Multicancer Detection Tests Guideline Development Perspective

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National Cancer Policy Forum

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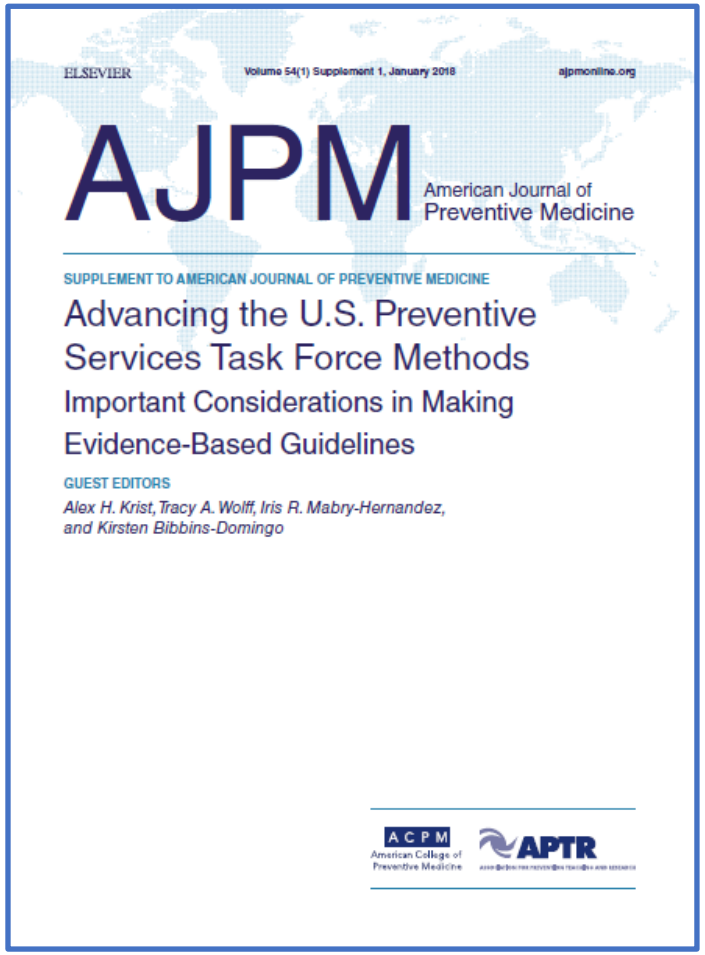
Disclosures

- No financial conflicts of interest
- Two viewpoints:
  - US Preventive Services Task Force (USPSTF)
  - Primary care
- I am speaking on my behalf. I am not serving as a USPSTF spokesperson and have not been involved with the USPSTF since 2022.

U.S Preventive Services Task Force Member and Chair (2014-2021)

Editor for methods special issue



Cowrote article on intermediate and health outcomes

Helped define USPSTF approach to race, racism, sex-gender

US Preventive Services Task Force

- Makes recommendations on clinical preventive services to primary care clinicians
- The USPSTF scope for clinical preventive services include:
  - Screening tests
  - Counseling
  - Preventive medications
- Recommendations address only services offered in the primary care setting or services referred by a primary care clinician.
- Recommendations apply to adults & children with no signs or symptoms

USPSTF Methods

- All recommendations grounded in a rigorous systematic review with opportunities for public input at multiple steps of the process
- Consult with external subject matter experts through Evidence-based Practice Centers and Partners
- Procedure Manual available at: http://www.uspreventiveservicestaskforce.org/Home/GetFile/6/7/procedure-manual_2016/pdf

USPSTF Steps: Brief and Generic

- The USPSTF assesses the evidence across the analytic framework:
  - Judges the ***certainty*** of the estimates of the potential benefits and harms
  - Judges the ***magnitude*** of the potential benefits and harms
  - The ultimate goal is to judge the ***balance*** of the benefits and harms, or the ***magnitude of the net benefit*** of the preventive service
  - When evidence is insufficient (low certainty), the USPSTF *does not* use "expert opinion"

