



## From the COSMOS Trial Directors

### Dear COSMOS participant,

Thank you so much for your continuing dedication to the COcoa Supplement and Multivitamin Outcomes Study (COSMOS). Your participation in the study will allow us to determine whether taking daily supplements of cocoa extract (which contain 600 mg per day of cocoa flavanols, as well as other natural compounds in the cocoa bean) or a common multivitamin (Centrum Silver®) reduces the risk for developing heart disease, stroke, or cancer.

We are happy to report that 21,444 participants throughout the United States have joined COSMOS! We are no longer accepting new participants into the study. The front-page article of this newsletter provides a look at the characteristics of your fellow study participants.

COSMOS is being conducted by researchers at Brigham and Women's Hospital in collaboration with Dr. Garnet Anderson and colleagues at the Fred Hutchinson Cancer Research Center in Seattle.

Thank you for being part of the COSMOS community!

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## Baseline data offer a glimpse of COSMOS participants

**B**oth women and men. A wide range of ages. Geographically diverse. Physically active. And, of course, committed to disease prevention research.

That's the picture of COSMOS study participants that emerges from a look at the information provided on the initial study questionnaires, as well as feedback from participants during conversations and other correspondence with study staff. There will, of course, be no results available until the end of the study on the main questions concerning the effects of cocoa extract and a common multivitamin on heart disease, stroke, and cancer. But the questionnaires completed at the start of the study begin to provide interesting information on the characteristics of the COSMOS study population.

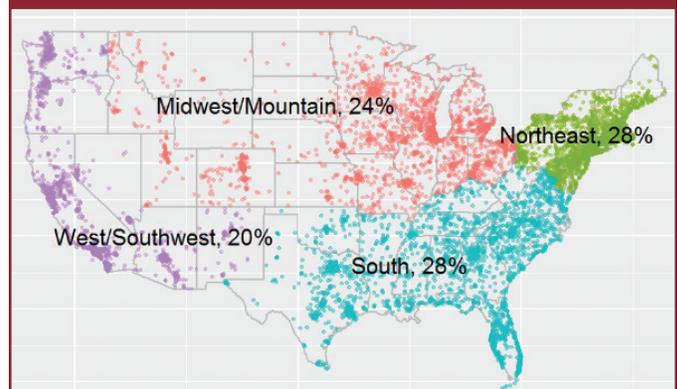
Of the 21,444 participants, 59% are women and 41% are men. Forty-three percent were in their 60s when they started the study, 44% were in their 70s, and 13% were 80 or older. The oldest was 102! With respect to race/ethnicity, 88% of the participants are non-Hispanic white, 6% are African American, 2% Hispanic, 2% Asian, and 1% American Indian. Geographically, the study is well represented throughout the country, with participants residing in all 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands!

Only 4% of participants are current smokers. More than half of participants have never smoked, and 41% have quit. Thirty percent of participants never or rarely drink alcohol. Of those who do drink, 81% have one drink per day or less. The majority of participants eat chocolate on a regular basis. Seventy percent of participants consume milk chocolate, dark chocolate, or a candy bar at least once per week. Half of participants report engaging in physical activities, including stair climbing, in amounts that are equal to or greater than walking briskly (at a pace of 3 to 3.5 miles per hour) for 35 minutes per day on 7 days per week. Eight percent of female participants currently use postmenopausal hormone therapy; 50% have used hormone therapy in the past; and 42% have never used such therapy.

At study entry, 13% of participants had a history of diabetes, 58% had a history of high blood pressure, and 44% were taking cholesterol-lowering medications. With

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### Participants' Residence (all 50 states!)



- West/Southwest includes Alaska and Hawaii.
- South includes Puerto Rico and the Virgin Islands.

# Screening for cancer: recommendations for older adults

All adults should be aware of the importance of cancer screening. Screening can detect tumors at earlier, more treatable stages, thus increasing the likelihood of recovery, and—in the case of colorectal screening—can lead to removal of polyps to prevent cancer from developing. Current screening recommendations for older adults from the American Cancer Society are listed here. It should be noted that these are general guidelines only. Some people may need to follow different screening procedures and schedules because of their personal and/or family medical history. Ask your healthcare provider to recommend the types and timing of screening that are best for you.

