



Adventist Health Study 2

better health for everyone!

Report 2005

VOLUME III

Where Are We Headed in AHS-2?

You have recently seen the power of our older AHS-1 study to both promote good health and enhance the reputation of Adventists (National Geographic magazine, CNN, ABC, etc). The potential for AHS-2 is so much greater. We are breaking new ground in this kind of research in many ways.

The "introductory" phase of AHS-2 is nearly behind us as almost 90,000 members have enrolled. We expect that the "needed" goal of 105,000 will be achieved. It has been a real challenge for us and a big thank you is owed to you for making the effort to participate.

The next phase is to document new cases of cancer among AHS-2 participants. We recognize the heartache and sometimes personal tragedy that a diagnosis of cancer implies. Yet for those who have already developed a cancer, or will do so, your AHS-2 membership can give much additional meaning to your experience. Because of AHS-2, you make an extraordinary contribution to preventing thousands of others from having the same difficulties that you have experienced.

In addition to finding new cancers during the next 5 years (if our request for funding is approved), we will be inviting most of you to attend a clinic at your local church. Because there is great difficulty in finding exactly what people eat, it is

important that we be able to reinforce your questionnaire answers with information from blood tests that also reflect your eating habits. Putting these two sources of information together gives the most accurate results.



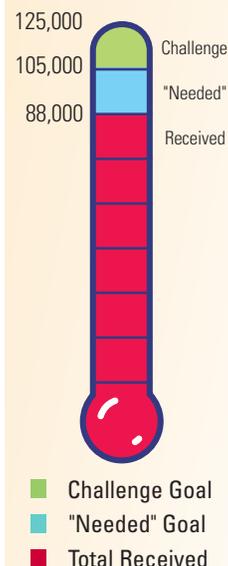
Gary Fraser, MD, PhD, Director of AHS-2

These days everyone is excited about genes. This also affects AHS-2. Researchers believe that just because soy products, as one example, may protect you from certain cancers, they may not do so for Sister Smith who sits along the pew. The body chemistry of different people differs significantly. Simple testing of a small number of genetic characteristics will allow us to see if soy acts differently in different kinds of people. What a great advantage it would be to know that it may be helpful for you to consume soy, but Sister Smith does not need to be so concerned (unless she likes the taste).

Finally, in about 3 years we will request that you complete another dietary questionnaire, but much shorter than the one you completed at enrollment. Because people's eating habits change over time we need to know about this to reach the correct answers as to how diet affects risk of cancer.

I know that you are proud to be a member of AHS-2. As you continue to do your part, we promise not to let you down. Together we will make a difference.

Progress Results



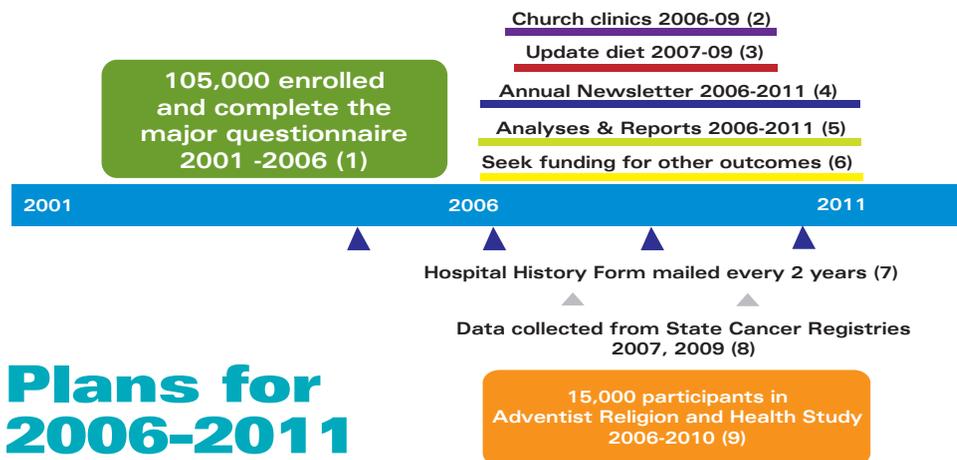
As you see from the chart we need another 17,000 returned surveys to reach our modified "needed" goal of 105,000. It would be wonderful to reach our challenge goal. During 2005 almost 19,000 surveys were returned, to bring our total to 88,000. We still have a big task, but one that is achievable if we have many members helping bring in the surveys. Help us keep our promise to the National Institutes of Health to deliver a comprehensive study.

