Supplementary material for Benning TM, et al. Preferences for potential innovations in non-invasive colorectal cancer screening: A labeled discrete choice experiment for a Dutch screening campaign. Acta Oncol 2014; 53:898–908.

Supplementary Appendix A: Survey instrument

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Dear respondent,

The Dutch government has decided to start public colorectal cancer screening for individuals who are 55 to 75 years old in 2013. Participation in this national screening campaign is important because of the following reasons:

- The detection and removal of polyps prevents the development of colorectal cancer.
- The chance of survival is clearly higher if colorectal cancer is detected and treated at an early stage.

There are several screening tests to detect polyps or colorectal cancer. In this research, we are interested in your preferences regarding certain characteristics of these screening tests. To measure your preferences, we ask you to make choices between different screening tests. You can read more about this on the following pages.

The survey takes approximately 10 minutes of your time.

Thank you for your participation!

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There are different types of screening tests. The tests we particularly focus on in this survey are:

- Tests based on your stool (stool-test)
- Tests based on your blood (blood-test)
- Tests based on your blood and stool (combi-test)

The table below provides more information about these different screening tests:

	Test procedure
Stool-test	At home, you collect a small sample of your feces using a test kit. Then, you send the test kit to the lab by post. If abnormalities are found, you are advised to participate in follow-up testing.
Blood-test	A tube of blood is drawn at the hospital. This blood is sent to the lab for analysis. If abnormalities are found, you are advised to participate in follow-up testing.
Combi-test	This test requires two steps. Step 1: At home, you collect a small sample of your feces using a test kit. Then, you send the test kit to the lab by post. Step 2: A tube of blood is drawn at the hospital. This blood is sent to the lab for analysis. If abnormalities are found for either one or both of the tests, you are advised to participate in follow-up testing.

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The screening tests have several characteristics on which they differ. These characteristics are illustrated below:

Chance that the screening test correctly identifies that there is a polyp or colorectal cancer

The characteristic "chance that the screening test correctly identifies that there is a polyp or colorectal cancer" indicates how large the chance is that the screening test correctly identifies a polyp or colorectal cancer. The chances that occur in the choice tasks for this characteristic are 50%, 70%, and 90% for the blood- and stool-test and 55%, 75%, and 95% for the combi-test.

Example: If the chance to correctly identify a polyp or colorectal cancer is 50%, this means that if there is a polyp or colorectal cancer in reality, the screening test correctly identifies this for 50 out of 100 people with a polyp or colorectal cancer.

Chance of an unnecessary follow-up test

The characteristic "chance of unnecessary follow-up test" indicates how large the chance is that the screening test incorrectly indicates that there is a polyp or colorectal cancer and thus leads to an unnecessary follow-up test. The chances that occur in the choice tasks for this characteristic are 2%, 4%, and 6% for the blood- and stool-test and 3%, 5%, and 7% for the combi-test.

Example: If the chance of an unnecessary follow-up test is 3%, this means that the screening test incorrectly indicates that there is a polyp or colorectal cancer and thus leads to an unnecessary follow-up test for 3 out of 100 people without a polyp or colorectal cancer.

Risk reduction of CRC death

The characteristic "risk reduction of CRC death" indicates how much the chance of dying from colorectal cancer decreases by taking part in screening. The overall chance of dying from colorectal cancer is approximately 3%, this means that in the general population, 30 out of 1000 people die because of colorectal cancer. The chances that occur in the choice tasks for this characteristic are 30% (from 3.00% to 2.10%), 40% (from 3.00% to 1.80%) and 50% (from 3.00% to 1.50%) for the blood- and stool-test and 35% (from 3.00% to 1.95%), 45% (from 3.00% to 1.65%) and 55% (from 3.00% to 1.35%) for the combi-test.

Example: A risk reduction of 30% (from 3.00% to 2.10%) means that the chance of dying from colorectal cancer decreases from 30 out of 1000 people to 21 out of 1000 people.

Scientific level of evidence

The characteristic "scientific level of evidence" indicates to what extent the characteristics of the screening test "chance that the screening test correctly identifies that there is a polyp or colorectal cancer," "chance of an unnecessary follow-up test", and "risk reduction of CRC death" are based on scientific evidence. In the survey, we distinguish between limited and strong scientific evidence. Limited evidence means that the characteristics "chance that the screening test correctly identifies that there is a polyp or colorectal cancer," "chance of an unnecessary follow-up test", and "risk reduction of CRC death" are based on a small number of scientific studies. Strong evidence means that the characteristics "chance that the screening test correctly identifies that there is a polyp or colorectal cancer," "chance of an unnecessary follow-up test", and "risk reduction of CRC death" are based on a large number of scientific studies.

