



# SHOULDER TO SHOULDER

## DEFEATING CANCER

National Oncology Program



Choose **VA**

**VA**



U.S. Department  
of Veterans Affairs

# The Future of Cancer Care

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The Department of Veterans Affairs (VA) serves more than 9 million Veterans each year. VA is a system that provides world-class cancer care, innovation, and research for the nearly 50,000 Veterans who are diagnosed and treated for cancer annually. Of that number, prostate cancer is the top diagnosed cancer at the VA (41%), and lung cancer is the deadliest, with approximately 5,000 Veterans lost each year. Overall, cancer is the second leading cause of death among Veterans.

In response to this deadly disease, we are leading the fight against cancer through precision oncology by developing and applying new technologies, tools, research knowledge, and best-practice therapies. VA's advancements in cancer treatment serve everyone. Our scientific and medical breakthroughs are shared both inside and outside our healthcare system to benefit not just Veterans, but all Americans.

For our nation's Veterans, precision oncology provides targeted therapies to better manage the progression of cancer; utilizes preventative screening and diagnostic testing to catch cancers earlier, especially among higher risk Veterans; reduces disparities in cancer treatment; and improves access to clinical trials while expanding the national clinical trials network. Using precision oncology, our clinicians and researchers are applying oncology breakthroughs and technology advancements, moving VA toward a new standard of care. Together, with our strategic partners, VA is advancing the implementation of precision oncology and genomic medicine with the goal of improving health outcomes for Veterans.



**Richard A. Stone, MD**  
Acting Under Secretary  
Veterans Health Administration



# THE NATIONAL ONCOLOGY PROGRAM (NOP) ECOSYSTEM



Precision oncology means matching the right treatment to the right patient using a molecular understanding of their cancer. At VA, we take it a step further: it's an entire ecosystem of tools and resources, programs, and systems of excellence across the U.S. that foster personalized care at every step of the Veteran's journey.



— SARA AHMED, PhD

## TOOLS & RESOURCES

Clinical Pathways  
Cancer Registry & Data Analytics  
Molecular Oncology Tumor Board  
TeleOncology

## PROGRAMS

Research & Clinical Trials  
Pharmacogenomics  
Strategic Partnerships  
Genomic Medicine  
National Precision Oncology Program

## SYSTEMS OF EXCELLENCE

Lung Oncology  
Prostate Oncology  
Women's Oncology



# 50k

Veterans whose tumors were tested for genetic variation in 2020 to help target cancer treatment



# 10k

Veterans referred for genetic consultation in 2020, 36% of whom were from rural areas



# 132

VA hospitals, medical centers, and clinics collecting cancer registry data in 2020

# A SHARED JOURNEY

VA and our partners stand shoulder to shoulder with Veterans on a journey to defeat cancer.







In 2016, my oncologist asked me if I wanted to participate in VA's Precision Oncology Program. He said precision oncology was a new approach to treating certain types of cancer. I am a U.S. Army Veteran, husband, and father, and I had two large tumors in my lungs with metastasis to my brain, lymph nodes, and other parts of my body. With Stage 4 lung cancer...what did I have to lose? Little did I know, I had almost everything to gain.

I was not new to being treated for my cancer; I had done the traditional route of chemo and radiation, which stole my quality of life. I was stumbling around in a fog unable to think straight. But worse than that, it robbed me of my ability to work, created extra caregiving burden for my wife, and took away precious time with my kids. Precision oncology changed all of that for me. Painful IV and radiation treatments were replaced by taking pills, which also cut down trips to the medical center. I have more energy and am better able to concentrate... spend more quality time with my family and friends, and just feel better overall.

I didn't know this type of cutting-edge treatment was available in VA. To any Veteran considering who to trust with their cancer care, I whole heartedly believe VA can be there for you, too.

*Tam Huynh  
U.S. Army Veteran*



## Strategic Partnerships

Strategic partnerships are integral to building VA's National Oncology Program (NOP) into a leader in precision oncology. To ensure VA delivers the best possible care to our millions of Veterans, NOP has secured commitments of more than \$110M from public and private organizations to date (2021).



IBM Watson donated 10,000 genomics studies through the Secretary's Center for Strategic Partnerships, providing a valuable tool to VA oncologists in delivering care.



In August 2020, the Prostate Cancer Foundation (PCF) funded its 12th VA Prostate Cancer Center of Excellence (COE), and in October 2020, PCF publicly increased its commitment to 21 total COEs.

