Adherence to FIT Screening

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Disclosure:

Dr. Limburg serves as Chief Medical Officer for Exact Sciences through a contracted services agreement with Mayo Clinic. Dr. Limburg and Mayo Clinic have contractual rights to receive royalties through this agreement.
Background

Annual fecal immunochemical test (FIT) completion is commonly recommended for average-risk colorectal cancer (CRC) screening in clinical practice.

However, reported longitudinal adherence rates for annual FIT screening vary widely across studies, for example:
- 75.3% to 86.1% in an organized screening program, versus
- 15.8% to 28.8% in a safety-net health system

Despite these disparate, imperfect results, simulation studies often assume 100% adherence to annual FIT over a screen-relevant period of 25 or more years.

To facilitate more informed inputs for modelling analyses and other applications, we examined longitudinal FIT adherence in a large, retrospective study, using claims data from diverse health plans to represent the real-world, population-level experience.
Study Design

This retrospective study used MarketScan Commercial and Medicare Supplemental Databases to identify average-risk adults, ages 50-75 years, who had a procedure code for FIT testing between January 1, 2014 and June 30, 2019.

Adherence to FIT was examined over three time periods:

- **T0**: The date of the first claim for FIT
- **T1**: The first follow-up screening window
- **T2**: The second follow-up screening window

Study Participants:

- **10,253 Participants**
  - **67.2% Female**
  - **Average Age 56.0 years**
  - **Insurance breakdown**
    - Commercial: 94.7%
    - Medicare: 2.6%

Results

Over the full study period:

- 23.5% of participants were adherent with FIT in T1
- 10.6% of participants were consistently adherent with FIT in T1 and T2
- 17.0% were partially adherent with FIT in T1 or T2
- 72.4% were consistently nonadherent with no FIT in T1 or T2

Median time between 1st and 2nd FIT and 2nd and 3rd FIT was 12.7 months
Conclusions and Implications

• Claims data suggest that both cross-sectional and longitudinal adherence to annual FIT are suboptimal, substantially minimizing the achievable benefits from these tests.

• Findings can help inform modeling efforts, which have traditionally assumed 100% adherence rates, providing important information to clinical decision-makers.

Comparison of Life-Years Gained (LYG) from stool-based CRC screening strategies, under real-world adherence assumptions

At reported adherence rates, LYG was highest for mt-sDNA resulting in 17.6% more LYG (309.0) versus FIT (262.7).

<table>
<thead>
<tr>
<th>Adherence rate</th>
<th>mt-sDNA</th>
<th>FIT</th>
<th>Triennial mt-sDNA LYG/1000 individuals</th>
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<tbody>
<tr>
<td>10</td>
<td>40.9</td>
<td>-29.3</td>
<td>151.1</td>
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<tr>
<td>20</td>
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<td>40.0</td>
<td>220.4</td>
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<td>145.5</td>
<td>-78.8</td>
<td>255.7</td>
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<tr>
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</tbody>
</table>

Legend:
- Favors mt-sDNA
- Favors FIT
- Similar
- RWE
- 100% adherence

Resource:

Abbreviations:
FIT, fecal immunochemical test; LYG, life-years gained; mt-sDNA, multi-target stool DNA; RWE, real-world evidence.
Audience Q&A