Basic USPSTF Methods for Developing Recommendations: The Letter Grades

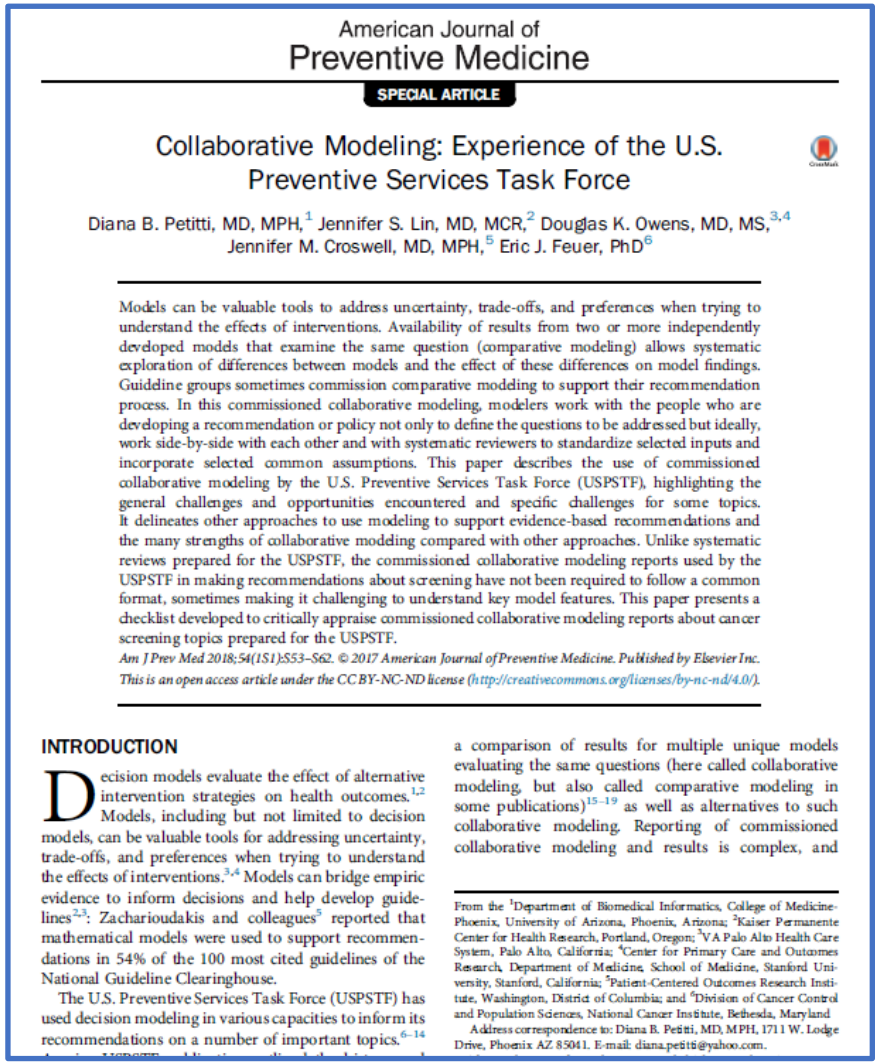
Certainty of Net Benefit	Magnitude of Net Benefit			
	Substantial	Moderate	Small	Zero/Negative
High	A	B	C	D
Moderate	B	B	C	D
Low	I—insufficient evidence			

Getting to Moderate Confidence (A, B, C, D)

- Requires studies with limited risk of bias demonstrating an improved health outcome. Usually randomized controlled trials.
- Health Outcomes include how long a person lives or the quality of life and are often described as conditions that a patient can feel or experience.
  - Harmful health outcomes: overdiagnosis, overtreatment, and false positives
- Intermediate Outcomes describe outcomes that may be influenced by a preventive service, but are not Health Outcomes in and of themselves. They are pathologic, physiologic, psychologic, social, or behavioral measures related to a preventive intervention.
  - Examples for cancer: stage shift, detection of precancers, interval cancers, biomarker changes

