Executive Summary
Colorectal cancer (CRC) is the third leading cause of cancer-related deaths in the United States among men and women. This devastating disease caused about 50,000 deaths during 2014. Routine testing starting at age 50 can often prevent colon cancer by detecting the disease at an early stage. Unfortunately, because many people are not tested, only about four out of ten people are diagnosed soon enough for treatment to be successful.

As health plans across the United States review their colorectal cancer screening practices, many of them are looking for an integrated technology platform that combines best practices in member engagement with leading iFOBT technology. These health plans share a common goal: to improve compliance rates, increase early identification of colorectal cancer patients, and decrease colorectal cancer treatment costs.

This white paper presents current facts, statistics, and best practices related to colorectal cancer with an emphasis on prevention through screening, early detection, and proper treatment. It cites several studies that involve a Fecal Immunochemical Test (FIT) kit. BioIQ has set a new standard of care with a user-friendly screening solu-
tion that generates exceptional outcomes for patients and health plans. This solution has been proven successfully with major health plans and hundreds of thousands of participants.

Statistics and Industry Challenges
Colorectal cancer is the third most commonly diagnosed cancer in the U.S. and the third leading cause of cancer death in both men and women. The majority of these cancers and deaths can be prevented. The key is to apply hard won knowledge about cancer prevention, increase the use of recommended screening tests, and ensure that all patients receive timely, standard treatments.

Screening programs aimed at prevention and early detection of colorectal cancer have already made positive strides. In the past decade, there has been steady progress in reducing the incidence of colorectal cancer, with a consequent increase in survival rates. This progress has largely been the result of screening. However, in one recent study by the American Cancer Society, only 59 percent of people age 50 or older, for whom screening is recommended, reported having received colorectal cancer testing consistent with current guidelines.  

Colorectal cancer (CRC) screening rates vary widely at the state level. Health plans also vary broadly in successful management of this important HEDIS measure.

When CRC screening programs are conducted in a comprehensive way, the business case is clear. Consider one successful screening program carried out by Kaiser Permanente Northern California (KPNC). Since 2007, this health plan has sent annual screening kits by mail to average-risk individuals between 50 and 75 years of age, and monitored colonoscopy follow-up. “Screening rates reached about 80 percent of the eligible population in 2013 (up from about 50 percent in 2007).”

In another instance, a Canadian study concluded that CRC screening with FIT reduces the risk of CRC and CRC-related deaths, and lowers health care costs in comparison to no screening and to other existing screening strategies. The recommendation was clear: “Health policy decision makers should consider prioritizing funding for CRC screening using FIT.” In addition, the American Cancer Society determined that FIT is the most economically attractive, as well as the most appealing method for achieving high patient compliance.
The Standard in CRC Screening: OC-Auto FIT

- FIT = Fecal Immunochemical Test
- Only Detects Human Hemoglobin
- No Dietary or Medicinal Restrictions
- One Sample
- Clean and Simple Collection Process
- Identifies the correct population for colonoscopy
- Excellent Sensivity and Specificity (more than 100 peer-reviewed studies)

These studies also speak to the cost-effectiveness of FIT as a screening tool. It can identify the right population for colonoscopies and other follow-up tests, as well as identify potential cancer patients at an early, treatable stage of the disease. Dr. Jeffrey A. Weisz and his colleagues at Kaiser Permanente Northwest reported that as screening rates have grown—from 52.5 percent to over 70 percent—stage IV colon cancer has decreased by 31 percent. “In our system alone, this equates to saving 4,724 lives per decade,” they noted.6

Meanwhile, a Heitman study determined “that this type of screening modality could reduce the number of deaths from colorectal cancer from 1,782 to 457 for every 100,000 average-risk patients, while saving CAN$68 per person.”7 Many other studies have verified the cost-effectiveness of colorectal cancer screening.

The average cost for a colonoscopy today is $2,625.8 A simple screening test can help determine which members should be screened, enabling health plans to focus on the right member population for colonoscopies—improving member health while also reducing unnecessary procedure costs.

Treating colorectal cancer costs billions of dollars per year. The bulk of these costs are due to the late identification of the disease. According to the American Cancer Society, only 40 percent of colorectal cancer patients are diagnosed with localized-stage disease, for which the five-year survival rate is 90 percent. The survival rate declines to 70 percent and 13 percent for patients diagnosed with regional and distant stages, respectively.9
Best Practices in CRC Screening
There are a few key considerations that every health plan should keep in mind when implementing a CRC screening program. First, the health systems involved need to be prepared for an increase in colonoscopy volume. Once the screening program is fully operational, a health plan should expect around a 5 percent positivity rate for members utilizing FIT kits. As Kaiser Permanente stated, “A key challenge of implementing our program was meeting the new demand for colonoscopy generated by the increase in colorectal cancer screening. We increased our production of colonoscopy by 200 percent, with the attendant hiring of additional staff and need for additional equipment. We increased the number of gastroenterologists in our group by 75 percent.”