WANTED

MORE PARTICIPANTS FOR STUDY

Urgently seeking **all** Adventists 30 years and older to join the study, particularly more of the following:

- ★ MEN
- ★ VEGANS
- ★ NON-VEGETARIANS
- ★ MEMBERS OF AFRICAN DESCENT
- ★ PARTICIPANTS FROM THE 1976 ADVENTIST HEALTH STUDY IN CALIFORNIA



Plans for 2006-2011

The timeline diagram outlines the major activities planned during the next five year phase of the study.

1. By the end of 2006 we expect to have achieved the following: 105,000 participants enrolled and completed the diet and lifestyle questionnaire; the data scanned into the computer; completion of the validation Support Substudy; nutritional analysis and coding of all reported foods; and protocols developed and tested for clinics and future data collection.

2. Update of diet with a shorter questionnaire during 2007-09.

3. Mobile Clinic teams conduct clinics in 2000 churches to collect blood samples, during 2007-09.

4. The newsletter published

and distributed every year.

5. Researchers analyze data and prepare reports and publications each year.

6. Funding sought to investigate disorders apart from cancer, such as heart disease, diabetes, osteoporosis, arthritis, aging and dementia.

7. The short Hospital History Form is mailed every 2 years (2006, 2008, 2010).

8. Notification of cancer cases from some cancer registries in 2007, and all 50 State Registries and Canada in 2009.

9. The new sub-study Adventist Religion and Health Study (ARHS) conducted concurrently for 5 years with 15,000 members invited to participate.

Religion and Health Study Funded

The National Institutes of Aging (NIA) has announced a grant of \$1 million over five years for Loma Linda researchers to study how religious factors influence health among Seventh-day Adventists.

This new sub-study of AHS-2, called the Adventist Religion and Health Study (ARHS), is a collaborative effort of the Schools of Public Health, Religion, Medicine and Psychology at Loma Linda University and will be headed by Dr Gary Fraser and Dr Jim Walters.

Our 1976 study and other studies have shown that religion can enhance health. But this new study will be perhaps the most comprehensive study of its kind to investigate how religion affects health.

The study will start in March 2006 and examine the role of spiritual and faith values, religious practices such as Sabbath, prayer and church attendance and social support on the quality of life and health outcomes. From all the participants in AHS-2, 15,000 members will be randomly selected to participate in this important study. If you receive an invitation to participate we hope that you will accept, but of course it is your choice.

Top 5 Conferences

Achievers % of Goal

Montana 102%

Idaho 94%

Upper Columbia 90%

Iowa - Missouri 88%

Northern New England 83%



High Achieving Churches



A big thank you to the 803 churches, out of 4,300 participating churches in North America, that have reached 100% or more of their challenge goal for returned surveys. We are hoping that many more will join the High Achiever's List. Compare the results of your church with others in your region by going to www.adventisthealthstudy.org. Click on the tab, "Progress of Enrollment", and then click your Conference. You will see a list of all the churches with their progress results. If you don't have access to the internet, contact us for your church results.

Montana is Tops

Montana Conference has set the benchmark for other Conferences by being the first conference to achieve more than 100% of its goal for returned questionnaires. Early in our promotion several people said it would be very difficult to get the cattle ranchers in Montana involved in the study. But it has been a team effort with enthusiastic support from the President, Pastor John Loor, and his colleagues down to the grassroots. More members continue to enroll and return questionnaires even though the goal has been achieved.

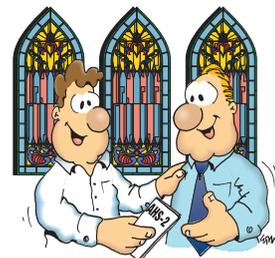
Enrollment Progress by Union

A HS-2 challenges each Union, Conference and Church to achieve a participation goal of 18-24% of their official membership completing and returning the questionnaire. Many churches have promoted several times and each time enrolled more members. Canada and three Regional Conferences started promotion in 2005.

| Union | Goal | Surveys Returned | % of Goal |
|---------------|--------|------------------|-----------|
| Atlantic | 16,520 | 5,956 | 36 |
| Canada | 9,683 | 2,808 | 29 |
| Columbia | 17,430 | 8,976 | 51 |
| Lake | 11,923 | 7,536 | 63 |
| Mid-America | 9,812 | 7,230 | 74 |
| North Pacific | 15,741 | 12,888 | 82 |
| Pacific | 28,412 | 18,673 | 66 |
| Southern | 31,650 | 16,435 | 52 |
| Southwestern | 10,490 | 5,817 | 55 |

