**Attachment 3: Overview of Experimental Design**

Each respondent will be asked to compare 2 hypothetical CRC tests, “A” and “B” and to state whether they would choose “A” or “B.” This process will be repeated 5 times for each respondent (i.e., each respondent will be asked to make 5 choices). The attributes of test “A” and test “B” will vary for each hypothetical scenario according a D-efficient, fractional factorial, orthogonal design created using NGene (ChoiceMetrics, 2012).

Each group of 5 conjoint questions is called a block. The study design is based on 10 blocks. Each block will be viewed by approximately 200 respondents. Each respondent will be randomly assigned to a block.

Exhibit A lists the attributes of the tests and the possible levels each attribute can take on using the full text to describe the attribute levels that will appear in the survey (see Attachment 2 for survey text and screen shots). Exhibit B shows the ten blocks of 5 questions (using abbreviated descriptions of the levels). The first block of questions is also contained in the screen shots in Attachment 2.

The first two attributes, “What can the test find?” and “How often do you take the test?”, are presented as separate rows in the questions to make it easier to read, however in the experimental design they are combined into 1 attribute with 3 levels:

* Some colorectal cancer (50% - 70%) / Very few pre-cancerous polyps (10% - 25%) / Once every year
* Some colorectal cancer (50% - 70%) / Some pre-cancerous polyps (50% - 70%) / Once every 5 years
* Most colorectal cancer (90% to 95%) / Most pre-cancerous polyps (90% to 95%) / Once every 10 years

|  |  |
| --- | --- |
| **Exhibit A. Summary of Attributes and Levels (in abbreviated form)** | |
| **Attributes** | **Levels** |
| What can the test find? | * Some colorectal cancer (50% - 70%) / Very few pre-cancerous polyps (10% - 25%) * Some colorectal cancer (50% - 70%) / Some pre-cancerous polyps (50% - 70%) * Most colorectal cancer (90% to 95%) / Most pre-cancerous polyps (90% to 95%) |
| How often do you take the test? | * Once every year * Once every 5 years * Once every 10 years |
| Can the test remove cancer and polyps? | * Yes * No |
| Preparation before the test | * No preparation * 2 days diet restrictions * 2 days diet restrictions and laxative use |
| Discomfort and activity limitations during and after the test | * No pain or discomfort during the test. / All activities as usual after the test. * Discomfort like intense cramps during the test. / All activities as usual after the test. * During test, **sedative** so no discomfort / After test, no driving and limited activity rest of day |
| Out of pocket cost to you per test | * $0 (no cost to you) * $10 * $50 * $200 * $500 |

**Exhibit B. Blocks**

Block 1

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Choice 1** | | **Choice 2** | | **Choice 3** | | **Choice 4** | | **Choice 5** | |
|  | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** |
| **What can the test find?** | Some cancer, very few polyps | Most cancer, most polyps | Most cancer, most polyps | Some cancer, some polyps | Some cancer, very few polyps | Some cancer, some polyps | Most cancer, most polyps | Some cancer, some polyps | Some cancer, very few polyps | Most cancer, most polyps |
| **How often should you get the test?** | Once per year | Every 10 years | Every 10 years | Every 5 years | Once per year | Every 5 years | Every 10 years | Every 5 years | Once per year | Every 10 years |
| **Can the test remove cancer and polyps?** | Yes | No | No | No | No | No | No | Yes | Yes | No |
| **Preparation before the test** | Diet restrictions and laxative use | Diet restrictions and laxative use | No preparation | Diet restrictions and laxative use | Diet restrictions | Diet restrictions | No preparation | No preparation | Diet restrictions | No preparation |
| **Discomfort and activity limitations during and after the test** | Sedative for test, no driving and limited activity | None | None | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | None | Discomfort like cramps, all activities after test | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | None |
| **Out-of-pocket cost to you** | $0 (no cost to you) | $200 | $200 | $0 (no cost to you) | $50 | $200 | $200 | $500 | $500 | $200 |
| **Which test would you choose?** |  |  |  |  |  |  |  |  |  |  |