In addition to colonoscopy access and capacity, critical program components for making screening initiatives successful include the following:

- An organized system of engagement and education for all participants in the program, including health plan staff, health system partners, and members. Ideally, member engagement is facilitated through a comprehensive technology platform.

- Integrated screening and laboratory interfaces using proven test kit technology.

- Progress-tracking and ongoing member communications supported by an incentive program to increase member compliance.

- Consistent, real-time reporting that supports the engagement system, ideally through an online administrative dashboard.

- Ongoing measurement of outcomes and clinical values, communicated across all program stakeholders.
The overall flow of this type of integrated program is illustrated below.

**An Integrated Approach**

![Diagram of the integrated approach]

- **Engage**
  - Full Communications Plan
  - Sign-up & Engagement Tools

- **Screen**
  - On-Site Screening
  - At-Home Test Kits
  - Lab Visits
  - Physician Results
  - Health Risk Assessments
  - Retail Pharmacy Network

- **Reward & Motivate**
  - Reward & Incentive Tracking
  - Progress Communications & Reminders

- **Connect to Solutions**
  - Health Plan Programs
  - Telephonic Coaching
  - Mobile Device Coaching
  - Mobile Wellness Apps
  - Social Networking
  - Competitions
  - Disease Management

- **Measure Outcomes**
  - Follow-up Screening
  - Aggregate Reports
  - Participant Satisfaction Surveys

**Streamlining the Colorectal Screening Process**

Conducting population health screening programs is a multi-step process. The health plan has to identify noncompliant members, reach out to their physicians, generate lab requisitions, coordinate lab testing, create electronic health records, and integrate the data into their information systems to verify gap closures and fulfill HEDIS mandates.

BioIQ has developed a healthcare quality platform that automates this entire cycle. Participating organizations simply supply an eligibility file containing information about members who are out of compliance. BioIQ initiates an at-home screening program and implements a robust engagement campaign to garner high compliance.

BioIQ sends a series of invitations, alerts, and reminders by phone, mail, email, SMS, mobile, and Interactive Voice Recording (IVR) mediums. As each member completes the screening, BioIQ creates electronic health records and passes the data to all pertinent constituents including physicians, health plans, and partner health services companies. Individual members can view their private lab results.
through a secure portal, or opt for a paper lab report delivered by mail. Either way they receive recommendations for discussing those results with a primary care physician. The cycle is shown below.

BioIQ observes all pertinent security regulations, such as HIPAA guidelines, governing personally identifiable information. BioIQ handles all necessary interfaces with health plans to ensure the secure, automatic transfer of member clinical data. Additionally, BioIQ can take advantage of existing claims-based file exchanges with laboratory partners. Customization includes health plan branding, member reporting, reinforcement of Primary Care Provider relationships, and integration with existing medical management programs.
The BioIQ technology platform is highly configurable to the needs of each client. The following diagram illustrates the opportunities available:

**BioIQ Modular Delivery Options**

<table>
<thead>
<tr>
<th>Engagement Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Comprehensive engagement and compliance messaging across multiple methods</td>
</tr>
<tr>
<td>• Member outreach via phone, IVR, SMS, mail or email</td>
</tr>
<tr>
<td>• Online Portal</td>
</tr>
<tr>
<td>• PCPs</td>
</tr>
<tr>
<td>• Engagement Letters</td>
</tr>
<tr>
<td>• Clinical Outcome Reports</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>At-Home Test Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Outreach via phone, SMS, mail, or email</td>
</tr>
<tr>
<td>• Kit shipped direct to member</td>
</tr>
<tr>
<td>• <strong>Member collects &amp; returns sample</strong></td>
</tr>
<tr>
<td>• Reminder communications</td>
</tr>
<tr>
<td>• Friendly, easy collection experience</td>
</tr>
<tr>
<td>• FIT, Blood, or Urine Kit</td>
</tr>
<tr>
<td>• Pre-paid return envelopes</td>
</tr>
<tr>
<td>• Results automatically integrated with BioIQ and sent to Member, PCP, and Health Plan</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CNP Home Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Outreach via phone, SMS, mail, or email</td>
</tr>
<tr>
<td>• Visit scheduled by Call Center</td>
</tr>
<tr>
<td>• <strong>Nurse Practitioner home visit/retail visit experience</strong></td>
</tr>
<tr>
<td>• Administration of Health Assessment</td>
</tr>
<tr>
<td>• Body Measurements</td>
</tr>
<tr>
<td>Blood, FIT, or Urine Kit</td>
</tr>
<tr>
<td>• Vaccinations</td>
</tr>
<tr>
<td>• Results automatically integrated with BioIQ and sent to member, PCP, and Health Plan</td>
</tr>
</tbody>
</table>
Get Started Today

Thanks to this highly automated approach, our program is distinguished by gap closure rates that are four times higher than industry averages for CRC screening programs. One recent program, launched in December 2014, included 8,248 FIT screenings with 8 percent positive results. The following table presents the results of this type of integrated program with a large national payer.

