Longitudinal evaluation of a colorectal cancer screening measurement model

Background

- The American College of Gastroenterology (ACG) recommends a colonoscopy every 10 years for individuals aged 50 years or older for the prevention of colorectal cancer (CRC).
- Alternatives include flexible sigmoidoscopy (FSG) and fecal blood tests (FBT).
- Although CRC is the leading cause of cancer deaths in the US, the Centers for Disease Control and Prevention reports that 35% of adults aged 50-75 are not current with screenings.
- Consequently, a national health care company implemented a multifaceted strategy aimed at improving CRC screening rates.

Objective

The objective of this study was to evaluate the longitudinal relationship between CRC screening compliance and the length of time an individual was eligible for screening advocacy outreach.

Methods

- Study design: This was a retrospective, observational analysis.
- Data source: This was conducted using administrative claims from a health care company that insured over 2.8 million Medicare Advantage members at the time of the study.
- Inclusion and exclusion criteria: An analytic engine identified eligible people for CRC screenings from the administrative claims data using the following criteria:
  - Aged 65 to 76 years
  - Eligible for CRC screening on a minimum of 1 day between 6/1/2013 and 5/31/2014 according to the American College of Gastroenterology guidelines.
- Outcomes: The primary study outcome was compliance with CRC screening guidelines.

Results

- Compliance with CRC screening guidelines was higher among people who were eligible for screening outreach for a longer period of time, supporting the notion that long-term relationships with patients are preferred over fragmented models.
- Additional research is needed to determine whether the implementation of outreach strategies over time may influence this observed trend.

Limitations

- The study was subject to limitations inherent in administrative claims analyses, including coding errors, missing data and unmeasured factors.
- Incomplete eligibility data can cause screening eligibility flags to reactivate, resulting in artificially shorter length of time eligible.
- Data were not available on individual patients prior to their enrolling in the health plan. Some patients may have been eligible and had CRC screening prior to enrolling in the plan.
- The findings may not be generalizable to the general U.S. population, or to other health plans and Medicare populations with different demographics.

References


Figure 1. CRC Screening Strategy

Table 1. CRC Screening Types

<table>
<thead>
<tr>
<th>Screening Type</th>
<th>ACG Recommendation/</th>
<th>CPT Codes</th>
<th>HCPCS</th>
<th>KOD</th>
<th>CM Resulting in Code</th>
<th>LOINC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonoscopy</td>
<td>• Strong Recommendation/</td>
<td>44095, 44094, 44271, 45430, 45431, 45432</td>
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<tr>
<td>Fecal Blood Test (FBT)</td>
<td>• Should be offered to patients who failed colonoscopy</td>
<td>45.02, 45.03, 45.04</td>
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<tr>
<td>Flexible</td>
<td>• Every 5-years</td>
<td>45524, 45532, 45534, 45535</td>
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<tr>
<td>Sigmoidoscopy (FGS)</td>
<td>• Every 5-years</td>
<td>45524</td>
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</table>

Figure 2. Compliance with CRC Screening by Type

- 83% Colonoscopy was the most common screening type

Figure 3. CRC Screenings by Type

- N=2,217,004 eligible for screening
- 50.0% screened (n=1,108,521)

Figure 4. Compliance by Length of Time Eligible

- Figure 4: Compliance by Length of Time Eligible

Table 2. Demographic Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Study Population (n=1,017,024)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender, n (%)</td>
<td>Male: 556,991 (54.8%)</td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>481,123 (45.2%)</td>
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<tr>
<td>Female: 460,123 (45.2%)</td>
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<td></td>
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<tr>
<td>Geographical Region, n (%)</td>
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<tr>
<td>Northeast: 21,460 (17.0%)</td>
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<tr>
<td>Midwest: 287,083 (22.0%)</td>
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<tr>
<td>South: 609,278 (50.9%)</td>
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<td></td>
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<tr>
<td>Total: 1,017,024 (100.0%)</td>
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</tbody>
</table>

Figure 5. Compliance by Gender

- Female: 53.1%
- Male: 46.9%

Figure 6: Compliance by Length of Time Eligible

- Figure 6: Compliance by Length of Time Eligible

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