Block 2

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Choice 1** | | **Choice 2** | | **Choice 3** | | **Choice 4** | | **Choice 5** | |
|  | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** |
| **What can the test find?** | Some cancer, very few polyps | Most cancer, most polyps | Some cancer, some polyps | Some cancer, very few polyps | Some cancer, some polyps | Some cancer, very few polyps | Most cancer, most polyps | Some cancer, some polyps | Some cancer, some polyps | Some cancer, some polyps |
| **How often should you get the test?** | Once per year | Once per years | Every 5 years | Once per year | Every 5 years | Once per year | Every 10 years | Every 5 years | Every 5 years | Every 5 years |
| **Can the test remove cancer and polyps?** | Yes | Yes | Yes | No | Yes | No | Yes | Yes | Yes | Yes |
| **Preparation before the test** | No preparation | Diet restrictions | Diet restrictions and laxative use | Diet restrictions | Diet restrictions and laxative use | Diet restrictions and laxative use | No preparation | Diet restrictions | Diet restrictions and laxative use | No preparation |
| **Discomfort and activity limitations during and after the test** | Discomfort like cramps, all activities after test | None | Sedative for test, no driving and limited activity | None | Sedative for test, no driving and limited activity | None | None | None | Discomfort like cramps, all activities after test | Discomfort like cramps, all activities after test |
| **Out-of-pocket cost to you** | $500 | $500 | $0 (no cost to you) | $200 | $50 | $500 | $10 | $0 (no cost to you) | $200 | $10 |
| **Which test would you choose?** |  |  |  |  |  |  |  |  |  |  |

Block 3

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Choice 1** | | **Choice 2** | | **Choice 3** | | **Choice 4** | | **Choice 5** | |
|  | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** |
| **What can the test find?** | Some cancer, very few polyps | Some cancer, some polyps | Most cancer, most polyps | Most cancer, most polyps | Most cancer, most polyps | Some cancer, very few polyps | Some cancer, some polyps | Some cancer, some polyps | Some cancer, some polyps | Most cancer, most polyps |
| **How often should you get the test?** | Once per year | Every 5 years | Every 10 years | Every 10 years | Every 10 years | Once per year | Every 5 years | Once per year | Every 5 years | Every 10 years |
| **Can the test remove cancer and polyps?** | No | No | Yes | Yes | No | No | No | Yes | Yes | Yes |
| **Preparation before the test** | No preparation | Diet restrictions and laxative use | Diet restrictions | Diet restrictions and laxative use | Diet restrictions and laxative use | Diet restrictions and laxative use | Diet restrictions and laxative use | Diet restrictions and laxative use | Diet restrictions | Diet restrictions and laxative use |
| **Discomfort and activity limitations during and after the test** | Sedative for test, no driving and limited activity | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | Discomfort like cramps, all activities after test | None | Sedative for test, no driving and limited activity | None | Discomfort like cramps, all activities after test | None | Discomfort like cramps, all activities after test |
| **Out-of-pocket cost to you** | $200 | $50 | $10 | $50 | $0 (no cost to you) | $500 | $200 | $10 | $10 | $0 (no cost to you) |
| **Which test would you choose?** |  |  |  |  |  |  |  |  |  |  |

Block 4

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Choice 1** | | **Choice 2** | | **Choice 3** | | **Choice 4** | | **Choice 5** | |
|  | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** |
| **What can the test find?** | Some cancer, some polyps | Some cancer, very few polyps | Most cancer, most polyps | Most cancer, most polyps | Some cancer, very few polyps | Most cancer, most polyps | Some cancer, some polyps | Some cancer, very few polyps | Some cancer, very few polyps | Some cancer, some polyps |
| **How often should you get the test?** | Every 5 years | Once per year | Every 10 years | Every 10 years | Once per year | Every 10 years | Every 5 years | Once per year | Once per year | Every 5 years |
| **Can the test remove cancer and polyps?** | No | Yes | Yes | No | Yes | Yes | Yes | No | Yes | Yes |
| **Preparation before the test** | Diet restrictions | Diet restrictions | Diet restrictions and laxative use | No preparation | Diet restrictions | Diet restrictions | Diet restrictions | Diet restrictions and laxative use | No preparation | No preparation |
| **Discomfort and activity limitations during and after the test** | None | Discomfort like cramps, all activities after test | None | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | Sedative for test, no driving and limited activity | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test |
| **Out-of-pocket cost to you** | $10 | $50 | $200 | $200 | $10 | $10 | $500 | $10 | $0 (no cost to you) | $0 (no cost to you) |
| **Which test would you choose?** |  |  |  |  |  |  |  |  |  |  |

