NCI Virtual Workshop to Engage Multi-Cancer Detection (MCD) Assay Developers

May 3, 2023
1:00–5:00 p.m. ET
Welcome

Lori Minasian, MD
Deputy Director, Division of Cancer Prevention
Objective

• To invite developers of Multi-Cancer Detection (MCD) Assays to partner with NCI and have their assays considered for the new Vanguard Study
MCD assays represent a new, exciting technology which has the potential to change how we screen individuals for cancer.
How Could MCD Assays Improve Cancer Screening?

• Screen for cancer at organ sites currently without screening test.

• MCD assays may potentially detect cancers which are hard to identify at an early stage.

• MCD assays may potentially identify cancers from many different organ sites with only a single test, saving time and minimizing medical procedures.

• Blood test for MCD may be more acceptable to patients than other forms of cancer screening tests.
Many unknowns exist about using these different assays for the purpose of cancer screening.
Some Unanswered Questions:

• What kind/how many diagnostic tests are needed to make a cancer diagnosis?

• What happens if following a positive MCD assay, you do not find a cancer?

• How many people will be subjected to unnecessary invasive procedures and suffer from various complications of those procedures?

• Will people stop standard of care screening if get a negative MCD test?

• Will a blood test make screening more accessible or exacerbate disparities?

• Does detection of cancers by these assays lead to improved outcomes?
Many unknowns exist about designing trials to evaluate the use of MCD assays for the purpose of cancer screening.
We ALL need to work together to understand how best to use this technology to improve health outcomes.
Topics to Cover in this Workshop

• The overall framework that NCI is using

• The Cancer Screening Research Network and the Vanguard Study

• Describe the process for an assay developer to partner with NCI to have their assay considered for the Vanguard Study

• The reference set collection

• Initial elements for contractual agreements between NCI and the assay developer
Framework for Developing MCD Clinical Utility Trial

- Study Planning
- Network Development
- Assay Selection

Vanguard Study

Randomized Controlled Clinical Trial
Framework

• Study Design:
  • Workshop in October 2021 with clinical trialists and primary care physicians with expertise in cancer screening
    • RCT is needed with mortality endpoints to quantify the benefits and harms
    • Pilot study is strongly recommended

• Network to conduct the trials
  • NCI initiated a new clinical trials network to conduct cancer screening clinical trials. Vanguard (pilot study) is the first study.

• Assays for Consideration in the Vanguard (Today’s workshop)
Possible Platform Randomized Control Trial Design

**Randomization**

- Control Arm
- MCED 1 Arm
- MCED 2 Arm
- MCED 3 Arm

**Interventions**

- No Additional Tests Control Arm
- MCED 1 Tests for Cancers A, B and C
- MCED 2 Tests for Cancers C, D and E
- MCED 3 Tests for Cancers E, F and A

**Primary Endpoints**

- All Cancer Deaths Measured
- Deaths Rates from Cancers A, B and C Compared to Control Arm
- Death Rates from Cancers C, D and E Compared to Control Arm
- Death Rates from Cancers E, F and A Compared to Control Arm
Request for Information in January 2022.

We greatly appreciate the responses from assay developers.
Request for Information (NOT-CA-22-033)

January 2022 NCI released a Request for Information (RFI):

- Seeking input from developers of MCD assays on their readiness (and willingness) to participate in an NCI led clinical utility randomized controlled screening trial

Responses received:

- 18 from MCD assay developers from industry and academia
- 1 from a cancer patient, requesting to be included as a participant on MCD RCT, if/when launched
Request for Information (NOT-CA-22-033)

• NCI staff met with all the respondents to the RFI.

• Based upon the overall information, there are assays which will meet the criteria for inclusion in the Vanguard study.

• Additionally, the discussions with the respondents were used to develop and refine the criteria that NCI is using for selecting the assays.
Why should assay developers consider this opportunity?
NCI-supported Clinical Trials

• NCI has a 50-year history of successful, practice changing clinical trials in cancer screening, prevention and treatment.

• Pivotal Cancer Screening Trials include
  • Prostate, Lung, Colorectal, Ovarian Cancer Screening Trial
  • National Lung Cancer Screening Trial

• Data and biospecimens have used for multiple analyses to further our understanding of the clinical use, natural history of cancers, as well as refining and improving the technology for screening.
Reasons to Participate with NCI

• NCI is creating the investigator network to design, develop, and conduct studies and trials to evaluate emerging technology for the purpose of cancer screening.

• Assay developers that participate will have access to investigators who are funded to develop and conduct the studies (recruit the patients, collect the data, analyze the results).

• While the Vanguard Study is the initial effort, NCI and investigators are interested in conducting a variety of studies to evaluate different technologies.

• NCI anticipates working with a variety of assay developers and companies over time to evaluate technologies for different clinical scenarios.
More Reasons to Participate with NCI

• Assay developers will receive the data from the trials and studies after completion.
  • NCI partnership with pharmaceutical companies through the NCI clinical trials programs have lead to multiple new uses for oncology drugs and products.