Sample FIT program outcomes*

<table>
<thead>
<tr>
<th>2014 FIT Program</th>
<th>2013 FIT Program</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Kits Shipped:</strong> 3,672 (101%)**</td>
<td><strong>Total Kits Shipped:</strong> 8,600</td>
</tr>
<tr>
<td><strong>Members that Returned Tests:</strong> 1,522 (41.9%)</td>
<td><strong>Members that Returned Tests:</strong> 3,972 (45%)</td>
</tr>
<tr>
<td>• Members that Received a Positive Result: 119 (7.8%)</td>
<td>• Members that Received a Positive Result: 306 (7.7%)</td>
</tr>
<tr>
<td>• Members that Received a Negative Result: 1,344 (88.3%)</td>
<td>• Members that Received a Negative Result: 3,543 (89.2%)</td>
</tr>
<tr>
<td>• Members that Received an Inconclusive Result: 59 (3.9%)</td>
<td>• Members that Received an Inconclusive Result: 123 (3.1%)</td>
</tr>
</tbody>
</table>

FIT Results 2014

- 88.3% Negative
- 7.8% Positive
- 3.9% Inconclusive

FIT Results 2013

- 89.2% Negative
- 7.7% Positive
- 3.1% Inconclusive

*Reflective of existing Client programs

**More than 3,630 (100%) of kits shipped represent a second kit requested by members who received inconclusive results.
Why Work with BioIQ?

BioIQ has conducted tens of thousands of population health programs across consumer, employer, and health plan populations. There are numerous health plans that adopt FIT methodology to screen their populations for CRC. Globally, the FIT methodology is being used in primary screening programs in many countries such as Canada, Italy, Japan, France, Netherlands, Australia, and the UK.

BioIQ has a fully-integrated service delivery network, including:

- LabCorp and other diagnostic laboratories (at a claims-based billing level)
- National and regional nurse practitioner / MD staffing options
- National retail pharmacies (large and small market pharmacy network)

While this white paper focuses on improving colorectal cancer screening adoption, BioIQ addresses a wide variety of other HEDIS measures, including all of the preventive Effectiveness of Care measures, as illustrated below.

BioIQ Supported HEDIS Gap Closures

<table>
<thead>
<tr>
<th>Via Engagement Only</th>
<th>Via At-Home Test Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cancer Screening</td>
<td>• Colorectal Cancer Screening</td>
</tr>
<tr>
<td>• Breast</td>
<td></td>
</tr>
<tr>
<td>• Cervical</td>
<td></td>
</tr>
<tr>
<td>• Well Child Visits</td>
<td></td>
</tr>
<tr>
<td>• 0 – 15 months</td>
<td></td>
</tr>
<tr>
<td>• 3 – 6 years</td>
<td></td>
</tr>
<tr>
<td>• Immunization Status</td>
<td>• A1C, followed by supportive MTM</td>
</tr>
<tr>
<td>• Adolescent Well Care</td>
<td>• Micro Albumin, kidney disease</td>
</tr>
</tbody>
</table>
BioIQ takes a versatile approach to reaching your members through at-home test kits, nurse home visits, and/or retail pharmacy delivery models, with emphasis on:

• Experience: Media to engage and guide members
• Data: Insight to enable members, administrators, and care stakeholders
• Logistics: Systems to drive interactions with labs, pharmacies, and service providers

Contact BioIQ today to learn more or to schedule a demonstration.

About the Author

Rachel Phillips Terry is a corporate vice president at BioIQ, a healthcare technology company based in Santa Barbara, California. Ms. Phillips Terry has worked in healthcare for more than 20 years and held key positions at America’s Health Insurance Plans (AHIP), Anthem, and several oncology management organizations. She brings this broad base of experience to the BioIQ Star program, where she helps clients improve their quality reporting initiatives for HEDIS, Star, and Quality Rating System measures. Ms. Phillips Terry attended George Mason University in Fairfax, VA.

End Notes

1 American Cancer Society, Colorectal Cancer Facts and Figures, 2014 to 2016
2 http://www.cancer.org/acs/groups/content/documents/document/acspc-042280.pdf, page 1
6 It's a Great Time to Be A Physician: Building a Healthcare System that Works, Jeffrey A. Weisz MD (Author), Susan Albers Mohrman (Author), Arienne McCracken (Author), Francis J. Crosson MD; Second River Healthcare Press, 2013.
8 http://www.newchoicehealth.com/procedures/colonoscopy