USPSTF Use of *COLLABORATIVE* Modeling

- Used for breast, cervical, colorectal, and lung cancer screening and aspirin, to
  - Understand lifetime effect of different screening programs (e.g. combinations of screening methods and intervals for screening)
  - Assess screening in specific populations (e.g. various ages for starting or stopping screening)
  - Combine benefits of service (e.g. cardiovascular and cancer prevention for aspirin)
- The USPSTF would not recommend a preventive service without primary evidence



American Journal of
Preventive Medicine

SPECIAL ARTICLE

Collaborative Modeling: Experience of the U.S. Preventive Services Task Force

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Models can be valuable tools to address uncertainty, trade-offs, and preferences when trying to understand the effects of interventions. Availability of results from two or more independently developed models that examine the same question (comparative modeling) allows systematic exploration of differences between models and the effect of these differences on model findings. Guideline groups sometimes commission comparative modeling to support their recommendation process. In this commissioned collaborative modeling, modelers work with the people who are developing a recommendation or policy not only to define the questions to be addressed but ideally, work side-by-side with each other and with systematic reviewers to standardize selected inputs and incorporate selected common assumptions. This paper describes the use of commissioned collaborative modeling by the U.S. Preventive Services Task Force (USPSTF), highlighting the general challenges and opportunities encountered and specific challenges for some topics. It delineates other approaches to use modeling to support evidence-based recommendations and the many strengths of collaborative modeling compared with other approaches. Unlike systematic reviews prepared for the USPSTF, the commissioned collaborative modeling reports used by the USPSTF in making recommendations about screening have not been required to follow a common format, sometimes making it challenging to understand key model features. This paper presents a checklist developed to critically appraise commissioned collaborative modeling reports about cancer screening topics prepared for the USPSTF.

Am J Prev Med 2018;54(1S1):S53–S62.

INTRODUCTION

Decision models evaluate the effect of alternative intervention strategies on health outcomes.[1,2] Models, including but not limited to decision models, can be valuable tools for addressing uncertainty, trade-offs, and preferences when trying to understand the effects of interventions.[3,4] Models can bridge empiric evidence to inform decisions and help develop guidelines[2,3]: Zacharioudakis and colleagues[5] reported that mathematical models were used to support recommendations in 54% of the 100 most cited guidelines of the National Guideline Clearinghouse.

The U.S. Preventive Services Task Force (USPSTF) has used decision modeling in various capacities to inform its recommendations on a number of important topics.[6–14]

a comparison of results for multiple unique models evaluating the same questions (here called collaborative modeling, but also called comparative modeling in some publications)[15–19] as well as alternatives to such collaborative modeling. Reporting of commissioned collaborative modeling and results is complex, and

