Implementation of a Multi-Cancer Early Detection (MCED) Test in a Private Practice: Adoption, Performance, and Repeat-Testing Patterns

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INTRODUCTION

- Only 14% of cancers are detected by guideline-recommended screening in the US, and only 5 types—breast, colorectal, cervical, lung (in high-risk individuals), and prostate (individual decision)—have US Preventive Services Task Force (USPSTF) grade A/B/C-recommended screening[1-3]
- MCED tests have the potential to simultaneously screen for multiple cancer types, including those without current recommended screening, with a single test
- The MCED test discussed here detects a cancer signal in cell-free DNA isolated from peripheral blood and can predict the cancer signal origin (CSO)[4]
- This MCED test has been clinically validated in case-control and interventional studies in the intended-use population showing high positive predictive value (PPV) and low false-positive rate[4-6]
- Some real-world analyses have described the test's implementation and reported strong performance in clinical practice in the US[7-9]

OBJECTIVE

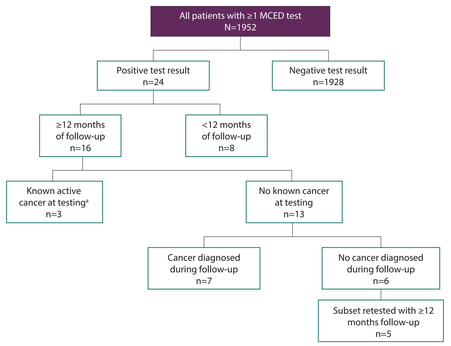
- Describe implementation, uptake, and real-world performance of this MCED test in Century City Medical Management (CCMM), a network of primary care practices

KEY RESULTS: MCED TESTING ACCURATELY DETECTED CANCERS THAT LACK RECOMMENDED SCREENING, AND ANNUAL USE WAS FEASIBLE IN PRIMARY CARE

Patients

- A total of 2930 MCED tests were administered between November 2021 and November 2025
- There were 1952 CCMM patients with ≥1 MCED test administered (**Figure 1**)
  - The median patient age at first MCED test was 63 (Q1, Q3: 55, 71) years
  - Patient sex distribution was 47.5% female and 52.5% male

Figure 1. Clinical Outcomes for Patients With ≥1 MCED Test Administered



[a]The intended use of the MCED test is cancer screening for those without cancer-associated symptoms, yet some providers ordered the test for patients with known cancer.

Cancer Signal Detection Rate (CSDR) for First Test

- 20 patients had a positive MCED test result with their first test
- The CSDR was 20/1952 (1.02%, 95% CI: 0.63-1.58%) for first tests

Clinical Outcomes

- A total of 24 patients received a positive MCED test result
  - Of those, 16 (66.7%) had ≥12 months of follow-up
  - Of 13 patients without known cancer at the time of testing, 7 (53.8%) were subsequently diagnosed with cancer (**Figure 1**; **Table 1**)
  - All diagnosed cancers were detected by the patient's first MCED test
- The median time from receipt of the MCED result to cancer diagnosis was 33 (Q1, Q3: 17, 74) days among 6 patients
  - 1 symptomatic patient was diagnosed before MCED results were returned
- CSO1/2 prediction accuracy was 100% (7/7) (**Table 1**)

Table 1. Cancers Detected by MCED Testing

Patient	CSO 1 Prediction	CSO 2 Prediction	Cancer Type Diagnosed	Stage	Days to Diagnosis
1	Head and Neck	-	Head and Neck[a]	I	N/A[b]
2	Lymphoid Neoplasm	-	Lymphoma	Unknown	11
3	Colon/ Rectum	Prostate	Prostate	II	13
4	Lymphoid Neoplasm	-	Lymphoma	IV	29
5	Lymphoid Neoplasm	Prostate	Lymphoma	III	37
6	Plasma Cell Neoplasm	Lymphoid Neoplasm	Multiple Myeloma	I	86
7	Prostate	-	Prostate	Recurrence	202

[a]Including mouth, tongue, nose, larynx, throat, and salivary glands. [b]Patient was diagnosed before MCED results were returned.
CSO, cancer signal origin; MCED, multi-cancer early detection; N/A, not applicable.

