Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: https://reachmd.com/programs/clinicians-roundtable/poster-pearl-comparing-endorsed-vs-non-endorsed-crc-screening-tests/26617/

ReachMD
www.reachmd.com
info@reachmd.com
(866) 423-7849

Poster Pearl: Comparing Endorsed vs. Non-Endorsed CRC Screening Tests

Announcer:
You're listening to *Clinician's Roundtable* on ReachMD, and this episode is sponsored by Exact Sciences. Here's your host, Dr. Matt Birnholz.

Dr. Birnholz:
Welcome to ReachMD. I'm Dr. Matt Birnholz.

As available methods for colorectal cancer, or CRC, screening continue to expand, new research examines the efficiencies of screening options through a study titled *Comparisons of Efficient Frontier Strategies for Guideline-Endorsed Versus Non-Endorsed Colorectal Cancer Screening Tests*.

Let's start with some important background information.

First, the authors note that the United States Preventative Services Task Force endorses multiple options, including colonoscopy, mt-sDNA and FIT for average risk colorectal cancer screening.

Second, that mt-sRNA and blood-based screening tests are not currently endorsed in national guidelines, but performance data for both screening tests have been recently reported.

And third, some details on the efficient frontier, which is an established indicator for the benefit-to-burden ratio that can be modeled to compare colorectal cancer screening strategies. A strategy is considered efficient in the context where no other strategy provides more benefit from screening (represented by life years gained), with an equal or lower burden from screening in terms of the number of colonoscopies undertaken.

And since it's not yet known what the estimated benefit-to-burden ratio is for the non-endorsed colorectal cancer screening strategies, this study's key objective was to compare efficient frontiers for non-endorsed versus guideline-endorsed colorectal cancer screening strategies across various age ranges and intervals.

For the analysis, the researchers utilized the validated CRC aim model, which afforded an opportunity to simulate a cohort of average risk individuals screened with mt-sDNA, FIT, mt-sRNA, or a blood-based test at one, two, or three-year intervals, or colonoscopy every 5-10 years.

The modeled age ranges for screening started at ages 45, 50 or 55 and ended at ages 70, 75, 80 or 85.

Importantly, the sensitivity as well as the specificity inputs for the colorectal cancer screening modality were derived from recent large clinical trials as highlighted under the Methods section and also showcased in Table 1.

To show the maximum health benefits from each test, researchers utilized a strategy that's consistent with what is used to help inform the United States Preventative Services Task Force. Namely, adherence to the initial screening, as well as follow up colonoscopy after a positive non-invasive screening test, was modeled at 100%.

Outcomes were life years gained as well as the quality-adjusted life years gained, versus unscreened individuals and total number of lifetime colonoscopies per 1000 individuals.

These quality adjusted life years were estimated life years adjusted for patients' general health states varying by age and utility losses

associated with specific events, such as initial screening, colonoscopy or complications from colonoscopy, and cancer care by stage and diagnosis after the phase of care. Near efficient strategies were those within three days of life year gained per person of the efficient frontier, per established standards.

In figure one, we see the efficient frontier analysis.

It's important to understand that strategies that are considered efficient fall along the solid line, whereas near-efficient strategies fall within the grey bound.

Other strategies that otherwise fall outside of those areas are considered not efficient.

Let's turn to the results section to explore this further.

Table 1 highlights the test performance inputs for sensitivity as well as specificity that were derived from the recent large clinical trials.

And it was these inputs that were placed within the validated CRC-AIM model to simulate the cohort of average risk individuals undergoing the various screening strategies.

Overall, all screening strategies resulted in positive life years gained when compared to no screening at all. For the efficient frontier of life years gained versus colonoscopy, as demonstrated in Figure 1A, there were 14 strategies found to be efficient. These included strategies utilizing mt-sDNA as well as colonoscopy.

Meanwhile, 25 strategies were found to be near-efficient, including strategies that utilized fit mt-sDNA as well as mt-sRNA.

The efficient frontier of quality adjusted life years gained versus colonoscopies in Figure 1B is very similar to the depiction in Figure 1A for life years gained versus colonoscopies, with only a few subtle differences as highlighted in the results section.

The blood-based test was not efficient, nor was it near-efficient at any combination of interval and age range for either life years gained or quality-adjusted life years gained in this efficient frontier analysis.

So, through this efficient frontier analysis, researchers conclude that the only efficient screening strategies were those utilizing mt-sDNA, FIT, and colonoscopy. No model blood-based test strategy was efficient or near-efficient when utilizing currently available sensitivity and specificity for colorectal cancer screening.

Announcer:
This episode of *Clinician's Roundtable* was sponsored by Exact Sciences. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!