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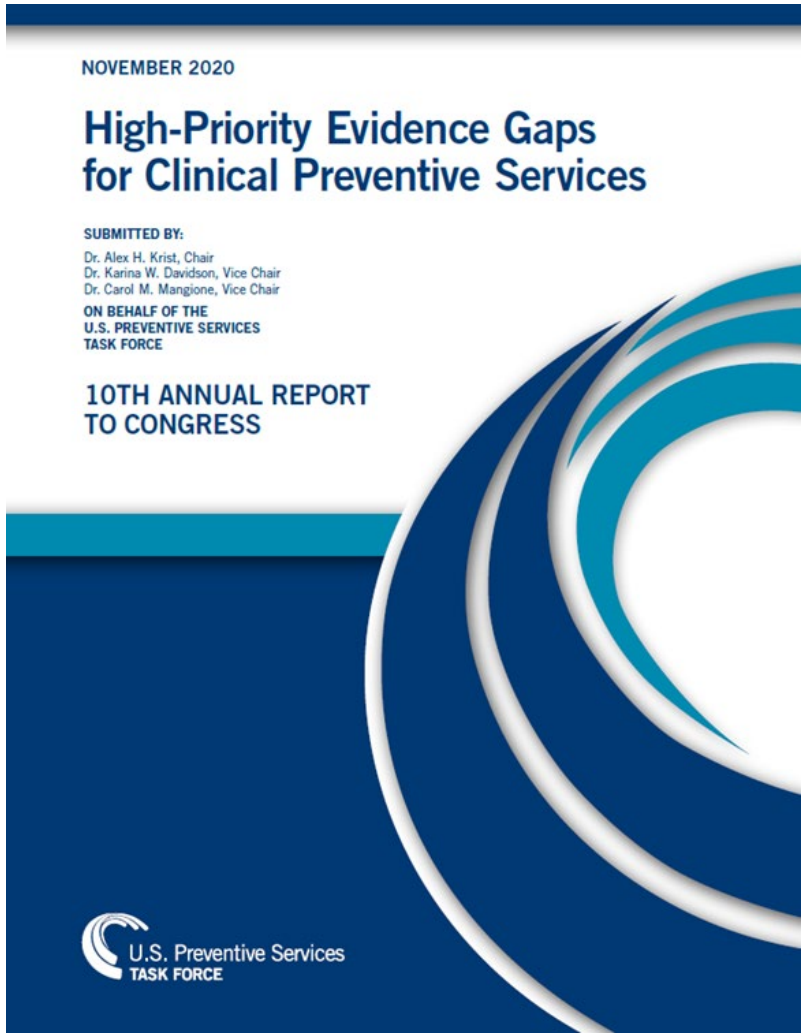
