

# Assessing the Additional Value of Negative Multi-cancer Early Detection (MCED) Screening Tests: Results from an Online Survey of the General Population

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## BACKGROUND

- Cancer is the second-leading cause of death globally<sup>1</sup>; early cancer detection can significantly improve patient outcomes and reduce mortality rates. When at-risk individuals are regularly screened, diagnosed, and treated early, the prognosis for those cancers is generally better than for cancers without specific screening procedures.<sup>2</sup>
- Multi-cancer early detection (MCED) tests detect a cancer signal (e.g., methylation pattern associated with cancer) in plasma cell-free DNA.<sup>3</sup>
- In addition to direct clinical and economic benefits, MCED tests may offer benefits (e.g., emotional, social, cognitive, and/or behavioral) associated with negative results (i.e., no cancer signal detected [NCSD]).<sup>4,5</sup>
- There has been limited research on the perceived impact of an NCSD result on patients beyond clinical or economic aspects.

## OBJECTIVE

- This study aimed to demonstrate and quantify the value of an NCSD MCED test result from the perspective of the United States (US) general population.

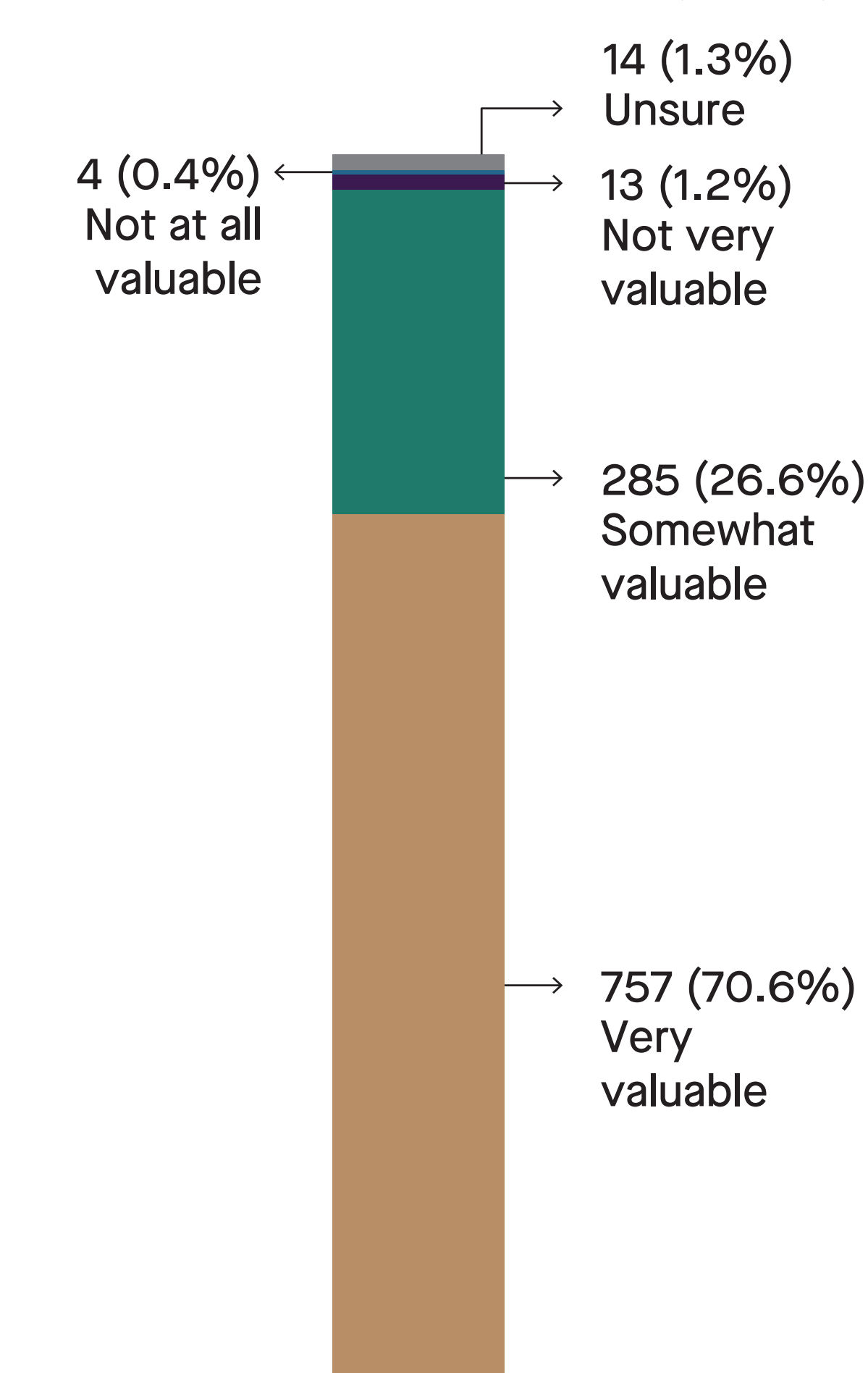
## PARTICIPANTS

- **Key Inclusion Criteria:** Residents of the US aged 40–80 years and able to read and understand English. Soft quotas ensured a sample representative of the US by age group, gender, race, and ethnicity.<sup>6</sup>
- **Key Exclusion Criteria:** Currently receiving treatment for cancer or diagnosed with cancer in the past 5 years.

## KEY RESULTS: NCSD MCED RESULTS ARE VALUABLE TO THE US GENERAL POPULATION AND MAY HAVE POSITIVE EMOTIONAL IMPACTS, LEAD TO INCREASED ADHERENCE TO STANDARD OF CARE CANCER SCREENINGS, AND IMPROVE OTHER HEALTH BEHAVIORS

