinical trials are an essential element to a learning healthcare model.

NAVIGATE & PARTNERSHIPS

**12** VA medical centers participate in partnership with the National Institutes of Health's NAVIGATE program.

# Clinical Pathways

## Developing Clinical Decision Support Tools

**Evidence for cancer treatment is constantly evolving. As a result, it can be challenging to have system-wide adoption of cutting-edge treatments.**

TO BEST EQUIP PROVIDERS, VA DEVELOPED CLINICAL PATHWAYS. Pathways are a decision support tool used to provide Veterans with cutting-edge cancer care. Pathways standardize evidenced-based practices to ensure equitable, high-quality care for Veterans at each point in their cancer journey.

These tools are developed by an interdisciplinary subject matter expert team of clinicians and approved by VA's National Program Offices, including medical oncology, radiation oncology, surgery, pathology, and pharmacy.

## Evidence-Based and Veteran-Focused

Pathways are a decision support tool used to provide Veterans with cutting-edge cancer care.

Other care elements considered during the establishment of a Pathway are treatment best practices, peer-reviewed level one evidence, and clinical trials. The development team reviews and considers how to address the specific needs of the Veteran population.

Pathways also help Veterans understand their cancer treatment plan. By using a Pathway to guide conversations, clinicians and Veterans can set treatment expectations together and create a care plan where the Veteran feels informed and engaged.

5

CLINICAL PATHWAYS  
DEPLOYED IN 2021.

## Innovation During the Pandemic

VA began developing CPs in 2020. Despite the ongoing pandemic, VA remained focused on developing these critical tools. In CY22, an additional 5 Pathways are in development including:

- ✓ Hematologic malignancies
- ✓ Head and Neck Cancers
- ✓ Breast Cancer
- ✓ Gastrointestinal Cancer

VA is modernizing and standardizing cancer care for Veterans through Pathways. This resource equips providers to deliver best-in-class care.

# Cancer Care, Equity and Veterans

VA is committed to providing equitable care to Veterans no matter where they're located or what kind of cancer they have.



## Meet the VETERAN

A mastectomy was the best thing for me. It was really, really, hard. But I'm back walking, back into the Move Program. I love my VA.

**MARY CRUM,**  
U.S. ARMY VETERAN, CLEVELAND, OHIO

## What is HEALTH EQUITY?

**Health equity is that all people deserve to reach their full health potential.** Health equity at VA means healthcare quality or treatment is not affected by a Veteran's gender, race or ethnicity, location, or socioeconomic status.

## For VA, health equity for Veterans means:

- ✓ Cutting-edge research via clinical trials no matter the stage of Veteran's diagnosis, the location of where they may live, or prior treatment plan.
- ✓ Access for Veterans to top-rated physicians and cancer care specialists nationwide through National TeleOncology services.
- ✓ Care coordination and support in partnership with community hospitals.
- ✓ Systems of Excellence to address Veteran populations with specific needs.
- ✓ Nationwide infrastructure deployment that uses best-in-class diagnostics and molecular testing.
- ✓ National Tumor Board platforms to ensure all VA medical center providers have access to multidisciplinary consensus review by VA experts in oncology, pathology, surgery, radiology, radiation oncology, and other specialties.
- ✓ Partnerships with other federal agencies, academic affiliates, and public-private research programs make VA the best clinical development resource in the world for cutting-edge, best-in-class cancer care.

With approximately 450,000 Veterans receiving cancer care through VA every year, more than 43,000 new diagnoses each year, **guaranteeing equity is essential to providing Veterans high-quality, cutting edge cancer care.**





# Breast and Gynecologic Oncology System of Excellence

## Improving Access to Specialty, Integrated Care

**By 2040, female Veterans will be 17% of the Veteran population, but VA doesn't wait until then to meet their cancer needs.**

VA HAS DEVELOPED A BREAST AND GYNECOLOGIC ONCOLOGY System of Excellence to provide cutting-edge cancer for women Veterans, creating the infrastructure to treat the cancers affecting them. In CY21, this System of Excellence hired gynecologic oncologist Haley Moss, M.D., MBA, to lead this effort. Recently, the System of Excellence formed an interdisciplinary team to work on transforming cancer treatment, and outcomes, and developing a system to ensure coordinated, integrated, and compassionate patient-centered care.

Since being set up, the **System of Excellence has established care for gynecologic cancers through the National TeleOncology service**, with expansion for breast cancer coming soon. The System of Excellence has also opened its doors to other VA providers to come to them for specialty care and treatment guidance via electronic consultative services.