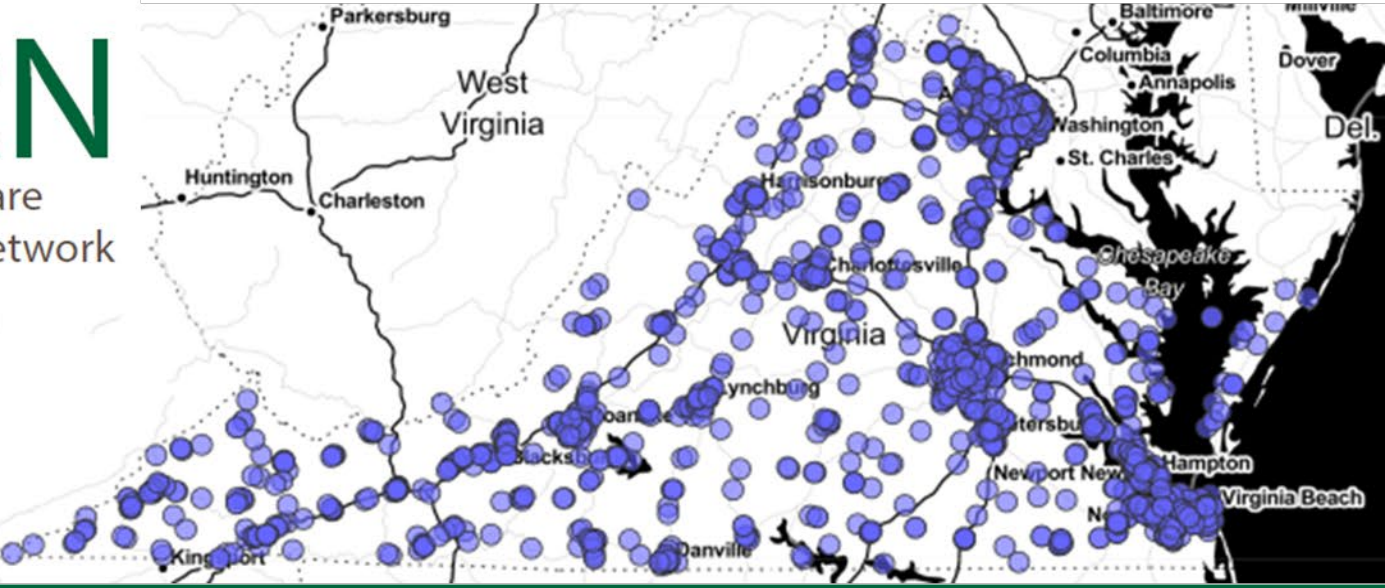
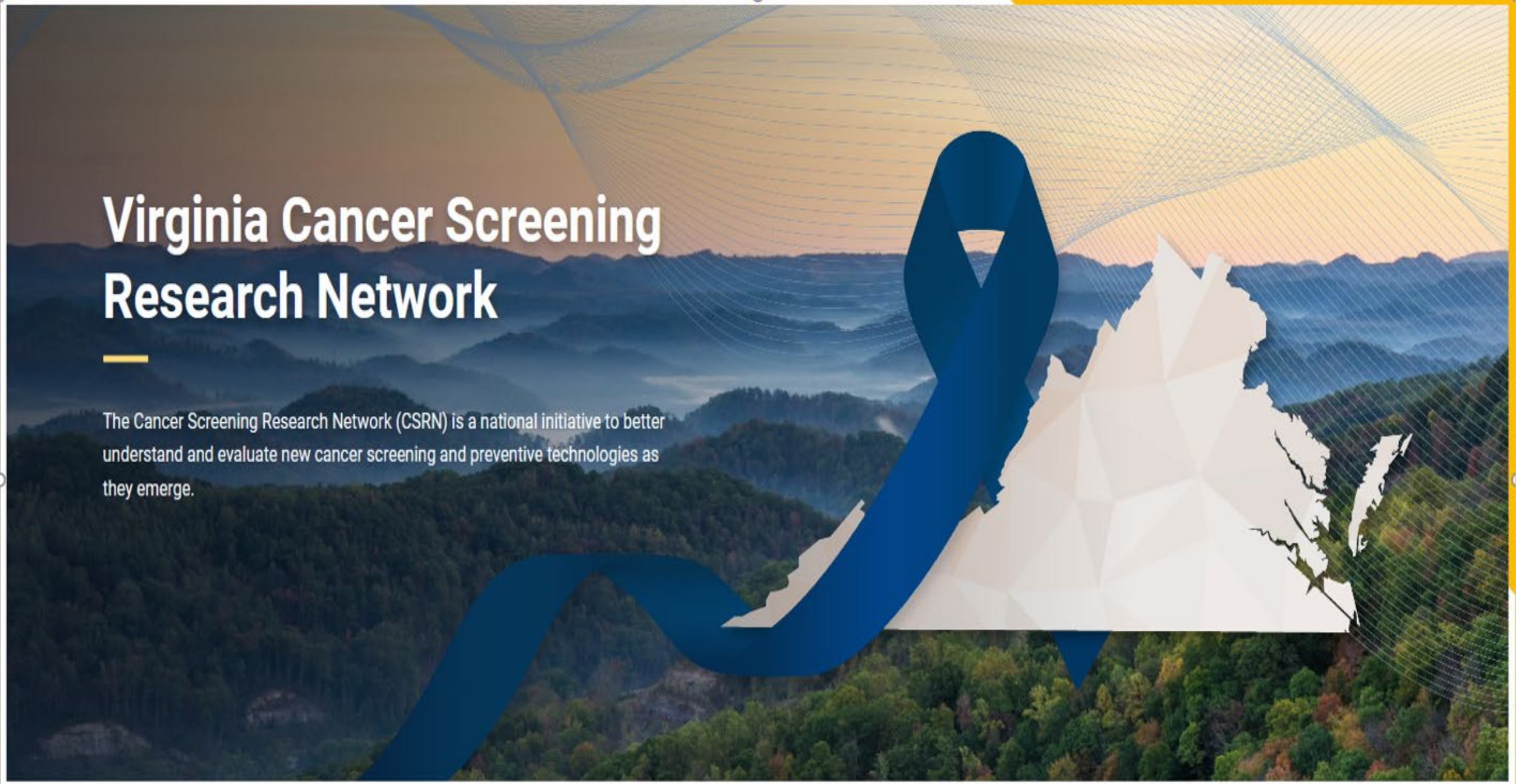
Knowledge Cycle: Annual Reports to Congress