- Of the MCED-detected cancers, 5/7 were without USPSTF grade A/B/C-recommended screening and included in a group of 12 cancers responsible for two-thirds of all US cancer deaths[4] (**Table 1**)
- Stage at diagnosis was available for 5/6 newly diagnosed MCED-detected cancers with ≥12 months of follow-up; 1 additional case represented recurrence of a prior cancer
  - Stage I (n=2): head and neck cancer; multiple myeloma (early, asymptomatic; actively treated with bone marrow transplant)
  - Stage II (n=1): prostate cancer
  - Stage III (n=1): lymphoma
  - Stage IV (n=1): lymphoma (mantle cell lymphoma treated with a BTK inhibitor, chemotherapy, and CAR-T therapy; currently in remission for more than 13 months)
  - Recurrent cancer (n=1): prostate cancer (occurred >10 years after initial diagnosis in an asymptomatic patient with normal prostate-specific antigen results)

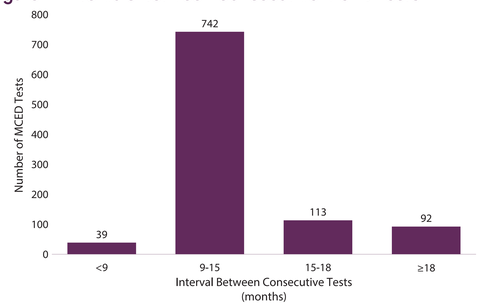
Retesting

- Patients with a positive MCED test result but no cancer diagnosis were offered a no-charge MCED retest up to 6 months after their initial test
- MCED retesting helped discriminate risk
  - Of 5 patients who received a retest, 4 patients with a negative retest remained cancer-free throughout a follow-up of a median of 266 (range: 86-368) days, based on the latest testing date
  - One patient with a persistent positive signal and a consistent predicted CSO (lymphoid neoplasm) was diagnosed with lymphoma 163 days from initial positive result and 11 days after repeat testing result

Patients With Multiple MCED Screening Tests

- Among 997 patients tested with >15 months of follow-up, 689 (69.1%) received ≥2 MCED screening tests
- The most common interval between consecutive tests was approximately annual (9-15 months), with <10% exceeding an 18-month interval (**Figure 2**)

Figure 2. Intervals Between Consecutive MCED Tests



CONCLUSIONS

- These real-world data showed the ability of MCED testing to detect cancers without guideline-recommended screening programs
- MCED testing facilitated cancer diagnosis in patients without known cancer, including some cancers at early stages, supported by highly accurate CSO predictions (7/7), enabling timely diagnostic resolutions (median 33 days)
- Although based on a limited number of detected cancers, the performance is consistent with prior studies[4-6]
- There was high annual screening uptake (69.1%)
- Retesting after inconclusive CSO-directed workup provided accurate information on cancer status for the available follow-up period
- The findings support feasible and scalable implementation of MCED testing in primary care

METHODS

MCED screening implementation

- MCED testing was discussed with all CCMM patients as part of routine care
- Shared decision-making guided test utilization
- Patients with a positive (cancer signal detected) MCED test result were directed to pursue targeted diagnostic evaluation outside of CCMM

Data collection and analysis

- This analysis reports data from patients with MCED results returned between 11/29/21 and 11/24/25
- Diagnostic evaluations and clinical outcomes were collected through a Quality Assurance Program intended to monitor the implementation and safety of the MCED test in clinical practice and were voluntarily provided by ordering providers in compliance with HIPAA
- Prior to analysis, all data were deidentified in accordance with HIPAA
- The CSDR was defined as the proportion of positive MCED tests among all first tests administered
  - CSO prediction accuracy calculations excluded patients with known active cancer
  - A CSO prediction was considered accurate if the diagnosed cancer type matched one of the two predictions returned (CSO1/2)

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Disclosures

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