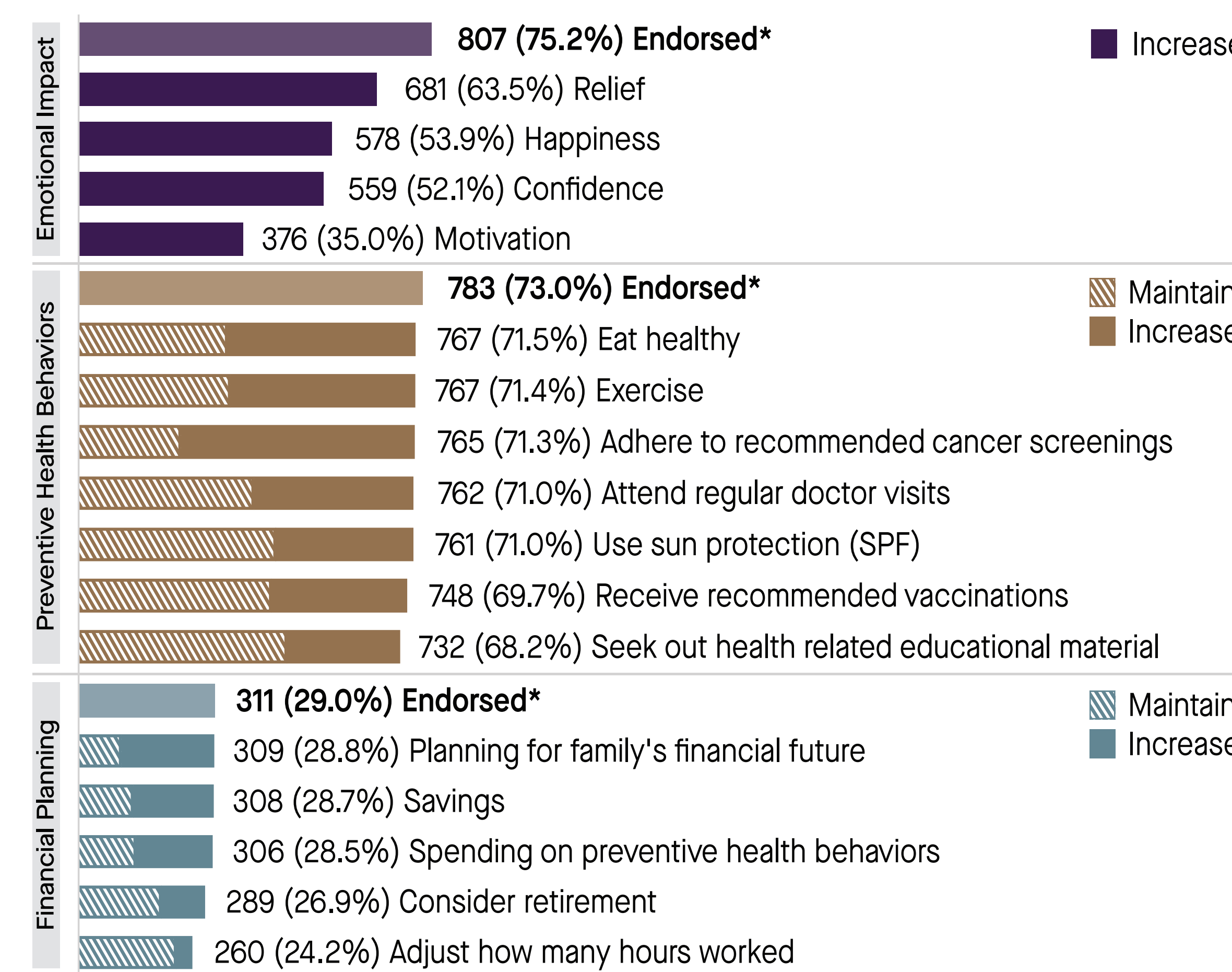
- Of the 1,073 participants, 53% were female, the mean age was 58 years (SD=11), 67% were non-Hispanic white, 12% were non-Hispanic Black/African American, 12% were Hispanic, and 9% combined identified as Asian, Native Hawaiian/other Pacific Islander, American Indian/Alaska Native, multiple races, or preferred not to answer (Table 1).
- Most participants had low worry about cancer (low [CWS score <12]: 64%, high [CWS score ≥12]: 36%).
- Nearly all participants (97%) viewed an NCSD MCED test result as valuable (somewhat valuable: 30%; very valuable: 67%) (Figure 1).
- Most participants anticipated positive emotional impacts (n=802, 72%; Figure 2).
  - Positive impacts included increased relief (64%), happiness (54%), confidence (52%), and motivation (35%).
- Most participants (n=786, 73%) also reported that they would maintain or improve health behaviors after an NCSD MCED test result, including healthy eating (71%), exercising (71%), adhering to recommended cancer screenings (72%), attending doctor visits (71%), using sun protection (71%), receiving vaccines (70%), and seeking health-related educational material (68%) (Figure 2).
- Other areas of impact included financial (29%) and family planning (24%) (Figure 2).
  - Most participants (61%) would be extremely or very willing to repeat an MCED test 1 year after receiving an NCSD result (Figure 3).
  - NCSD MCED results are valuable to the US general population and may have positive emotional impacts, lead to increased adherence to standard of care cancer screenings, and improve other health behaviors

Figure 1. General Population Perceived Value of an NCSD MCED Test Result (N=1073)