- 2020 Mental Health and Health Behaviors in Children
- 2019 Mental Health and Substance Use
- 2018 Cardiovascular Health
- 2017 Prostate Cancer Screening in African American Men
- 2016 I Statements
- 2015 Health of Women
- 2014 Health of Children and Adolescents
- 2013 Health of Older Adults

ACORN
Virginia Ambulatory Care
Outcomes Research Network




Virginia Cancer Screening
Research Network
The Cancer Screening Research Network (CSRN) is a national initiative to better understand and evaluate new cancer screening and preventive technologies as they emerge.

Virginia CSRN ACCESS Hub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Patrick Nana-Sinkam, MD


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Massey Comprehensive Cancer Center
Diagnostic/Tx, Recruitment

VCU Wright Regional Center for Clinical & Translational Science
Community Engagement

VA Ambulatory Care Outcomes Research Network*
Recruitment

17 Primary Care Clinics
Recruitment

VCU Health
VCU School of Medicine

Virginia CSRN ACCESS Hub

Inova™

Schar Cancer Institute
Diagnostic/Tx

Saville Cancer Screening & Prevention Center
Recruitment

38 Primary Care Clinics
Recruitment

Sentara Medical Group
Diagnostic/Tx

73 Primary Care Clinics
Recruitment

SENTARA®

Wright Regional Center
for Clinical and Translational Science

Biomarker Development Laboratory/ Early Detection Research Network

VCU Wright Regional Center for Clinical & Translational Science
Community Engagement

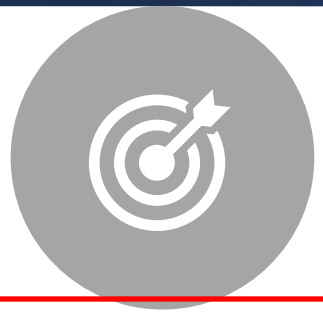
3 Primary Care Clinics
Recruitment

** The Virginia ACORN is a primary care-based research network, encompassing 526 practices throughout the state, and includes all primary care practices at VCU Health, Inova, Sentara, and EVMS.*

Equitable and Inclusive Recruitment Methods

CLINICIAN RECRUITMENT

- EMR FOR PATIENT IDENTIFICATION
- LEVERAGE EXISTING PARTNERSHIP
- PRIMARY CARE NETWORKS

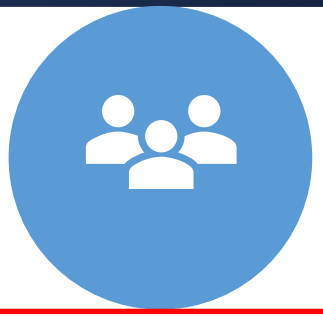


TARGETED RECRUITMENT

- APCD AS A RESOURCE
- EQUITABLE RECRUITMENT APPROACH
- FLEXIBILITY IN RECRUITMENT SETTING

COMMUNITY OUTREACH RECRUITMENT

- COMMUNITY ADVISORY BOARDS
- ENGAGEMENT STUDIOS
- PARTNER WITH COMMUNITY-BASED ORGANIZATIONS



VIRTUAL COMMUNITY OUTREACH RECRUITMENT

- ENGAGEMENT STUDIOS
- PARTNER WITH ESTABLISHED CCTS INITIATIVES

Community Engagement Studios

58 Clinicians

17 Patients

69 Community Advisory Board Members

10 Community Members

Community Engagement Studios

Benefits of Early Detection

Patients

"The fact that some of these cancers are so sneaky and you don't diagnose them until you're stage 4. The only answer is gonna lie in research and how to find it sooner and treat it more aggressively."

"If I had had this test, maybe [my cancer] would have been stage zero or one, as opposed to stage two. So, you know, I'm pleased as punch. I just think this is the greatest thing I've heard in my lifetime of 60 years."

"For me, it is nice because you have the blood test once a year...so it's just a matter of getting it and the confirmation everything's still going well."

"I think it would help them feel better about their health to know and have additional screenings, because I do notice a lot of my newer and even younger patients, a big concern that they have is family history of cancer and what that means for them."

Clinicians

"A big trouble for me is getting patients to get their cancer screening, because of transportation issues and stuff. So, this would be a good thing, to just get a blood test."