**BY 2040, FEMALE VETERANS WILL BE**

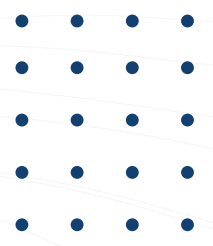
**17%** Of the Veteran population.

The System of Excellence strives to be a **resource for Veterans undergoing cancer treatment both inside and outside of VA.** Through a partnership with VA's Office of Community Care, the System of Excellence aims to provide centralized comprehensive care coordination to Veterans undergoing cancer treatment both inside and outside of VA.

## Looking Forward

The Breast and Gynecologic Oncology System of Excellence's **program goals include:**

- ✓ Building a Clinical Pathway for breast and gynecological cancers that provides Veterans consistently high quality care no matter where they live
- ✓ Establishing a National Breast and Gynecologic Cancer Tumor Board
- ✓ Increasing access to innovative clinical trials to treat breast and gynecological cancer
- ✓ Developing a national network of VA facilities affiliated with academic medical centers to increase access to world-class cancer care.



# VA's Virtual Tumor Board

## Standardizing FOR EQUITY

A single cancer care provider may not have all the answers for every patient, and cancer care is becoming increasingly dependent on multidisciplinary care. The solution is to gather experts together to collaborate on the optimal management for Veterans who have complex care needs: a straightforward answer that often presents challenges for patients and providers alike.

In response, VA recently established a National Virtual Tumor Board. Nationwide disease-specific experts will lend their support virtually – meaning a Veteran's care won't be limited by the resources within their VA medical center or the resources of their immediate community.

For each subtype of cancer, this board will bring together a team that includes:



Launched in 2022, the inaugural team supports Veterans with cancers of the blood.

## Integrated, Multidisciplinary SUPPORT

By having the various disciplines of medicine offering advice, experience, and best practices, a Veteran's care will have the support of the entire VA healthcare system as they navigate their cancer journey.

One key to success: nationwide systems integration. Every provider supporting a Veteran can see notes, scans, medications, and other treatment plans through a single source. This lowers the logistical burden on Veterans who otherwise may have to coordinate care through multiple treatment centers in the community.

The Virtual Tumor Board has a wrap-around approach. Providers will have access to experts in multiple medical and surgical subspecialties. Bi-directional communication between the Virtual Tumor Board and providers allows for centering the needs of the Veteran.

## Centering THE VETERAN

One big advantage of the Virtual Tumor Board is that the right treatment for the individual Veteran is identified and defined faster because of the comprehensive nature of the Virtual Tumor Board.

The Virtual Tumor Board will assess and support the care of complex presentations of more common cancers like prostate and lung, as well as rare cancers, like Glioblastoma. Rare cancer diagnoses make up approximately 16% of the cancer diagnoses made in VA.



# Deepak Voora, M.D.

DIRECTOR, VA'S PHARMACOGENOMICS TESTING FOR VETERANS PROGRAM



DEEPAK VOORA, M.D., IS AN ASSOCIATE PROFESSOR OF MEDICINE AT THE CENTER FOR APPLIED GENOMICS & Precision Medicine at Duke University School of Medicine, and staff cardiologist at the Durham Veterans Affairs Medical Center. He received his medical doctorate from the Northwestern University Feinberg School of Medicine in 2002.

His research focuses on the discovery and translation of pharmacogenomic biomarkers to show that tailoring drug therapy based on genomic information can improve treatment outcomes. He has chosen some of the most used medications worldwide – antiplatelet and statin medications – for his research.

As director of VA's Pharmacogenomics testing for Veterans (PHASER) program, he is leading VA's implementation of pre-emptive, panel-based, pharmacogenetic testing that will reach up to 250,000 Veterans. This testing looks at genes to learn how Veterans respond to drugs, allowing doctors and pharmacists to align prescriptions to a Veteran's genetic profile and improve medication outcomes.

**At the heart of the work we're doing with PHASER is to deliver more accurate prescriptions to better treat Veterans. Being able to bring precision medicine to Veterans through the PHASER program is another way that VA is providing the best care to Veterans.**

## TeleOncology

SPOTLIGHT

Bringing advanced precision medicine to disadvantaged populations through a new telehealth effort called TelePharmacogenomics.

REACHING RURAL VETERANS VIA EXPANDED NTO SERVICES

**55%** Of CY21 patients were rural or very rural

## Clinical Trials

SPOTLIGHT

59 active or enrolling clinical trials focused on prostate cancer in Veterans in CY22.