Block 5

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Choice 1** | | **Choice 2** | | **Choice 3** | | **Choice 4** | | **Choice 5** | |
|  | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** |
| **What can the test find?** | Most cancer, most polyps | Some cancer, very few polyps | Some cancer, some polyps | Some cancer, some polyps | Some cancer, very few polyps | Some cancer, very few polyps | Most cancer, most polyps | Some cancer, very few polyps | Most cancer, most polyps | Some cancer, very few polyps |
| **How often should you get the test?** | Every 10 years | Once per year | Every 5 years | Every 5 years | Once per year | Once per year | Every 10 years | Once per year | Every 10 years | Once per year |
| **Can the test remove cancer and polyps?** | No | No | No | No | No | No | No | No | No | Yes |
| **Preparation before the test** | Diet restrictions and laxative use | Diet restrictions and laxative use | Diet restrictions and laxative use | No preparation | No preparation | Diet restrictions and laxative use | Diet restrictions and laxative use | No preparation | Diet restrictions | No preparation |
| **Discomfort and activity limitations during and after the test** | Sedative for test, no driving and limited activity | None | Discomfort like cramps, all activities after test | Discomfort like cramps, all activities after test | Discomfort like cramps, all activities after test | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | None | None | None |
| **Out-of-pocket cost to you** | $500 | $500 | $10 | $50 | $10 | $0 (no cost to you) | $500 | $0 (no cost to you) | $0 (no cost to you) | $500 |
| **Which test would you choose?** |  |  |  |  |  |  |  |  |  |  |

Block 6

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Choice 1** | | **Choice 2** | | **Choice 3** | | **Choice 4** | | **Choice 5** | |
|  | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** |
| **What can the test find?** | Some cancer, very few polyps | Some cancer, some polyps | Some cancer, very few polyps | Some cancer, very few polyps | Some cancer, some polyps | Most cancer, most polyps | Most cancer, most polyps | Some cancer, some polyps | Some cancer, very few polyps | Some cancer, very few polyps |
| **How often should you get the test?** | Once per year | Every 5 years | Once per year | Once per year | Every 5 years | Every 10 years | Every 10 years | Every 5 years | Once per year | Once per year |
| **Can the test remove cancer and polyps?** | No | No | No | Yes | Yes | No | Yes | Yes | Yes | Yes |
| **Preparation before the test** | Diet restrictions and laxative use | Diet restrictions | Diet restrictions | Diet restrictions and laxative use | Diet restrictions and laxative use | Diet restrictions and laxative use | No preparation | No preparation | Diet restrictions and laxative use | Diet restrictions |
| **Discomfort and activity limitations during and after the test** | Sedative for test, no driving and limited activity | Sedative for test, no driving and limited activity | None | Discomfort like cramps, all activities after test | Discomfort like cramps, all activities after test | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | None | None | None |
| **Out-of-pocket cost to you** | $50 | $500 | $200 | $50 | $200 | $10 | $10 | $500 | $50 | $200 |
| **Which test would you choose?** |  |  |  |  |  |  |  |  |  |  |

Block 7

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Choice 1** | | **Choice 2** | | **Choice 3** | | **Choice 4** | | **Choice 5** | |
|  | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** |
| **What can the test find?** | Most cancer, most polyps | Some cancer, some polyps | Most cancer, most polyps | Most cancer, most polyps | Some cancer, very few polyps | Most cancer, most polyps | Most cancer, most polyps | Some cancer, very few polyps | Most cancer, most polyps | Most cancer, most polyps |
| **How often should you get the test?** | Every 10 years | Every 5 years | Every 10 years | Every 10 years | Once per year | Every 10 years | Every 10 years | Once per year | Every 10 years | Every 10 years |
| **Can the test remove cancer and polyps?** | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes |
| **Preparation before the test** | No preparation | Diet restrictions and laxative use | No preparation | No preparation | Diet restrictions | Diet restrictions | No preparation | No preparation | Diet restrictions and laxative use | Diet restrictions |
| **Discomfort and activity limitations during and after the test** | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | None | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | Discomfort like cramps, all activities after test | Sedative for test, no driving and limited activity | None | Discomfort like cramps, all activities after test | Discomfort like cramps, all activities after test |
| **Out-of-pocket cost to you** | $0 (no cost to you) | $50 | $50 | $200 | $200 | $50 | $0 (no cost to you) | $0 (no cost to you) | $10 | $10 |
| **Which test would you choose?** |  |  |  |  |  |  |  |  |  |  |