"I see the convenience of this type of testing if we can just do a blood test and rule things out."

Community Engagement Studios

Concerns about MCDs

Patients

"I think it's important to make sure that we know the pros and cons. Because anybody who's had a family member go through cancer, just being told that you might have cancer is an earth-shattering moment, just right there. Though, I think that by doing this, we can actually build trust in the future for people, rather than rushing and getting it out."

"I would be concerned if maybe your insurance carrier if somehow they know about it, that they might drop you, or even your employer dropping you. I mean, people do that."

"I find it very odd that two companies, or maybe more companies, would be able to create this test and start marketing it, and general practitioners are putting it out there, without having done this study first. It seems a little bit cart, horse, chicken, egg situation…I would have liked to have seen this science go before the product and the marketing and the business."

Clinicians

"It may lead people to be overly optimistic about what it means for their health, meaning if they didn't see a doctor for ten years and can get one test."

"We need just as much research about how this impacts the patients and their providers as what is the predictive value of the tests."

"We're doing a blood test. We don't know what it means. We don't know what a positive means. We don't know what a negative means. The negative doesn't mean you're safe. The positive means you will probably get other scans and maybe procedures for what turns out to be nothing."

Community Engagement Studios

Diagnostic Work-ups for Positive Results

Patients

"So, you have a positive test, and you get further diagnostic testing, and nothing shows up. So, I guess that leaves you for the rest of your life wondering what's going to crop up in the future, and you just continue to follow up with the possibility that you have a slow growing cancer that's showing these cells."

"Say that it comes up positive and then after multiple tests, you've determined that you're actually negative. What creates that positivity and makes it false? So, like, now every time something goes wrong, like, 'Oh, is it cancer? Like, why did I show positive for cancer?'"

"Your PCP may not be knowledgeable of certain types of cancers to the degree that they feel comfortable talking about it."

Clinicians

"Not knowing the parameters or characteristics of the test, what do we actually do with an abnormal? Is it more imaging? Is it a specialist? What if the specialist does not know what to do with it? So that's a really important question. Not knowing what the test means, how do we know what evaluation would be needed?"

"What do we do with these results? And like, how do we follow them? What kind of scans do we do for positive tests? How often do you do the scans?

"A lot of times it's not just one additional test. Sometimes that one test leads to other tests, and then you're kind of chasing down the rabbit hole trying to figure out what means what, and what's really important, and how to counsel the patient, and where to go from there. …and it becomes a huge process, possibly for nothing, possibly for something, but it's not just necessarily one follow-up test."

Community Engagement Studios

Financial Costs & Time Burden

Patients

"In addition to the anxiety and the chronic anxiety that comes with it, it's the cost, right? You have PET scans, you have to find your next oncologist, you have to find where you're going to get an infusion. There's a huge financial cost to a false diagnosis, as well."

"I think it will be a lot to put on the PCP. And also, you know, it can't be consistent because people see different PCPs all the time."

"My question would be, do you think it would create more of a burden on an already overwhelmed healthcare system? I know it's sometimes hard to get an appointment even here at our clinics and I can only imagine what it's like in the hospitals."

"A lot of this anxiety and extra testing all happens outside of an office visit and through the inbox. And we only get compensated in RVUs when we see the patient in a visit … A lot of this work in our current fee-for-service [payment system] we're not compensated for.

Clinicians

"I have a lot of hesitation because until we prove that we're not just finding a bunch of latent early whatever cancers, I'm going to be the person that has to deal with all of the anxiety and all of the fallout when somebody has a positive test. And if it is a positive test that truly is going to change their life, great. But if it's something that is just going to make people more anxious and lead them down a path of more unnecessary testing…I'm not sure I want to be the person who's dealing with that."

"… how much time and work it takes to manage these things that we get very little benefit from."

Alex Krist

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Sentara · MASSEY COMPREHENSIVE CANCER CENTER · VCU · Inova

ACORN Virginia Ambulatory Care Outcomes Research Network

Wright Regional Center for Clinical and Translational Science

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