Achievement by Unions to December 2005

You can check on the latest Progress of Enrollment for Unions, Conferences and Churches at our website: www.adventisthealthstudy.org



Now Recruiting 30 Years and Older

Can you help spread the message that any member 30 years or older can now join the study? Previously we had a 35 year age limit for non-African Americans in the U.S. By lowering the age we will be consistent across USA and Canada, and we hope that churches can give another push to enroll more in the study.

Publicity You Cannot Buy

Did you see the excellent media coverage on Adventists, longevity and the Loma Linda Adventist Health Study in the National Geographic magazine, on ABC World News Tonight, Good Morning America and CNN? The positive publicity covered the globe.

Marge Jetton, 101 years old, was one of ten Seventh-day Adventists featured in the November National Geographic cover article, the Secrets of Living Longer.

This great story about our faith, the Sabbath, the Adventist Health Study and long-living Adventists

was only possible because of the involvement of 34,198 Adventists in the 1976 study. Just imagine the potential for health impact, mission and news coverage with more than 100,000 in the current Adventist Health Study-2. Results will be much more compelling and precise.

Marge Jetton, 101 year old reads her story in National Geographic



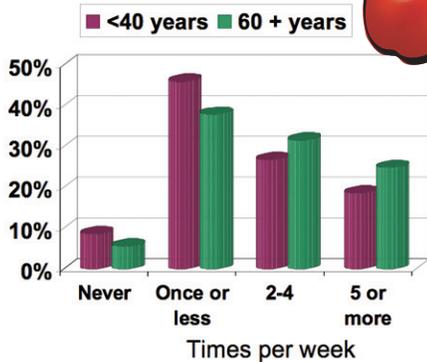
Foods we Eat

Last year we described just some of the eating and drinking habits of early participants. Here are more data about other foods we eat. This time we compare participants younger than 40 years with those 60 years and older. You will note that the older group tend to eat more of the fruits and whole

wheat bread and eat less of the pizza, french fries and cheese than the younger group. During the next few years we shall compare the reported foods to the risk of new cancers, heart disease and other diseases.

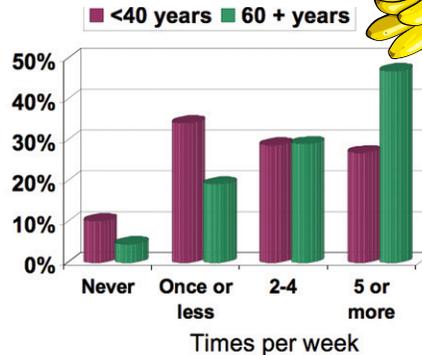
Apples

Weekly Consumption by Age



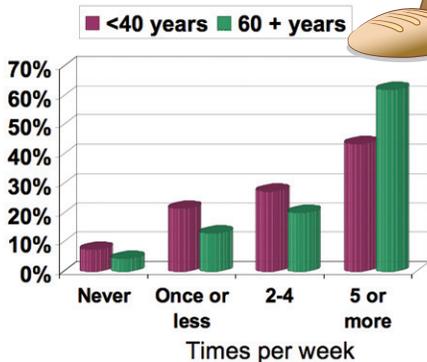
Bananas

Weekly Consumption by Age



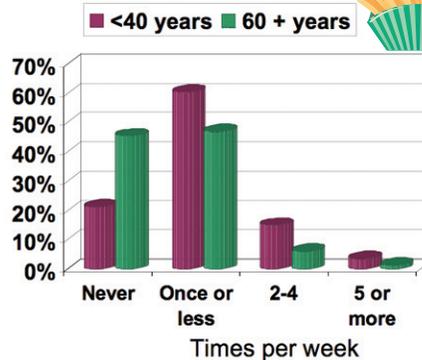
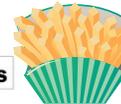
Whole Wheat Bread