## Bristol Myers Squibb™ Foundation

The BMS Foundation Partnership to Increase Access to Lung Cancer Screening (VA-PALS) program has grown to 15 VA facilities nationwide, and the program has worked hard to reach rural Veterans, too. So far, more than 12,000 Veterans have been screened for lung cancer.



Sanford Health's commitment to the Pharmacogenomic Testing for Veterans (PHASER) program includes a donation of 250,000 pharmacogenetic tests to help VA physicians use precision medicine to better match medications to individual cancer survivors.



VA's rural access initiative is supported by our partners at AT&T, T-Mobile, SafeLink, and Verizon in zero rating data charges for all VA Video Connect Sessions.



# Clinical Pathways

## Program Goals

Deploy Clinical Pathways to all VHA sites of care

Ensure adherence to Clinical Pathways templates by oncologists

Contact us:  
VHAOncologyPathways@va.gov

Clinical Pathways are standardized, evidence-based disease management and treatment protocols that provide a preferred care roadmap. VA's goal is to improve cancer treatment by minimizing variations in care, reducing adverse outcomes, and ensuring the highest quality and safety for Veterans.

**5** Pilot sites opened to implement and evaluate Clinical Pathways care model



### Spring 2021

National rollout of lung and prostate molecular testing pathway

### Fall 2021

Begin Clinical Pathways expansion to breast and gynecological cancers

### Dec 2021

All Clinical Pathways for lung and prostate cancer deployed nationwide

# Cancer Registry & Data Analytics

The VA Cancer Registry System collects, consolidates, and maintains detailed diagnosis and treatment information from each cancer patient. VA hospital and registry staff, researchers, and statisticians use this data to develop innovative therapies and improve evidence for new standards of care. Registry data is also shared with state and national central cancer registries.

**35**

VAMCs contribute to the American College of Surgeons' National Cancer Database

**132**

VA hospitals, medical centers, and clinics across the U.S. contribute data to the Cancer Registry

## Program Goals

Ensure optimal data collection through integration with updated VA Electronic Health Record system

Improve timeliness of facility data reporting by Fall 2021

### Spring 2021

Update current cancer registry software

### Summer 2021

Initiate national reporting compliance plans

### Fall 2021

Revitalize VA Central Cancer Registry





# Precision Oncology & Molecular Oncology Tumor Board

**126**  
Participating  
VA facilities

VA's National Precision Oncology Program (NPOP) uses cutting-edge molecular testing technologies to guide treatment decisions through identifying genetic variation in cancer cells. Clinicians can discuss the tumor test results with experts via the Molecular Oncology Tumor Board (MOTB) forum or through a provider-to-provider e-consult service available across the VA enterprise.

**18k** Veterans cared for through NPOP services

## Program Goals

- Adopt molecular testing under NPOP VA-wide
- Increase number of Veterans tested through NPOP
- Increase VA facilities participating and ordering tests under NPOP

### May 2021

Transition to full online ordering for all molecular tests through NPOP

### Dec 2021

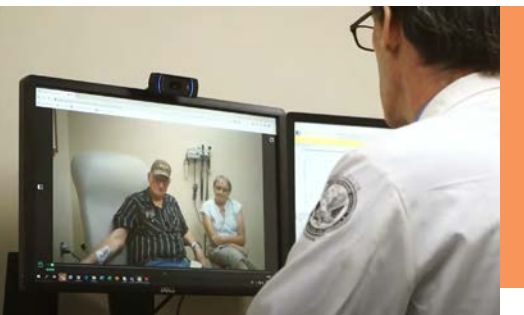
Make data visualization tools available for providers to utilize NPOP data in making healthcare decisions



# TeleOncology

## Program Goals

- Provide TeleOncology care to more than 10K unique Veterans (double FY20)
- Make TeleOncology support available to all of VHA by the end of FY22



“They know we’re going through a lot, the care teams have been wonderful, and Dr. Kelley is just great.”

*Roger and Henrietta Lupkes  
U.S. Army Veteran*

VA TeleOncology, in consultation with VA Connected Care, works to increase access to specialized cancer care for all Veterans, in particular rural Veterans and Veterans with injuries/illnesses for whom mobility and travel pose added burdens and health concerns. A virtual National Cancer Institute-Designated Cancer Center will be created to support oncologists with patient consultations for diagnosis and treatment, tele-registry, survivorship clinic, virtual tumor board, remote practice provider supervision, and care coordination.