• At this time, two assays will be selected for the Vanguard.

• NCI and investigators are interested in using MCD assays for screening different populations of patients based upon their risk for cancer.
  • There will be opportunities for other studies and trials.
Overview of Cancer Screening Research Network

Elyse LeeVan, MD
Division of Cancer Prevention
Rationale for a new network

Goal of the new network
Purpose of the Network

- Conduct multi-center cancer screening trials and studies
- Improve early cancer detection
- Evaluate emerging cancer screening modalities with the ultimate goal of reducing cancer-related morbidity and mortality
Cancer Screening Research Network
Funding Opportunity Announcements Published

- ACCrual, Enrollment & Screening Sites (ACCESS) Hub (UG1)
- Coordinating & Communication Center (UG1)
- Statistics & Data Management Center (UG1)

For more information: https://prevention.cancer.gov/CSRN
We received a robust response to the RFA
- Applicants are currently under review
- Network expected to be funded in January 2024
Network Components

Accrual, Enrollment, and Screening Sites (ACCESS)
• Participate in the scientific development of CSRN trials and studies, recruit participants, and conduct study protocols

Statistics and Data Management Center (SDMC)
• Provides statistical expertise and centralized data management, quality control, and reporting

Coordinating and Communication Center (CCC)
• Coordinates study operations, and develops and implements communication activities
NCI Clinical Research Infrastructure

1. ACCESS Hubs and site staff register with CTEP Identity and Access Management (IAM) and Registration and Credential Repository (RCR).

2. Access to protocol documents, resources, and links to other applications.

3. Obtain Central Institutional Review Board (CIRB) approval; elect CIRB as IRB of record.

4. Enroll patients via OPEN.

5. Enter and manage data in Rave.


https://prevention.cancer.gov/CSRN
The Vanguard Study (Pilot and feasibility study)

Randomization

N
8000

Control Arm

MCD 1 Arm

All Arms
Offered
Standard
of Care
Cancer Screenings

Interventions

8000

No Additional Tests
Control Arm

MCD 1 Tests for
Cancers A, B and C

MCD 2 Tests for
Cancers C, D and E

MCD tests
performed at
annual interval
(years 0 and 1)

Objectives of Vanguard Study

- Assess participant willingness for randomization
- Determine adherence to testing and diagnostic follow-up
- Evaluate feasibility of protocol-defined diagnostic workflows
- Determine reliability and timeliness of blood specimen testing and return by MCD companies
- Identify facilitators and barriers to recruitment/retention/compliance of diverse participant groups
Vanguard Timeline

- Protocol development and agreements with assay developers
- 2024: Initial Enrollment
- Recruitment within 2 years
- Participants will receive MCD test annually for 2 years (years 0 and 1)
- 4 year overall timeline

Network Launch
The Vanguard Study will require participation of 2 MCD assays.

We have developed a process to select these assays.
Application and Selection Process for MCD Assay Developers Participating in the Vanguard Study

Amanda Skarlupka, PhD

Division of Cancer Prevention
Bird’s-eye View of the Assay Selection Process

- Workshop
- Application
- Suitability Ranking
- Specimen Testing
- Inclusion in Vanguard

Description of reference set by Alliance to follow
Developers are to:

1. Email NCIMCED@mail.nih.gov to request a confidentiality agreement and application from NCI

2. Complete application

3. Submit application by replying to the same secure email that sent the application

Information found here: https://prevention.cancer.gov/MCD

For questions email: NCIMCED@mail.nih.gov
MCD Assay Developer Application Workflow

**Developer visits NCI MCD webpage to confirm application instructions**

**Developer emails application request to:**
NCIMCED@mail.nih.gov

**Developer receives two (2) emails:**
1. Plain email with instructions
2. Secure email with application

**Developer fills out the application**
Developer attaches application documents

PDF Application
Excel document
Supplemental documents

Developer replies to secure email with attached application documents
Established Criteria Elements

NCI to evaluate applications based on the following criteria:

- Types of cancers detected
- Sensitivity
- Specificity
- Tissue of origin accuracy (if applicable)

- Sample type and volume
- Prior studies conducted
- Scalability to meet Vanguard requirements
Performance Verification Process – Specimens

NCI is to:
• Select and ship samples (800-1600 vials)

Developers are to:
• Conduct assay
• Return results to NCI
NCI is to:

- Analyze results with clinical data (Alliance collaboration)
- Discuss findings with assay developers
Inclusion in the Vanguard

• NCI will select two suitable assays for the Vanguard using previously described criteria taking into account:
  • Application materials, data, and supporting information
  • Outcome of performance verification process

• Assays not selected for the Vanguard will still be eligible for future studies

• There will be other opportunities to work with the CSRN
May 8, 2023: Earliest date to request application

June 2, 2023: Last date to request application

June 9, 2023: Due date to submit application

Please check and follow the application instructions on the MCD webpage

Information found here: https://prevention.cancer.gov/MCD

For questions email: NCIMCED@mail.nih.gov
Thank you!

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