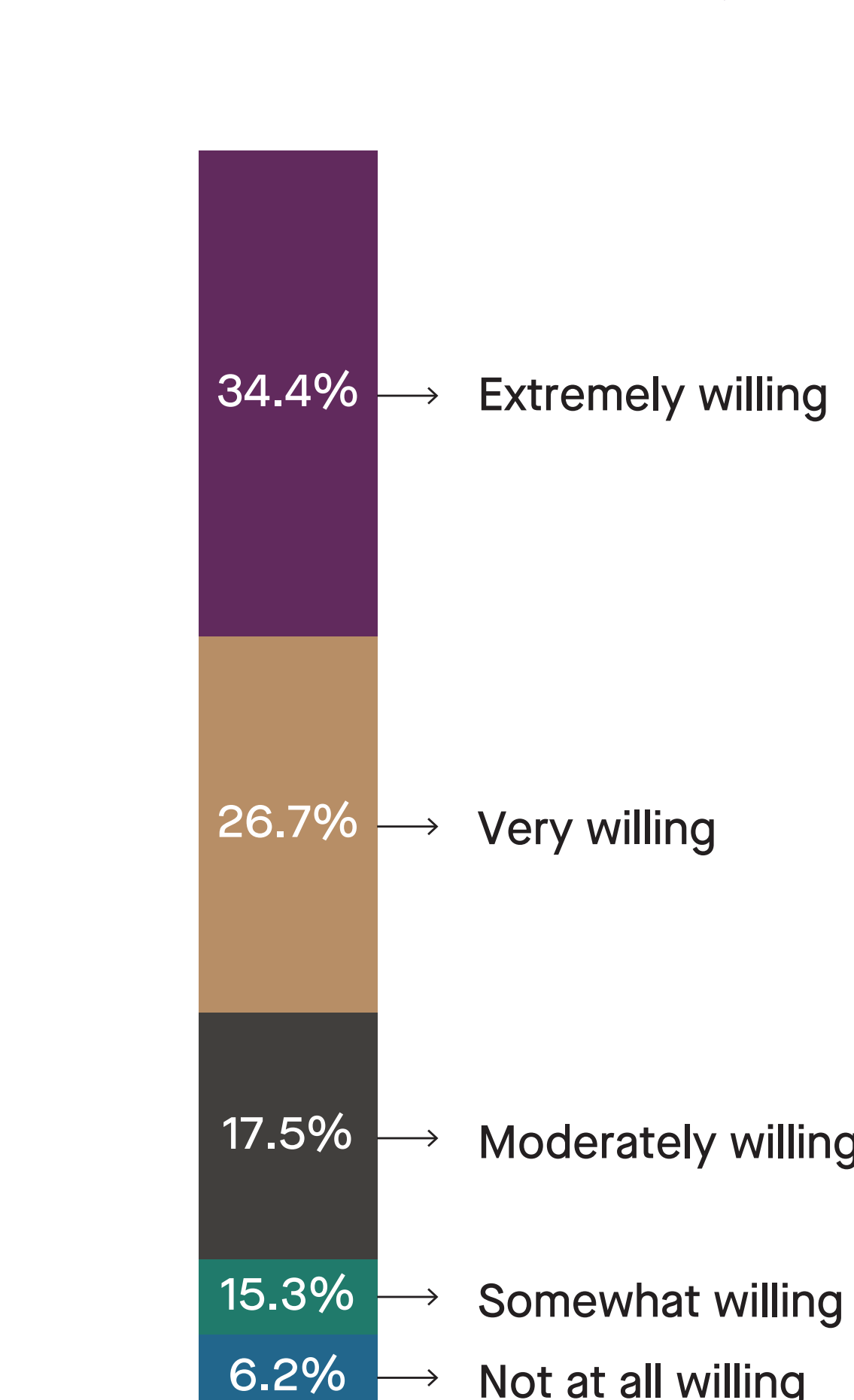
MCED, multi-cancer early detection test; NCSD, no cancer signal detected

Figure 2. Impact after NCSD MCED Test Result (N=1073)



Emotional impacts: Proportion of participants anticipating an increase in each emotion (positive). Preventative health behaviors and financial planning: Proportion of participants anticipating to maintain or increase each behavior. MCED, multi-cancer early detection test; NCSD, no cancer signal detected. \*Endorsed are neither Increase nor Maintain.

Figure 3. Willingness to Repeat MCED Screening 1 Year After NCSD Test Result (N=1073)



MCED, multi-cancer early detection test; NCSD, no cancer signal detected

## CONCLUSIONS

- Beyond clinical benefits, an NCSD MCED test result provides additional value to the US general population.
- Specific benefits include positive impacts on psychological/emotional health as well as on financial planning and family planning behaviors.
- Importantly, NCSD MCED test results may promote adherence to or even increase preventive healthcare behaviors, including adherence to future recommended cancer screening.
- Future research assessing the value of MCED tests should consider these additional benefits.