**5** TeleOncology sites across the country

### Apr 2021

Begin TeleOncology services at 5 more VAMCs

### Aug 2021

Complete hiring of subspecialty oncologists at National TeleOncology hub

### Dec 2021

Expand remote chemotherapy infusion capabilities



“

What we have learned with the molecular program is that we can find specific genes and make clinical decisions based on this information. I am very happy that I can provide that level of care to Veterans in the rural program here in Martinsburg, West Virginia. Without the Molecular Oncology Tumor Board, it would be hard to get that same level of care to rural Veterans.

As an example, one of my patients' prostate cancer was advancing, and we thought chemotherapy was going to be our only option for treatment. But through molecular testing and consulting with the tumor board, we were able to identify a *BRCA* gene mutation in his lab work, which meant a targeted therapy would work for his cancer. He was opposed to chemotherapy, but he agreed to the targeted therapy for the *BRCA* mutation, and after five months, he is doing well.

*Mamatha Prabhakar, MD  
VA Hematologist/Oncologist, Martinsburg, WV*







# Research & Clinical Trials

**300+** Ongoing oncology research projects

Increasing Veterans' access to precision oncology clinical trials is a strategic priority for VA. These clinical trials focus on specific genetic variation in tumors of VA patients, which may lead to a more positive response to a particular treatment. This opportunity can bring patients and families renewed hope.



“

My expectations coming into this were that, realistically, this is my best last chance. If I could jump for joy without going off camera, I would do it.

*Chris Seelye  
U.S. Navy Veteran*

## Program Goals

- Make precision oncology clinical trials accessible in all VISNs
- Validate new artificial intelligence (AI) diagnostic tool
- Initiate two new therapeutic clinical trials

**Apr 2021**

At least two more prostate cancer trials enrolling participants

**Jun 2021**

Develop and validate a polygenic risk score for metastatic prostate cancer

**Jul 2021**

Lung Precision Oncology Program available in all VISNs

**Oct 2021**

Open 6 genitourinary oncology sites



# Genomic Medicine

**10k**

Veterans referred for genetic consultation in 2020

**All VA patients** with a clinical indication are entitled to genetic care

## Program Goals

- Ensure all VA facilities have access to genetic consultation
- Deploy Clinical Pathways to facilitate recognition of patients who could benefit from genetic consultation and testing
- Increase access for rural Veterans
- Develop protocols for germline testing

Providers use genetic testing to determine a patient's prognosis and cancer treatment options based on their individual genetic variations. VA has established six genomic medicine programs staffed by clinical geneticists and genetic counselors. These programs provide genetic consultation to patients across the VA enterprise, primarily by virtual "tele-genetics" encounters.

**Sept 2021**

Establish national 5-year germline genetic testing contracts

**Dec 2021**

Pilot test and deploy a national dashboard for genomic medicine

**Sept 2023**

Deploy a cancer genetics toolkit for clinicians

**Sept 2024**

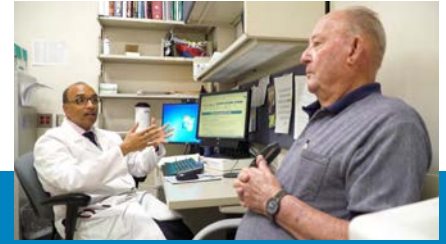
Double VA genetics workforce to meet the growing demand from precision oncology

# Pharmacogenomics

VA uses pharmacogenomic testing to help providers tailor the options and dosages of commonly prescribed medications to their patients' individual genetic profiles. Adverse drug reactions can be avoided and therapeutic benefits increased when clinicians are alerted to "drug-gene" interactions when prescribing medications.

**1,353** Veterans tested to date

Pharmacogenomic testing impacts medicines beyond those used to treat cancers. So, VA has expanded program access to all Veterans.



“

I just feel that this program will...benefit so many Veterans in the future.