Weekly Consumption by Age



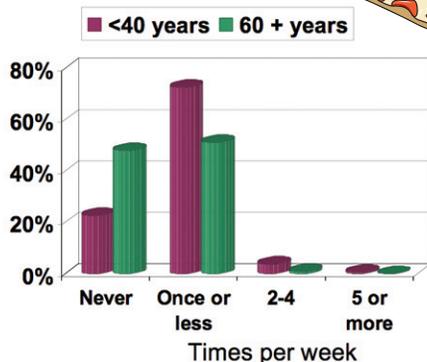
French Fries

Weekly Consumption by Age



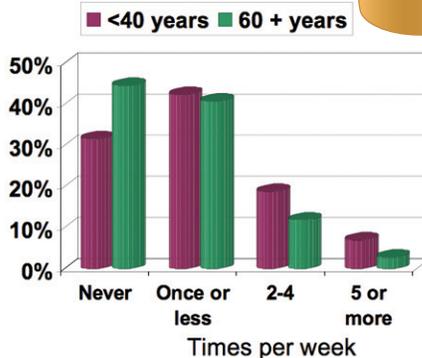
Pizza

Weekly Consumption by Age



Cheese

Weekly Consumption by Age



Snapshot of Participants

Everyone who joins AHS-2 makes an important contribution to the results and findings. Here is a snapshot of the group of 74,320 members who had already returned the AHS-2 questionnaire by October 2005.



Are Adventists Becoming Fatter?

In USA 64.5% of adults are overweight or obese. While AHS-2 participants may have lower rates we may have similar trends. The data in the figures below are from the first 74,320 questionnaires returned.

Figure 1 compares average BMI change over time for 3 generations of Adventists - those born in the 1920's, the 1940's and 1960's. The younger generations are becoming fatter at earlier ages.

Body Mass Index (BMI) - is a measure of a person's weight in relation to their height. $BMI = \text{weight in kg}/(\text{height in m})^2$. A BMI of 25-29.9 is overweight, 30 or higher is obese.

Figure 2 shows for each age, during the last 30 years, there is an increasing trend for BMI. (i.e. the 30, 50 and 70 year-olds of today are fatter than the 30, 50 and 70 year-olds of the 1970's). Does this trend relate to the dietary patterns seen in "the foods we eat" charts?