PRECISION ONCOLOGY TRIALS

**550** Veterans receiving the most cutting edge treatment in precision oncology focused clinical trials

# Pharmacogenomics

## Pharmacogenomic Testing and Veterans

**Pharmacogenomics (PGx) testing looks to understand how a Veteran's genetic attributes affect their response to therapeutic drugs.**

VA uses PGx testing to help providers tailor the options and dosages of commonly prescribed medications to their patients' genetic profile. Negative drug reactions are reduced when providers are alerted of a potential "drug-gene" interaction when ordering medications for a Veteran. These alerts ensure consistency of care across VA providers.

This level of personalized medicine supports VA's efforts in equity, as it takes the individual Veteran and their genetic information into account to ensure the best possible outcome as treatment plans are established.

## Growing Use of Pharmacogenomics

At the close of CY21, over 7,600 Veterans agreed to PGx testing to help guide their treatment plans. This metric represents significant progress. Testing alone grew by almost 600%, up from 1,277 Veterans in CY20.

TESTING ALONE GREW BY ALMOST

**600%**

Currently, 23 VA medical centers are offering testing, and over 1,000 providers have ordered testing. In CY20, just 9 VA medical centers offered testing, and only 139 providers ordered testing.

As the use of PGx testing continues to expand across the nationwide network of VA providers, Veterans will experience less adverse reactions to medication.

## The Roadmap to Personalized Medicine



Recognizing the need for innovative, and widely available pharmacogenomic testing, VA started the Pharmacogenomic Testing for Veterans (PHASER) clinical program in 2019.

This program provides multi-gene pharmacogenomic testing, using multisite, remote implementation of panel-based pharmacogenomic testing.

By 2023, PHASER will expand by an additional 10 sites, allowing the program to support an additional 10,000 Veterans, among whom 1 in 10 are expected to have their prescriptions impacted by PGx testing.

The PHASER program is developing a roadmap to maximize and optimize the use of pharmacogenomics across VA to improve drug response outcomes.

# Access to High Quality Cancer Care

Innovative solutions to improving access



## Meet the VETERAN

The number one thing I take from this, is that I have the availability of a top-quality physician, who's taking an hour to talk with me. I don't see how that could get any better.

**VIRGIL MILLER,**  
U.S. ARMY VETERAN, BUCKHANNON, WEST VIRGINIA

## Our Commitment TO VETERANS

**More than 43,000 Veterans are diagnosed with cancer annually, and VA supports approximately 450,000 Veterans through their cancer journeys every year.**

VA is leading the future of cancer care and standing shoulder to shoulder with Veterans diagnosed with cancer. Our efforts to reach Veterans in their communities directly improves patient outcomes.

## Cancer Care Wherever the Veteran Lives

The Veteran Affairs medical centers, community clinics and providers of the Veterans Health Administration represent the largest integrated healthcare system in the United States. Through this interconnected system, VA is making sure that we can provide care where and when Veterans need it.

According to an American Society of Clinical Oncology workforce report, 66 percent of rural counties have no oncologist. Veterans in these counties will face issues accessing care due to a lack of cancer providers in their local area.

Through efforts like VA's implementation and expansion of TeleOncology, our cancer care providers can reach these Veterans regardless of where they live.

# National TeleOncology

The National TeleOncology service delivers screenings, diagnostics, and treatment for medical oncology—including rehabilitation and palliative care—which improves outcomes for all Veterans.

AS COVID-19 CONTINUED TO REMAIN TOP OF MIND FOR healthcare workers and patients alike, VA was well positioned to continue to provide high-quality care to Veterans across the country.

Veterans can connect with providers in two different ways. They can either travel to a VA facility or use a personal device.

## Reaching Rural Veterans

NTO has 13 VAMCs providing TeleOncology across the country, uniquely situating them to reach Veterans in rural areas who lack access to specialty cancer care.