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It is important to understand that a screening test does not provide a definite result, but indicates whether follow-up testing is needed. When follow-up testing is needed, you are advised to undergo a colonoscopy to determine whether there really is a polyp or colorectal cancer. The characteristics of a colonoscopy are presented below:

	What does a colonoscopy mean?
Preparation	You have to drink 4 l of special cleansing solution the day before the procedure. You have to fast for 12 h before the procedure. You cannot work the afternoon before and the day of the procedure.
The procedure	You will be given conscious sedation (short narcosis). Therefore, you may fall into a light sleep. The entire large bowel (100–120 cm) is examined by using a flexible tube with a small camera on the tip. This tube is inserted through the anus. During the procedure, the large bowel will be filled with air in order to carefully examine the bowel. Due to the air and tube in your bowel, you may feel abdominal pressure and cramps. Precursors of colon carcinoma (polyps) are removed during the procedure (this is painless).
After the procedure	You may eat and drink again and go home after one hour. You cannot drive a car or ride a motorcycle or bicycle.
Perceived burden	High.
Results	Directly after the procedure. When tissue has been removed, you will receive the pathology results by mail within 2 weeks.
Place of test	Hospital.
Total duration	One hour and 45 min.
Complications	In 1 in 1000 individuals: severe blood loss or a perforation or a tear through the bowel wall.

Information in the Table is adapted from Hol et al. 2010 [15].

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On the next pages, you are presented several choice tasks, one on each page. When answering these choice tasks, you should imagine that you have been invited to take part in the Dutch colorectal cancer screening campaign and that you have a choice between three different screening tests (stool-test, blood-test, and combi-test) and an option not to participate in screening in case you do not want to be tested at all. We ask you to make a choice in each choice task by selecting the box with the test of your preference. We start with a warm-up question. Twelve questions of similar nature follow after this warm-up question.

Note that if you answer a question on the next pages and click on "continue to the next page", you cannot go back to the earlier page. Please, think carefully before you click on continue.

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Warm-up question: Choose the screening test that you prefer.

Hint: You can click on the question mark (top left) if you would like to read about the test characteristics again.

	Stool-test	Blood-test	Combi-test	No participation
Chance that the screening test correctly identifies that there is a polyp or colorectal cancer	Correct for: 50 out of 100 people with a polyp or colorectal cancer	Correct for: 50 out of 100 people with a polyp or colorectal cancer	Correct for: 55 out of 100 people with a polyp or colorectal cancer	-
If there is a polyp or colorectal cancer, the screening test correctly identifies this for … out of 100 people with a polyp or colorectal cancer				
Chance of an unnecessary follow-up test The screening test incorrectly identifies that there is a polyp or colorectal cancer and thus leads to an unnecessary follow-up test for	Unnecessary follow-up test for: 2 out of 100 people without a polyp or colorectal cancer	Unnecessary follow-up test for: 2 out of 100 people without a polyp or colorectal cancer	Unnecessary follow-up test for: 3 out of 100 people without a polyp or colorectal cancer	-
Risk reduction of CRC death By taking part in screening, the chance that you die from colorectal cancer decreases by … % (from … % to … %)	Chance decreases by: 30% (from 3.00% to 2.10%)	Chance decreases by: 30% (from 3.00% to 2.10%)	Chance decreases by: 35% (from 3.00% to 1.95%)	-
Scientific level of evidence The screening test characteristics “Chance that the screening test correctly identifies that there is a polyp or colorectal cancer”, “Chance of an unnecessary follow-up test”, and “Risk reduction of CRC death” are based on	Based on: A small number of scientific studies (Limited evidence)	Based on: A large number of scientific studies (Strong evidence)	Based on: A large number of scientific studies (Strong evidence)	-
I prefer	Stool-test	Blood-test	Combi-test	No screening test participation

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The "real" choice tasks start on the following pages. When answering these choice tasks, you should imagine again that you have been invited to take part in the Dutch colorectal cancer screening campaign and that you have a choice between three different screening tests (stool-test, blood-test, and combi-test) and an option not to participate in screening in case you do not want to be tested at all.

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Question 1

Choose the screening test you prefer.

	Stool-test	Blood-test	Combi-test	No participation
Chance that the screening test correctly identifies that there is a polyp or colorectal cancer	Correct for: 50 out of 100 people with a polyp or colorectal cancer	Correct for: 50 out of 100 people with a polyp or colorectal cancer	Correct for: 75 out of 100 people with a polyp or colorectal cancer	-
If there is a polyp or colorectal cancer, the screening test correctly identifies this for … out of 100 people with a polyp or colorectal cancer				
Chance of an unnecessary follow-up test	Unnecessary follow-up test for: 2 out of 100 people without a polyp or colorectal cancer	Unnecessary follow-up test for: 2 out of 100 people without a polyp or colorectal cancer	Unnecessary follow-up test for: 7 out of 100 people without a polyp or colorectal cancer	-
The screening test incorrectly identifies that there is a polyp or colorectal cancer and thus leads to an unnecessary follow-up test for				
Risk reduction of CRC death	Chance decreases by: 30% (from 3.00% to 2.10%)	Chance decreases by: 40% (from 3.00% to 1.80%)	Chance decreases by: 35% (from 3.00% to 1.95%)	-
By taking part in screening, the chance that you die from colorectal cancer decreases by … % (from … % to … %)				
Scientific level of evidence	Based on: A large number of scientific studies (Strong evidence)	Based on: A small number of scientific studies (Limited evidence)	Based on: A small number of scientific studies (Limited evidence)	-
The screening test characteristics “Chance that the screening test correctly identifies that there is a polyp or colorectal cancer”, “Chance of an unnecessary follow-up test”, and “Risk reduction of CRC death” are based on				
I prefer	Stool-test	Blood-test	Combi-test	No screening test participation