Average BMI at Selected Ages by Year of Birth

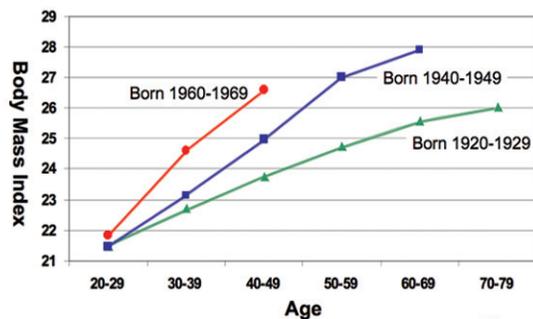


Figure 1

Average BMI for Particular Ages by Calendar Year

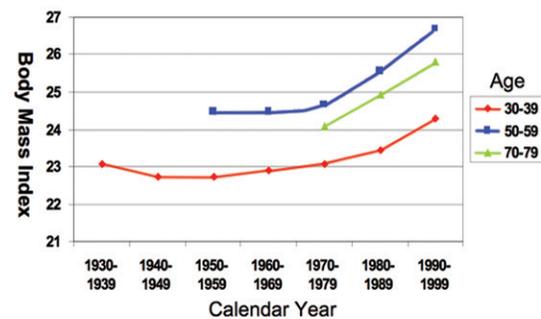


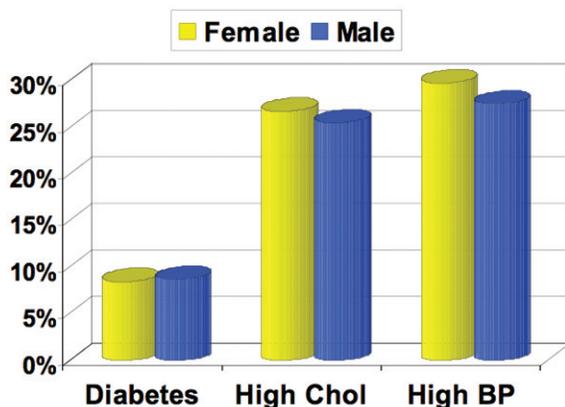
Figure 2

Self-reported Medical Conditions

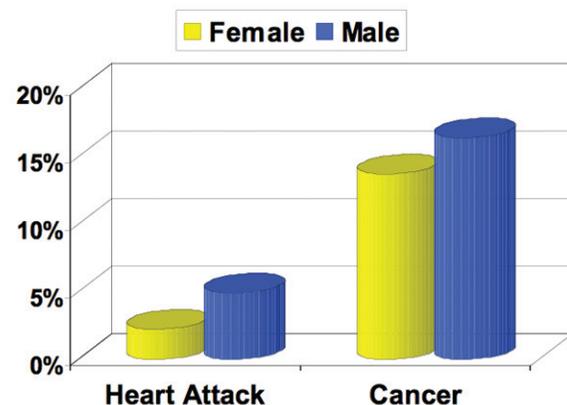
We report the preliminary data of some existing medical conditions self-reported by the first 74,000 participants in the study. You recall that the survey asked questions about prior and current medical conditions at the time of joining the study.

At the time of enrollment 10,878 participants (13.8% of females and 16.4% of males) reported having had a cancer (more than half are skin cancer), 2,362 had experienced a heart attack and 21,779 (29.6% females and 27.6% males) reported being diagnosed with high blood pressure.

Diabetes, High Cholesterol, Hypertension



Heart Attack, Cancer



New Grant Submitted

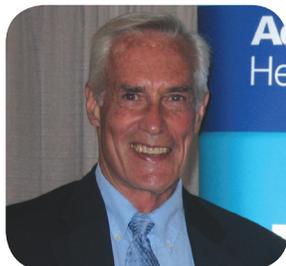
Jean Papps,
Administrative
Secretary
with the new
grant application



On November 1 we submitted the grant application for the next five years of funding for AHS-2 to the National Cancer Institute (NCI). Dr Gary Fraser led in the major undertaking to prepare the 200 page application and additional 400 pages of support documents. Even though the NCI budgets have been drastically cut we are optimistic that we shall receive the continued funding. Notification is expected by April 2006.

People of the Study

In addition to every person who completes the survey, thousands of volunteers are the heart and soul of recruitment success in their local area. Here are just a few who represent the commitment and initiative of many.



Gord Rayner,
from Ontario collects all the enrollments and questionnaires from our Canadian postal box and dispatches them in bulk by FedEx to Loma Linda for processing.



Dave Leonard and Dick Lane,
Dave, a research assistant at Loma Linda, discusses strategies with Dick who at 75 is the AHS-2 representative for Michigan.



The Benjamin-Benedict family,
has members of three generations who are participants in the study.



Shirley Javor,
a volunteer in our Loma Linda office also recruits participants when she visits other churches.

And Others....

Joe Ray,
Trust Services Director for Texas, every few weeks sends in enrollments from churches he visits.

Esther Knott,
Pioneer Memorial Church Associate Pastor, coordinated members to complete questionnaires at Camp Meeting and with Evelyn Kissinger hosted a supper at which 33 completed their survey.

Mike Ortel,
the enthusiastic President of Northern New England, promotes the study and calls for participation in every church he visits.

Dr Luis Albert,
has a mission to visit and recruit members in more than 15 Spanish speaking churches.

How Soon Will You Have Results?

Not a week passes that one of our participants ask, "When will we have results of the study?"

We're all anxious for results.

A quick answer is that preliminary findings will be available in the next three to five years and more comprehensive results will follow in subsequent years. But it really depends on which health outcome, and the number of people in the study. The greater the number of people involved the earlier we will have meaningful and significant results.

It is helpful to understand the nature and process of this type of study. How does it work?

AHS-2 is a long-term population study (called a cohort study) examining the relationship between diet and disease outcomes.

Here are the basic steps for one of our research questions.

- 1** We start with an idea to test (e.g. soy intake affects risk of prostate cancer).
- 2** First we ask everyone about their consumption of soy, as we did in the AHS-2 questionnaire.
- 3** Next we "observe" the study group for several years and must wait till at least 500-1000 men develop a new case of prostate cancer.
- 4** Now the analysis begins.
 - a) We divide the study population based on soy consumption, for instance, into groups who ate soy frequently, less frequently and never.
 - b) We count the number of men with prostate cancer in each soy consumption group.
 - c) If the proportion of men who developed cancer is much less in the higher soy consumers, this would be some evidence that soy may protect.
 - d) Of course, we take into account all kinds of other factors that may differ between the soy consumption groups.