**OF THE 2,100 PATIENTS SEEN ACROSS THE COUNTRY IN CY21 THROUGH NTO,**

**1200** Of them were in rural areas.

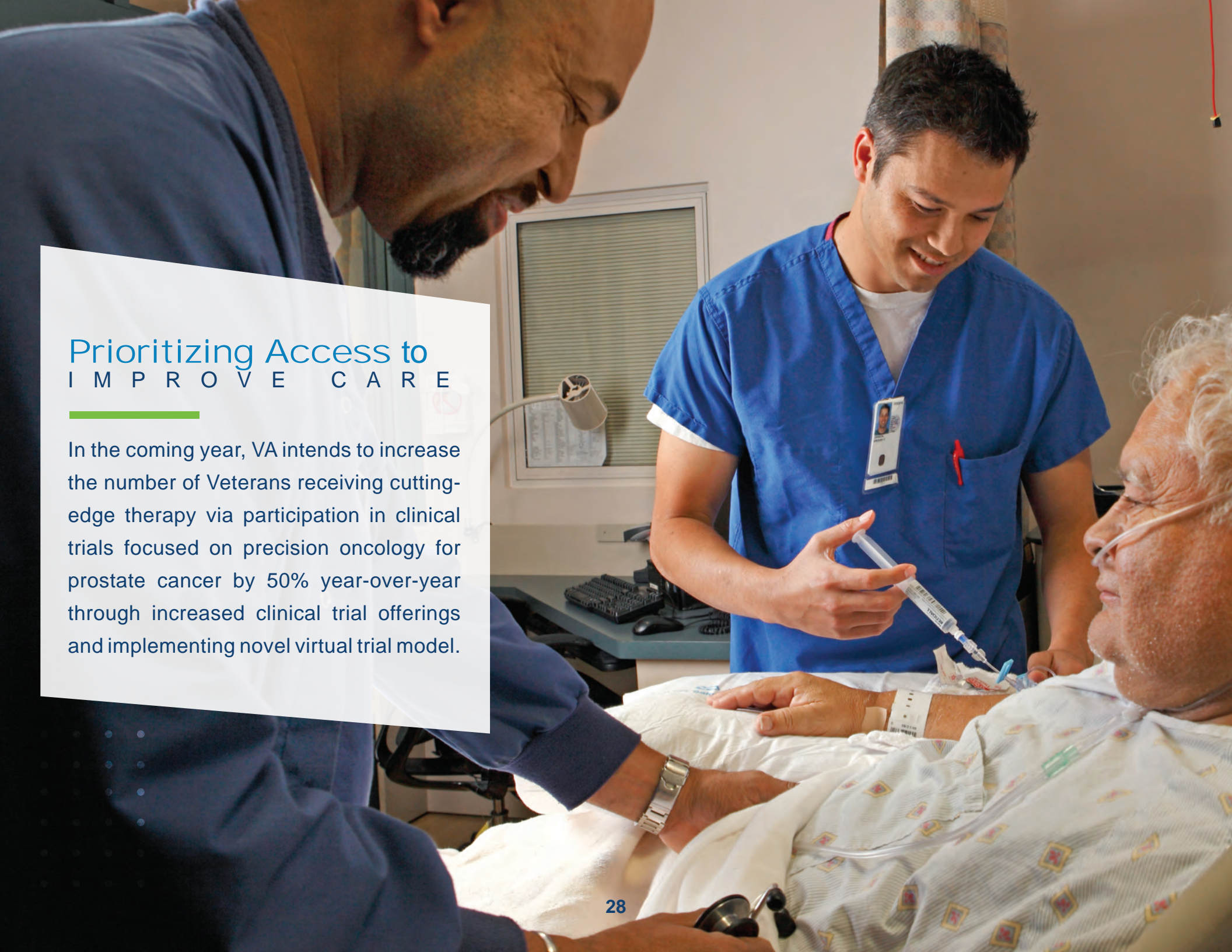
Instead of having to spend time, money, and energy traveling long distances for care, Veterans either received care from home or at their local VAMC. Veterans who trust and value the quality care VA provides could remain in the system.

## Specialized Treatment Makes a Difference

Providing cancer care to Veterans who need it isn't enough for NTO. The best and most-specialized care possible is the goal. In 2021, NTO grew to 20 specialized oncologists who are also associated with National Cancer Institute Designated Cancer Centers. VA then established seven separate specific subspecialty teams within TeleOncology. These cancer-type specific teams include:

- ✓ Malignant hematology
- ✓ Thoracic
- ✓ Head and neck
- ✓ Genitourinary
- ✓ Benign hematology
- ✓ Gastro-intestinal
- ✓ Rare cancers

**By standing up these specialized teams, NTO is ensuring cutting-edge, consistent, and best-in-class cancer care.**



## Prioritizing Access to IMPROVE CARE

In the coming year, VA intends to increase the number of Veterans receiving cutting-edge therapy via participation in clinical trials focused on precision oncology for prostate cancer by 50% year-over-year through increased clinical trial offerings and implementing novel virtual trial model.