*James Massengill  
U.S. Army Veteran*

**Apr 2021**

Bring pharmacogenomic testing to 20 sites

**Aug 2021**

Expand testing to 30 sites

**Dec 2021**

Provide pharmacogenomic testing to 10,000 Veterans

**Jan 2022**

Expand to 40-50 facilities nationwide

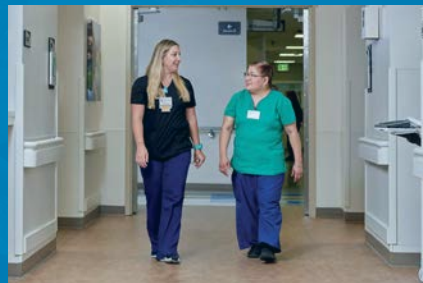


“

I had one patient – a young guy in his 40s – with metastatic melanoma, which meant we had to treat his melanoma systemically before we could get him to surgery. We used immunotherapy in the beginning since that typically works well with melanoma, but the treatment was not as responsive as I had hoped.

So, I sent off a Next Generation Sequencing (NGS) panel for tumor sequencing, and it showed that his tumor had several mutations that indicated it would respond well to different medication. I talked with him, and we changed directions. I sent him the medications and called five days later to check in, and I had never heard him so happy. The tumor was already significantly reduced, and he was finally able to sleep at night. He had a dramatic change in a short time, and he had zero side effects. He just had a surgery to remove the remaining tumor, and he is doing well. I love calling and checking in because he sounds great.

*Jan Ole Kemnade, MD, PhD  
VA Medical Oncologist, Houston, TX*





# Lung Precision Oncology Program

To build the Lung Precision Oncology Program (LPOP) into a System of Excellence for Lung Cancer, VA is prioritizing screening to identify early-stage lung cancer; improving access for Veterans with advanced lung cancer to precision oncology clinical trials; and enabling rapid translation of discoveries into clinical care. To achieve these goals, VA has identified sites across all 18 VISNs to serve as centralized sites that can leverage VA facilities for screening capabilities, radiation oncology, research pharmacists, and equipment.

# 162

Veterans using TeleOncology who were diagnosed with lung cancer in FY20

# 17

VA Partnership to Increase Access to Lung Screening (PALS) sites established with support from Bristol, Meyers, Squibb Foundation

# 7,700

Veterans diagnosed with lung cancer annually

# 900k

Veterans who may be eligible for lung cancer screening in VA due to age, smoking, and other environmental exposures during and after military service

## Program Goals

Double the number of Veterans screened in 2020 by 2022

Increase the number of Veterans with lung tumors utilizing NGS testing

Open at least two novel lung cancer precision oncology clinical trials annually

Foster development of two physician scientists participating in screening and precision oncology annually



“

I'm proud that they gave VA this grant because they granted me a second lease on my life.

*Mitchell Caviness  
U.S. Army Veteran*

**Jul 2021**

Establish standards for lung cancer screening for early diagnosis

**Oct 2021**

Develop business requirements for lung cancer clinical screening

**Dec 2021**

17 LPOP sites opened nationwide

# Precision Oncology Program for Cancer of the Prostate

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. Collaborative efforts centralized through the Precision Oncology Program for Cancer of the Prostate (POPCaP) provide tumor and germline sequencing for all Veterans with metastatic prostate cancer. The network also provides Veterans with cutting-edge therapies for prostate cancer through VA-sponsored clinical trials, such as the Prostate cancer Analysis for Therapy Choice (PATCH) program.

# 12

Centers of Excellence, caring for **9,430** Veterans with prostate cancer and **1,453** Veterans with metastatic cancer, through **209,920** clinic visits



**Allen Petchnick**, a Navy Veteran, receives care for his metastatic prostate cancer at VA Puget Sound Medical Center. Through sequencing under NPOP, it was discovered that he had a genetic alteration and was treated with immunotherapy in response. In the almost three years since, he has gone from a very difficult prognosis to returning to everyday life.

## Program Goals

Increase the number of Veterans with prostate cancer undergoing sequencing

Increase access to studies and the number of targeted therapies made available to Veterans with prostate cancer

# 1,000+

Veterans with metastatic prostate cancer have had their care guided by Next Generation Sequencing (NGS)



# 75+

Investigators, providers, and collaborators supporting POPCaP

# 3

 Novel clinical trials ongoing

### Jan 2021

Centralized ordering of somatic NGS to ensure equity nationwide

### Mar 2021

Startup of new San Francisco center

### Apr 2021

Provide centralized testing for inherited genetic alterations responsible for prostate cancer

### Oct 2021

Virtual clinical trials and VA-wide testing for every Veteran with advanced prostate cancer



# Women's Cancer System of Excellence

VA is building a Women's Cancer System of Excellence to provide cutting-edge cancer care for women Veterans, the fastest growing group within the Veteran population. Currently, VA is building the infrastructure necessary to screen for and aggressively treat breast and other cancers affecting women Veterans. VA is also partnering with national leaders in cancer research and care to transform cancer prevention, treatment, and outcomes, while continuing to provide coordinated, integrated patient-centered care. Through current partnerships with the National Cancer Institute, Duke University, Baylor School of Medicine, and others, VA's Women's Cancer System of Excellence is uniquely situated to provide care via TeleOncology and decentralized clinical trials to women Veterans nationwide.



