THE CANCER LETTER

Vol. 36 No. 43
Nov. 26, 2010

PO Box 9905 Washington DC 20016 Telephone 202-362-1809

NCI-Funded Modelers Accurately Predicted Outcome Of Lung Cancer Screening Trial

By Paul Goldberg

The day after NCI announced the results of the National Lung Screening Trial, Harvard radiologist Scott Gazelle received a call from a colleague.

"Congratulations!" the colleague said, sounding like a telemarketer. "You guys have won the Predict-the-NLST Results Sweepstakes!"

"You guys" was a reference to Harvard scientists, who a year ago predicted that the National Lung Screening Trial would demonstrate a benefit for CT screening.

The group, funded by the NCI Cancer Intervention and Surveillance Modeling Network and the American Cancer Society, had no access to NLST data. They were projecting the natural history of lung cancer in a population

(Continued to page 2)

Interview with Christine Berg:

NLST Findings Relevant Only To High-Risk; Modeling Will Be Used For Other Populations

The findings of the National Lung Screening Trial are relevant only to the high-risk population that was studied, said Christine Berg, a co-principal investigator.

Modeling will be used to extrapolate the trial's findings to other risk groups and other screening schedules, Berg, chief of the Early Detection Research Group in the NCI Division of Cancer Prevention, said in an interview with The Cancer Letter editor Paul Goldberg.

The trial's implications for health policy remain to be worked out, Berg said.

TCL: Why do you think the NLST results were announced before the manuscript could be prepared and findings peer-reviewed?

CB: The decision was predicated on the 20 percent mortality reduction seen in the helical CT arm. They felt that this was a statistically significant finding. It had crossed the predetermined stopping boundary for efficacy. Therefore, they felt that there was no need for them to wait until the additional small amount of data that had accumulated as it would not change these results.

They were of the opinion that the participants in the study needed to be notified of this difference. And if you are going to notify the participants, then you should make the information public.

TCL: Why not wait till the harms could be studied?

CB: There are several categories of harms. The first and most immediate

(Continued to page 6)

Computer Modeling May Shape Lung Cancer Screening Policy

(Continued from page 1)

that mimicked the volunteers enrolled in the $250 million trial.

"It's not a parlor game," said Gazelle, director of the Massachusetts General Hospital Institute for Technology Assessment and professor at Harvard Medical School and Harvard School of Public Health. "We are not trying to predict the results of a trial, but the fact is, no trial can answer every question we need to answer, and if we have a good model, we can answer those questions."

The model, presented at the 2009 meeting of the Radiology Society of North America, predicted a drop in mortality of around 17 percent for 70-year-old female smokers and about 25 percent for male smokers aged 50 and 60.

The NLST findings, released by NCI on Nov. 4 found a 20.3 percent improvement in cause-specific mortality for current and former smokers between ages 55 and 74 with at least a 30 pack-year smoking history (The Cancer Letter, Nov. 5).

However, believers in screening claim that annual CT scans can produce a much higher benefit. Mt. Sinai School of Medicine radiologist Claudia Henschke, author of a controversial paper in the Oct. 26, 2006, issue of The New England Journal of Medicine, continues to predict a drop of over 80 percent.

Now that the NLST's top-line results are out, modelers are about to be called upon to analyze the patient-level data to come up with alternative screening scenarios that could help formulate screening guidelines for a variety of screening intervals and for different populations.

"The NLST only screened for three rounds," said the trial's co-director Christine Berg, of NCI. "The CISNET modelers may be able to look at different frequencies of screening, different ages at starting, different risk levels, such as 20 pack-year smokers or a 40 pack-year smokers. There are a number of different combinations and permutations of screening that I think CISNET modelers and other modelers will be able to shed light upon.

"I think the only way we are going to have the answers to those additional questions is by modeling the available information." [An interview with Berg appears on page 1.]

Modelers say that they are up to the challenge.

"I describe it to people as kind of like the Sims, but with no graphics," said Pamela McMahon, a senior scientist at Mass General's ITA and the principal investigator for CISNET's lung project. "The only things that happen are smoking and lung cancer."