# Precision Oncology Program for Cancer of the Prostate



## Reaching Veterans Through Collaboration

VA's healthcare system delivers world-class cancer research, care, and cures to Veterans daily. As most Veterans are men, prostate cancer research and treatment is top of mind for VA.

VA has a network of medical centers and a range of clinical trials providing state-of-the-art precision oncology care for Veterans with prostate cancer through a partnership with the Prostate Cancer Foundation (PCF).

Collaborative efforts centralized through the Precision Oncology Program for Cancer of the Prostate (POPCaP), a strategic partnership between VA and the PCF, provide tumor and germline sequencing for all Veterans with metastatic prostate cancer, regardless of where they are in the country.

The network also provides Veterans with cutting-edge therapies for prostate cancer through VA-sponsored clinical trials coordinated through the Prostate cancer Analysis for Therapy Choice program.

Over 550 Veterans are receiving the most cutting-edge therapeutics and diagnostics through precision oncology focused clinical trials.

## Real Access Means Real Impact

**21** Precision oncology centers of excellence for prostate cancer.

These centers cared for 10,529 Veterans with prostate cancer and 1,756 Veterans with metastatic prostate cancer in CY21.

Even as the COVID-19 pandemic continued to be a major concern for cancer patients around the

United States, these 21 centers saw a total of 69,943 clinic visits.

Further, VA onboarded seven new Genitourinary Precision Oncology sites and expanded access to precision oncology expertise both geographically and to Veterans with bladder and kidney cancer.

## Research Reaching Veterans

In CY21, a centralized process for ordering somatic Next Generation Sequencing testing (NGS) was established for when a Veteran is diagnosed with prostate cancer. This program is called Next generation sequencing for Ascertainment for Choosing Oncology treatment (NACHO).

NGS testing allows providers to have the most information available to them to properly diagnose the aggressiveness of the cancer, as well as test for actionable genetic alterations that may impact treatment options. Enabling access to NGS is a key step in establishing equity in prostate cancer care across VA. The nationwide availability of NGS means that Veterans have access to best-in-class cancer care irrespective of geography.

In CY21, 1,300 Veterans had their cancer guided by NGS.

As VA continues to prioritize best-in-class cancer care, researchers focused on precision oncology for prostate cancer have produced

**65** Academic and peer-reviewed publications on prostate cancer last year.

# Amber Laing, MSN, RN, CCCTM, NEA-BC

ASSOCIATE DIRECTOR, NATIONAL CENTER FOR LUNG CANCER SCREENING



AS THE ASSOCIATE DIRECTOR FOR THE NATIONAL CENTER FOR LUNG CANCER SCREENING, AMBER LAING, MSN RN, CCCTM, NEA-BC acts as a national nurse leader for the Center with expertise in the navigation and coordination of needs associated with screening.

She works to advise and support VA medical facilities in adopting best practices for Lung Cancer Screening care coordination, driving improved early detection rates of lung cancer in the Veteran population and adherence to screening guidelines.

Ms. Laing received her MSN from Gonzaga University and began her career at VA in 2003 as an RN Care Coordinator for Infectious Disease/Pulmonary/Oncology at the Portland VA Medical Center. She has dedicated her career to supporting Veterans, advancing in leadership roles while at Portland VAMC and then moving to the Hershel "Woody" Williams VAMC in Huntington, West Virginia.

She joined the Center in January of 2022 and remains as focused as ever on centering the Veteran's experience during their cancer journey by ensuring facilities are providing high-quality lung cancer screening.

**Throughout my career at VA, I've seen the importance of early detection and cancer screenings. I'm excited to reach even more Veterans by guiding the LCS program forward for even greater impact.**

## The Future of PRECISION MEDICINE FOR LUNG CANCER

**VA is deeply committed to the continued implementation of a learning healthcare model to quickly transition new knowledge into clinical practice and to maximize learning from clinical practice.**

Right now, VA estimates approximately 1-2 million Veterans have an elevated risk of developing lung cancer. As Veterans are at risk of developing lung cancer due to age, smoking history and environmental exposures, there is a need for precision oncology care for those with lung cancer diagnosis.

# Lung Cancer Precision Oncology Program

## Precision Oncology and Lung Cancer

**Lung cancer is the leading cause of cancer deaths in the United States. Most lung cancer cases are diagnosed at advanced stages when few curative treatments are available.**

RIGHT NOW, APPROXIMATELY 7,700 VETERANS USING VHA services are diagnosed with lung cancer every year. VA's Lung Cancer Precision Oncology Program

Precision oncology for lung cancer is available at

**85** VA medical centers.

(LPOP) is working to bring precision medicine to Veterans diagnosed with lung cancer.