## LIMITATIONS

- Participants were asked to consider a hypothetical scenario in which they received an NCSD MCED test result. Therefore, responses may be subject to hypothetical bias.
- Results presented reflect the general population; there may be subgroups of individuals who value various aspects of MCED tests differently. Further research that aims to assess any differences in the perceived value of an NCSD test result among individuals from underrepresented populations is ongoing.

## References

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## Disclosures

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## METHODS

### Study Design:

- A cross-sectional online survey based on a previous qualitative interview study<sup>7</sup> was administered to US adults.
- A hypothetical MCED test was described to participants as followed:
  - Recommended by their doctor
  - Can detect more than 50 different types of cancer
  - No preparation is required prior to blood draw
  - Two tubes of blood would be taken at their doctor's office or lab
  - No impacts or restrictions on daily activities
  - Risks include slight discomfort, bruising/redness, and temporary lightheadedness or dizziness from the blood draw
  - Results would be shared within days; false negatives and false positives were defined and expected less than 1% of the time
  - Participants were asked not to consider the cost of the test
- Participants answered questions about perceived value of NCSD test results and how they would be positively and/or negatively impacted by an NCSD MCED test result across various domains (i.e., emotional, health behaviors, and planning for the future).
- Participants also completed the Cancer Worry Scale (CWS),<sup>8</sup> health literacy and numeracy assessment, and reported sociodemographic and basic clinical information.
- Participant responses were summarized descriptively.

Table 1. Participant Characteristics

Characteristics	Overall (N=1073)
Age (in years) Mean (SD)	58.19 (10.9)
40-49 years	293 (27.3%)
50+ years	780 (72.6%)
Sex at birth (Female)	566 (52.8%)
Region of residency	
Northeast	297 (27.7%)
Midwest	279 (26.0%)
South	255 (23.8%)
West	242 (22.6%)
Racial and Ethnic background*	
White, non-Hispanic	715 (66.6%)
Black or African American, non-Hispanic	129 (12.0%)
Hispanic or Latino	130 (12.1%)
Other races <sup>1</sup>	99 (9.2%)
Employment status*	
Employed, full-time	433 (40.4%)
Employed, part-time	72 (6.7%)
Retired	347 (32.3%)
Other <sup>2</sup>	221 (20.6%)

Characteristics	Overall (N=1073)
Highest level of education	
High school/high school equivalent (e.g., GED) or less	145 (13.5%)
Some college/university or college/university (e.g., BA, BS)	697 (65.0%)
Post-graduate degree (e.g., MS, MD, PhD, PharmD)	231 (21.5%)
Annual household income	
Less than \$59,999	426 (39.4%)
\$60,000 to \$119,999	349 (32.5%)
\$120,000 or more	289 (26.9%)
Prefer not to answer	12 (1.1%)
Smoking status	
Current smoker	199 (18.6%)
Previous smoker, but not currently	338 (31.5%)
Never smoked	536 (50.0%)
Body Mass Index (Classification)	
Underweight	18 (1.7%)
Healthy weight	332 (30.9%)
Overweight	377 (35.1%)
Obesity	346 (32.3%)

Characteristics	Overall (N=1073)
Family history of cancer diagnosis (1st degree relative)*	637 (59.4%)
Family history of cancer diagnosis before age 50	247 (23.0%)
Cancer Worry Scale Mean (SD)	10.82 (3.9)
High worry (score >=12)	382 (35.6%)
Low worry (score <12)	691 (64.4%)

\* Indicates question is not exclusive  
<sup>1</sup> 'Other Races' includes participants who self-identified as Asian (n=61, 5.68%), Native Hawaiian/other Pacific Islander (n=2, 0.19%), American Indian/Alaska Native (n=10, 0.93%), multiple races (n=17, 1.58%), or preferring not to answer (n=20, 1.86%)  
<sup>2</sup> Other employment = self-employed, unemployed, homemaker, student, volunteer  
 SD, standard deviation; Min, minimum; Max, maximum; Q1, first quartile; Q3, third quartile; GED, General Educational Development; BA, Bachelor of Arts; BS, Bachelor of Science; MD, Doctor of Medicine; PhD, Doctor of Philosophy; PharmD, Doctor of Pharmacy