Block 8

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Choice 1** | | **Choice 2** | | **Choice 3** | | **Choice 4** | | **Choice 5** | |
|  | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** |
| **What can the test find?** | Most cancer, most polyps | Some cancer, some polyps | Most cancer, most polyps | Most cancer, most polyps | Some cancer, very few polyps | Some cancer, some polyps | Some cancer, very few polyps | Most cancer, most polyps | Some cancer, very few polyps | Some cancer, very few polyps |
| **How often should you get the test?** | Every 10 years | Every 5 years | Every 10 years | Every 10 years | Once per year | Every 5 years | Once per year | Every 10 years | Once per year | Once per year |
| **Can the test remove cancer and polyps?** | No | Yes | No | No | No | No | Yes | No | No | Yes |
| **Preparation before the test** | Diet restrictions and laxative use | Diet restrictions and laxative use | Diet restrictions | Diet restrictions and laxative use | No preparation | Diet restrictions and laxative use | Diet restrictions and laxative use | No preparation | Diet restrictions | No preparation |
| **Discomfort and activity limitations during and after the test** | None | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | Sedative for test, no driving and limited activity | None | None |
| **Out-of-pocket cost to you** | $0 (no cost to you) | Discomfort like cramps, all activities after test | $50 | $10 | $10 | $500 | $0 (no cost to you) | $50 | $500 | $500 |
| **Which test would you choose?** |  |  |  |  |  |  |  |  |  |  |

Block 9

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Choice 1** | | **Choice 2** | | **Choice 3** | | **Choice 4** | | **Choice 5** | |
|  | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** |
| **What can the test find?** | Some cancer, some polyps | Some cancer, some polyps | Some cancer, very few polyps | Some cancer, some polyps | Most cancer, most polyps | Some cancer, very few polyps | Most cancer, most polyps | Most cancer, most polyps | Some cancer, very few polyps | Some cancer, some polyps |
| **How often should you get the test?** | Every 5 years | Every 5 years | Once per year | Every 5 years | Every 10 years | Once per year | Every 10 years | Every 10 years | Once per year | Every 5 years |
| **Can the test remove cancer and polyps?** | Yes | No | Yes | No | Yes | No | No | No | Yes | No |
| **Preparation before the test** | Diet restrictions | Diet restrictions and laxative use | Diet restrictions | Diet restrictions | Diet restrictions and laxative use | No preparation | No preparation | Diet restrictions and laxative use | No preparation | Diet restrictions and laxative use |
| **Discomfort and activity limitations during and after the test** | Sedative for test, no driving and limited activity | None | Sedative for test, no driving and limited activity | Discomfort like cramps, all activities after test | Discomfort like cramps, all activities after test | Discomfort like cramps, all activities after test | Discomfort like cramps, all activities after test | None | Discomfort like cramps, all activities after test | Sedative for test, no driving and limited activity |
| **Out-of-pocket cost to you** | $200 | $500 | $10 | $200 | $200 | $500 | $500 | $200 | $50 | $0 (no cost to you) |
| **Which test would you choose?** |  |  |  |  |  |  |  |  |  |  |

Block 10

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Choice 1** | | **Choice 2** | | **Choice 3** | | **Choice 4** | | **Choice 5** | |
|  | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** | **Test A** | **Test B** |
| **What can the test find?** | Most cancer, most polyps | Some cancer, some polyps | Some cancer, very few polyps | Most cancer, most polyps | Most cancer, most polyps | Some cancer, very few polyps | Some cancer, some polyps | Some cancer, some polyps | Some cancer, very few polyps | Some cancer, very few polyps |
| **How often should you get the test?** | Every 10 years | Every 5 years | Once per year | Every 10 years | Every 10 years | Once per year | Every 5 years | Every 5 years | Once per year | Once per year |
| **Can the test remove cancer and polyps?** | No | No | Yes | Yes | No | Yes | Yes | No | Yes | No |
| **Preparation before the test** | Diet Restrictions | Diet restrictions and laxative use | No preparation | No preparation | Diet restrictions and laxative use | No preparation | Diet restrictions and laxative use | Diet restrictions and laxative use | Diet restrictions | Diet restrictions and laxative use |
| **Discomfort and activity limitations during and after the test** | None | None | None | Sedative for test, no driving and limited activity | Sedative for test, no driving and limited activity | None | None | None | Sedative for test, no driving and limited activity | None |
| **Out-of-pocket cost to you** | $0 (no cost to you) | $200 | $10 | $500 | $500 | $200 | $50 | $0 (no cost to you) | $50 | $0 (no cost to you) |
| **Which test would you choose?** |  |  |  |  |  |  |  |  |  |  |