Precision Oncology is the molecular profiling of tumors to identify targetable differences that clinicians can use to improve the treatment of patients. In simple terms, it may enable clinicians to use targeted therapies earlier in treatment, which can lead to Veterans experiencing positive long-term recovery.

The participating 85 VA medical centers will provide Veterans increased access to molecular

testing and clinical trials using novel and re-purposed FDA approved therapies.

Additionally, a wide cross-section of research informs lung cancer screening, precision oncology and best practices in lung cancer care in VA. This work is enabled by long standing collaboration and partnerships between VA and affiliated NCI-designated Cancer Centers. VA oncologists, regardless of location, have access to precision oncology consultative services to interpret complex results from molecular testing.

## Veteran-Centered Infrastructure

To build infrastructure that supports positive outcomes for Veterans with lung cancer, VA is:

- ✓ Improving access for Veterans with advanced lung cancer to precision oncology clinical trials.
- ✓ Enabling rapid translation of discoveries into clinical care.
- ✓ Supporting the integration of clinical genetic and molecular data into a central repository to formulate the knowledge necessary to identify better treatments, guide care decisions and identify new avenues for further research.

**As of mid-2021, precision oncology for lung cancer is available for Veterans in every Veteran Integrated Services Network.** This expansion helps reach rural Veterans who may otherwise struggle to access precision cancer care. Included in this expansion is the use of telehealth technologies that connect Veterans to their oncology care team via mobile devices or computers at home.





Cancer researchers, Veterans, and VA providers all have the same goal: achieving positive outcomes from cancer treatment.

**As the Nation's largest integrated healthcare network, VA aligns these three audiences in delivering a continuum of world-class cancer care – from cancer researchers who identify and develop breakthrough treatments, to providers delivering cutting edge treatments being discovered and tested in clinical trials, Veterans receiving their care at VA have increased access to trials and novel treatments and therapeutics that might otherwise be difficult to receive.**

This full lifecycle of cancer care, from research to treatment– from researchers, to clinicians, to Veterans – means advancements in research, clinical practice and care delivery can reach clinical implementation faster than typical healthcare systems, and that same implementation can inform the next evolution of innovative research, training, and clinical care.

With VA physicians and advanced practice providers deeply invested in research, patient care and academic medicine at their respective institutions, the National Oncology Program is creating a learning healthcare model.

**RACHEL B. RAMONI, D.M.D., SCI.D.**  
CHIEF RESEARCH AND DEVELOPMENT OFFICER



It takes a special human to do what VA is doing. — NAVY VETERAN AND CANCER SURVIVOR CHUCK MILLER



**For all of NOP's achievements in cancer care, the focus remains consistent: Veterans receiving care through VA deserve the best possible outcome.**

Virtual cancer care is revolutionizing how VA is diagnosing and treating cancer. No matter where a Veteran is located, they can access specialized oncologists affiliated with the National Cancer Institute for specific cancers. VA is committed to providing a system of equal access and equal care to achieve equal outcomes.

The development of the Clinical Pathways decision support tools guarantees Veterans are receiving high-quality care. Clinical Pathways standardized evidence-based practices to provide equitable, high-quality care for Veterans at each point in their cancer journey.

Right now, approximately 7,700 Veterans using VHA services are diagnosed with lung cancer every year. VA's Lung Cancer Precision Oncology Program is working to bring precision medicine to Veterans with these diagnoses. Precision oncology may enable clinicians to use targeted therapies earlier in treatment, which can lead to Veterans experiencing positive long-term recovery.

VA recognizes that Veterans merit receiving cutting-edge treatment, which can mean participation in clinical trials. NOP's integrated network facilitates Veterans participating in a decentralized clinical trials model that allowed them to access trials that are not local to their communities. Further, clinical trials are available to Veterans at any stage of their cancer journey and are a central part of the treatment discussions when a Veteran is diagnosed.

Statistics tell us that almost one in three people will face a cancer diagnosis in their lifetime. If and when a Veteran is diagnosed with cancer, VA is ready and able to stand shoulder to shoulder with them every step of the way.

**MICHAEL KELLEY, M.D.,**  
DIRECTOR OF VA'S NATIONAL ONCOLOGY PROGRAM



U.S. Department  
of Veterans Affairs