Reasons WHY MEMBERS Should Join

- Know and improve own health.
- Help discover answers to important health questions, reduce the risk of cancer, heart disease, diabetes and Alzheimer's disease.
- Help their children and grandchildren live to be happier and healthier.
- Share God's blessings of health.
- Make AHS-2 one of the largest and best health research studies in the world.
- Be active today in the making of tomorrow's news.

Ambassadors-Recruiters Needed

Firstly, thank you for being a participant in the Adventist Health Study-2. We believe that as an early enrollee you have an interest and passion for the study to succeed and would be willing to help enroll others. You are our greatest asset in recruitment. Without people like you we could not do this study.

Yes, we are still recruiting members and will do so until at least July of 2006. We need at least another 17,000 to ensure continued funding and the viability of the study in the years to come.

Here's how you can help:

- Personally ask eligible Adventists to enroll. The personal one-to-one direct invitation is the most effective.
- Ask your eligible family members, relatives and friends to join.
- Get your Sabbath School class or small group involved.
- Introduce the study to shut-in or non-attending members.
- Email our website enrollment link (www.adventisthealthstudy.org) to your Adventist friends in USA and Canada.
- Obtain enrollment forms from your church or ask us to send some or print forms from "Promotion Resources" on our website.

Why people don't respond?

In February 2006 it will be four years since we started recruiting members into AHS-2. Many keen and enthusiastic members ask, "Why don't more people do the survey?" "Why don't we have even 150,000 or more responses by now?"

We ask the same questions. And we have found there are four main groups of non-responders.

1. Those with good intentions but who get very busy and put the survey aside to finish later.

2. Those who excuse themselves because of age, a health condition or

a belief that their lifestyle is not good enough.

3. Those who do not wish to get involved and leave it for others to participate.

4. Those who don't know about the study or haven't received an invitation to join.

The truth is that we need all in these groups to participate.

No Excuses. The more we have the greater the benefit for the health of all people and the witness of the church. Thank you for encouraging such people to join.

Oldest Member Dies

Lydia Newton, who was 110 years old when she completed the AHS-2 survey in 2003, passed away on October 30 at her daughter Marguerite's home. She was just a few months short of her 113th birthday and at the time of her death was the sixteenth oldest person in the world. Lydia enjoyed quite a remarkable quality of life until the last few weeks. When asked why she had enrolled in the health study she said, "While I have a chance I want to do whatever I can to help others." Her positive attitude to life is a legacy to pass on.

Adventist Health Study 2

better health for everyone!



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Report 2005

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Address Correction

Please correct any mistakes or changes in your name and address and return this complete panel to Adventist Health Study-2.

Please notify us if your address changes. >>>

Please **PRINT** clearly

| | | | | | | | | |
|---------------|--|--|----------------|--|--|-----------------|--|--|
| FIRST NAME | | | MIDDLE INITIAL | | | LAST NAME | | |
| STREET | | | | | | APT# | | |
| CITY/PROVINCE | | | STATE | | | ZIP/POSTAL CODE | | |
| EMAIL ADDRESS | | | | | | | | |

Contact Information

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Email:
ahs2@llu.edu

Fax:
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Website:
adventisthealthstudy.org

Address:
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24785 Stewart St
Loma Linda University
Loma Linda CA 92350
USA

Enroll by phone call
1(877) 700-7077

Get the News Fast

Recently when ABC World News Tonight came to Loma Linda to shoot a news segment about Adventist spirituality and longevity we had four hours notice of the arrival of the camera team and less than two days before the news was on the air.

One participant emailed after the event and said, "We would have watched the program if we knew. Why didn't you send an email message to all participants?" That's a good question. We did send 5,000 emails but unfortunately we only have valid email addresses for about 12% of our participants.

If you wish to be on our email news list please email ahs2@llu.edu with your name, email address and church and the message, "Please include me on the AHS-2 news email list."

Remember to notify us of any email address change. Email lists are never shared with anyone else. We would normally send less than ten emails per year. But you will get AHS-2 news and updates quickly.

Visit our Website

There is a wealth of information about the current health study and past studies on the website www.adventisthealthstudy.org which is hosted by Loma Linda University.

Enrollment form online

Progress of enrollment:

You can check the achievement level for your church, Conference and Union.

Promotion resources:

Download PowerPoint programs, Brief Facts, Press releases, Bulletin announcements, enrollment forms to print.

Bibliography:

Access the 334 references and abstracts of all the known scientific papers published on health studies of Seventh-day Adventists.