“

A 33-year-old female Veteran had genetic testing done as part of a family study for her son's medical condition and was concerned her results showed a *BRCA* gene mutation. After review of her results, I could see she was not at risk and didn't need breast cancer screening at that time. She really appreciated that I took the time to explain to her the implications of her mutation, cancer risks, and future surveillance.

*Alysia Tsuyuki  
VA Genetic Counselor,  
Salt Lake City, UT*

**700**

Women Veterans enrolled in VA health care are diagnosed with breast cancer annually

**1 in 8**

Women in the U.S. will be diagnosed with breast cancer in their lifetime

“

Women Veterans are the fastest growing population of Veterans and they have specific health care needs. MEDVAMC's Women's Center and Cancer Center partnership stand shoulder to shoulder to serve each female Veteran to ensure that she gets the very best comprehensive care, and to that each of her unique healthcare needs is fully met.

*Dr. Anita L. Sabichi  
Chief, Section Hematology/Oncology  
Michael E. DeBakey VA Medical Center*

## Program Goals

Enhance VA's breast oncology services through personalized care coordination for every women's cancer patient

Ensure best-in-class cancer care through precision oncology

Build additional public-private partnerships to ensure women Veterans have greater access

Provide all women Veterans with access to fully coordinated, state-of-the-art screening and diagnosis, to ensure earliest possible detection and treatment

**Jun 2021**

Stand-up national infrastructure

**Oct 2021**

Establish National Tumor Board

**Dec 2021**

Establish Breast Cancer Registry

# We Stand **Shoulder to Shoulder**

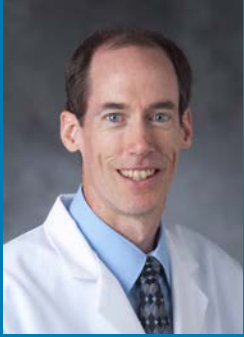
Aligned with the 2016 Cancer Moonshot, we are rising to the challenge to reduce, even eliminate, cancer deaths. The joint effort between clinical services and research to defeat cancer is a model for future efforts. Shoulder to shoulder, Veterans and VA will defeat cancer.

**Carolyn M. Clancy, MD**  
Acting Deputy Secretary  
US Department of Veterans Affairs



VA's Oncology System of Excellence is by your side delivering best-in-class cancer care close to you. From early diagnosis to treatment and clinical trials, VA Oncology uses cutting-edge testing and national experts to help guide precision treatment, all in coordination with your other healthcare.

**Michael Kelley, MD**  
Director, National Oncology Program  
Veterans Health Administration



Cancer is the second leading cause of death among Veterans. The scale, speed, and impact of this precision oncology effort could only happen in VA, and it wouldn't be possible without the clinical and research groups' tireless work through this challenging year.

**Kameron Matthews, MD, JD, FAAFP**  
Assistant Under Secretary for Health for Clinical Services/Chief Medical Officer  
Veterans Health Administration



We will succeed in our transformation into a System of Excellence for precision oncology by embodying the principles of high reliability organizations and learning healthcare systems, in which our entire organization is nimble enough to keep pace with new knowledge that can improve patient outcomes.

**Rachel Ramoni, DMD, ScD**  
Chief Research and Development Officer  
Veterans Health Administration



We are honored to work side by side with companies and organizations who have committed more than \$110M to provide resources to better serve our Veterans. Together, we're leveraging our collective expertise to deliver the best-in-class precision oncology services all Veterans deserve.

**Deborah Lafer Scher**  
Executive Advisor to the Secretary  
Secretary's Center for Strategic Partnerships  
US Department of Veterans Affairs







*Social Worker at VA Maryland Health Care System assists Operation Iraqi Freedom (OIF) Veteran and her daughter with care coordination.*



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For questions regarding VA's oncology programs,  
email [cancer@va.gov](mailto:cancer@va.gov)