## American Cancer Society screening guidelines for older adults \*†

<b>Colorectal cancer or colorectal polyps</b>	<p>Adults aged 45 to 75 should be screened for colorectal polyps (some polyps are precancerous) and cancer with one of the following: colonoscopy every 10 years, CT colonography (a CT scan of the large intestine, often dubbed “virtual colonoscopy”) every 5 years, flexible sigmoidoscopy every 5 years. Alternatively, they should be screened for cancer with a fecal immunochemical test (FIT) or guaiac-based fecal occult blood test (gFOBT) yearly or multitarget stool DNA test every 3 years.</p> <p>Adults aged 76 to 85 should talk with their healthcare providers about whether to continue colorectal cancer/colorectal polyp testing. Adults aged 86 and older should stop testing.</p>
<b>Breast cancer</b>	<p>Women aged 55 and older should have a mammogram at least once every 2 years, assuming they are in good health and have a life expectancy of at least 10 years.</p> <p>Women with a strong family history or genetic or other factors that increase risk should be screened with MRI in addition to mammograms. (Less than 2% of all US women are in this category.)</p> <p>Women should promptly notify their healthcare providers of changes in the look or feel of their breasts.</p>
<b>Cervical cancer</b>	<p>Women older than age 65 who have had regular cervical cancer tests in the past 10 years with normal results should stop cervical cancer testing.</p>
<b>Endometrial cancer</b>	<p>At menopause, women should talk with their healthcare providers about the symptoms of endometrial cancer.</p> <p>Women who experience unexpected bleeding or spotting should report this to their healthcare providers and discuss the need for any special monitoring.</p>
<b>Prostate cancer</b>	<p>Men aged 50 and older should talk with their healthcare providers about the benefits and risks of testing to decide whether testing is right for them.</p> <p>Men who are African American or whose father or brother developed prostate cancer before age 65 should have this talk at age 45.</p> <p>Men who decide to be tested should have the prostate-specific antigen (PSA) blood test with or without a rectal exam.† How often to be tested will depend on the PSA test results and other factors.</p>
<b>Lung cancer</b>	<p>Adults aged 55 to 74† in good health who have smoked the equivalent of 30 pack-years or more (e.g., 1 pack per day for 30 years, 2 packs per day for 15 years, etc.) and who also still smoke or have quit within the last 15 years may wish to talk with their healthcare providers about whether to be screened with annual low-dose CT scans of the chest.</p>

\*Adapted from American Cancer Society, Cancer Screening Guidelines. Available at: <https://www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines.html>. Accessed October 31, 2018.

†The U.S. Preventive Services Task Force also issues screening guidelines, which, for some cancers, differ from those of the American Cancer Society. Prostate cancer: PSA test is not recommended for men aged 70 or older. Lung cancer: Age range for screening consideration is 55 to 80. USPSTF guidelines can be found at <https://www.uspreventiveservicestaskforce.org/BrowseRec/Index>.

# Q&A

**Q. I will be moving to a new home. How can I ensure that I will continue to receive my study pills and questionnaires in a timely fashion?**

**A.** To ensure that study mailings continue without delay, please notify us of changes in your mailing address, telephone number, and/or e-mail address as soon as possible.

**Q. What is the likelihood that I am taking at least one “real” study supplement rather than placebo?**

**A.** All participants have an equal chance of being assigned to one of the four study groups: (1) daily cocoa extract and multivitamin (25% chance); (2) daily cocoa extract and multivitamin placebo (25% chance); (3) daily cocoa extract placebo and multivitamin (25% chance); or (4) daily cocoa extract placebo and multivitamin placebo (25% chance). There is therefore a  $25+25+25=75\%$  chance that you are taking at least one “real” supplement.

**Q. What should I do if I forget to take my study pills?**

**A.** If you realize before you go to bed that you forgot to take that day’s pills, please take them then. However, if you accidentally skip a day, do not “double up” on the pills the next day—just resume taking your pills according to your usual schedule and leave the unused ones in the calendar pack.

**Q. Should I take my study pills with food?**

**A.** Ideally, yes. To aid absorption, it is best to take the pills with a meal or snack. However, it is acceptable to take them on an empty stomach if necessary.

**Q. It is easier for me to remember to take my study pills if I keep them in a pill container with my other medications. Is this acceptable?**

**A.** Yes. The study pills are sent in calendar packs to ensure that they are in a dry environment and are protected from heat, humidity, and sunlight. If you prefer to keep your study pills in a pill box along with other daily medications, please punch out no more than a one-week supply no more than one week ahead of time.

**Q. I am aware that all dietary supplements, including cocoa extract and multivitamins, have possible benefits and possible risks. Are the data monitored regularly to be sure that participants are not experiencing undue risks from participating in the study?**

**A.** Cocoa extract and a multivitamin, in the amounts that COSMOS is testing, are among the safest of dietary supplements. Participant safety is of the highest priority to COSMOS investigators. Indeed, in clinical trials, keeping a close eye on all health outcome data to check for safety concerns is required by the National Institutes of Health. Please know that all health outcome data collected in COSMOS are carefully reviewed at least once per year by a panel of outside medical and statistical experts who are not affiliated with the study. This panel is called the Data and Safety Monitoring Board. If an unacceptably high risk for the cocoa extract supplement or the multivitamin were to be found, that part of the trial would be stopped and participants would be notified as soon as possible.

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respect to cancer screening procedures in the 10 years prior to study entry, 82% of participants reported having had a colonoscopy, 93% of female participants reported a mammogram, and 81% of male participants reported a prostate-specific antigen (PSA) blood test. (For current screening guidelines, please see page 2.)

Slightly over half (52%) of participants have completed and submitted at least one study questionnaire online. (For information on the e-form option, please see below.)

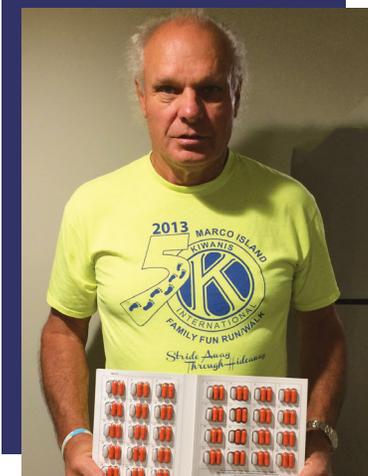
Although the study questionnaires did not ask participants to identify their reasons for joining COSMOS, many participants have told us that they wanted to contribute to our understanding of ways to prevent heart disease, stroke, and cancer. We are interested to learn what motivated you to join the study. Please let us know by writing to [COSMOStrial@partners.org](mailto:COSMOStrial@partners.org) or the postal address listed in the box on page 4 (and feel free to include a photo of you with your pill pack!). We will continue to include a sampling of responses in future newsletters.

## **Annual study questionnaires can be completed online!**

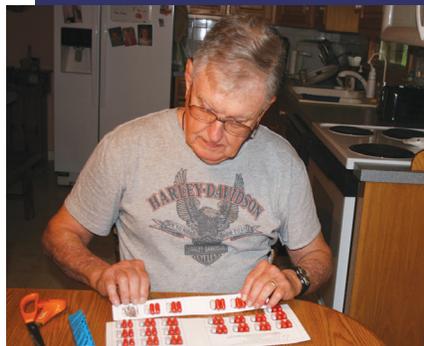
Although we continue to welcome paper-and-pencil questionnaires submitted by postal mail, we would like to remind you that study participants may instead choose to fill out and submit their annual questionnaires online. If you prefer the e-form option for your next annual questionnaire, please contact us at [COSMOStrial@partners.org](mailto:COSMOStrial@partners.org) or 1-800-633-6913, and we will send you an e-mail with a personalized link to a secure website where you can complete and submit this questionnaire. As always, we are committed to protecting the confidentiality of your information and, to this end, are using a well-established, privacy-protected web-based system for the online collection of questionnaire data.



**CHRISTINE S.**, of New York, writes, “[M]y husband took this picture of me on a recent trip to London. I’ve taken my study pills with me on all our travels, from a trip to New Zealand to a cruise from London to Oslo. I’m excited to be part of this study and look forward to learning its results!”



**JOHN H.**, of Florida, writes, “I joined this study because I believe it is important toward improving the health of future generations. I am happy to be a part of this study because, with the results, we can potentially save or extend lives.”



**LARRY S.**, of Pennsylvania, writes, “[This] picture shows this writer performing a Saturday morning ritual. Being a believer in starting each day with a healthy breakfast, [I found that] it was easy and natural to [take] the study pills at that time.”



**JAMES G.**, of Maryland, writes, “Jim taking ‘DAY #614 COSMOS TWO ORANGE+ONE GREY!’ Still feeling great after 1842 pills!!”



**GUADALUPE G.**, of Texas



**ANNET.**, of Georgia, writes, “With 3 daughters and 4 granddaughters (and most recently 2 great granddaughters), it was important to me to sign up when the Women’s Health Initiative was first announced back in the 90’s. Hopefully the information gathered will someday make a difference in generations to come. Meanwhile, at the age of 84, it’s a good feeling to be a part of such a worthwhile endeavor.”



**BARBARA S.**, of New Jersey, vacationing in Israel

## A NOTE ABOUT PHONE COVERAGE BY COSMOS PHYSICIANS

Please note that COSMOS will no longer have 24/7 (“after-hours”) phone coverage by study physicians. If you experience an urgent medical matter on the weekend or in the evening, please contact your personal healthcare provider or go to the emergency room. Care providers should be informed that, as a participant in COSMOS, you may be taking daily supplements containing cocoa extract or cocoa extract placebo and an active Centrum Silver® multivitamin or multivitamin placebo. Our staff is available to provide additional details concerning the study pills during our regular business hours, Monday through Friday, 9 a.m. to 5 p.m., Eastern Time.



**CO**coa Supplement and **M**ultivitamin **O**utcomes **S**tudy (COSMOS)



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