These computer simulations are likely to shape health policy and counter pro-screening hype that's already being stoked following the news of the NLST's results. Until the full data are presented, it will be impossible to juxtapose the harms and benefits of screening in the studied populations. Applying the findings to other populations would be even more hazardous, experts say.

Two Models For Cost Assessment

In the near future, CISNET is unlikely to have access to patient-level data from NLST. These data will be analyzed by investigators affiliated with the American College of Radiology Imaging Network, a cooperative group that conducted the trial.

"We are doing a cost-effectiveness analysis of CT screening in the select population of the NLST," said Denise Aberle, co-PI of NLST and professor of radiology and bioengineering at the University of California, Los Angeles.

"We will not likely release patient-level data from the trial for about a year following the publication of the primary endpoint, which is pretty standard," Aberle said. "This gives the trial investigators sufficient time to address their own research interests with the data that they have collected."

After the data are released, ACRIN would

THE CANCER LETTER

® The Cancer Letter is a registered trademark.

Editor & Publisher: Kirsten Boyd Goldberg
Editor: Paul Goldberg

Editorial, Subscriptions and Customer Service:
202-362-1809 Fax: 202-379-1787
PO Box 9905, Washington DC 20016
General Information: www.cancerletter.com

Subscription $375 per year worldwide. ISSN 0096-3917. Published 46 times a year by The Cancer Letter Inc. Founded Dec. 21, 1973, by Jerry D. Boyd.

collaborate with CISNET on broadly generalizable analyses that would include populations outside the range of NLST participants, Aberle said.

"In the interim, it's possible that our modelers and CISNET would identify a project of mutual interest such that we would proceed together using NLST patient-level data," she said.

Researchers already know that they will find that dollar costs of screening for lung cancer are likely to exceed the costs of other screening modalities. "I am worried we are going to get into a gold rush with screening," said Scott Ramsey, director of cancer outcomes research at the Fred Hutchinson Cancer Center. "To screen all the smokers between ages 55 and 74 annually is a multi-billion-dollar proposition. We are already having trouble affording healthcare."

While the study was conducted in a high-risk group, purveyors of imaging will try to use it to develop business by screening patients at lower risk. "A decade ago, we saw an explosion of freestanding CT screening centers that were popping up in malls for this very purpose," Ramsey said. "We are talking billions and billions of dollars. It's a nightmare scenario for Medicare and commercial insurers."

After the NLST results were announced, Peter Bach, a pulmonologist and director of the Memorial Sloan-Kettering Cancer Center's Center for Health Policy and Outcomes, decided to test the commonly held belief that in the U.S. a screening scan cost in the neighborhood of $300.

Bach called 50 screening centers and found that the going price was closer to $1,800. The highest price—$4,000—was quoted by Sequoia Hospital in Redwood City, Calif. According to Bach, about 7.5 million Americans fit into the risk group studied by NLST. More than $2 billion would be required to scan all of them at $300 a scan. At $1,800 a scan, the expenditure would be closer to $13 billion. Bach's analysis is posted at http://www.slate.com/toolbar.aspx?action=print&id=2274942.

According to a projection Gazelle's and McMahon's group presented at the 2009 RSNA, the cost of screening would range between $135,000 and $180,000 per quality-adjusted life year, abbreviated as QALY.

"We are well above what most people would consider a typical dollar amount for a screening intervention, based on our modeling study," McMahon said. The slides from the RSNA presentation are posed at http://www.cancerletter.com/categories/documents.

The CISNET lung group has been using the natural history of lung cancer model to develop a cost-effectiveness analysis for some time.

However, these findings are yet to be published in peer-reviewed journals. Until now, the journals took the view that it's premature to assess cost-effectiveness of an intervention that hasn't demonstrated ability to reduce mortality. For example, it has been impossible to assess cost-effectiveness of screening with prostate-specific antigen. With no benefit demonstrated in randomized trials, cost-effectiveness of screening for prostate cancer would be infinity.

Now that lung cancer screening data has caught up with projections, the group is resubmitting the paper, McMahon said.

Most cancers are screened for around $50,000 per QALY. For example, screening for breast cancer for women over the age of 50 falls under $50,000, but exceeds $100,000 in the 40 to 50 population.

In the UK, the National Institute for Health and Clinical Excellence sets the boundary of cost-effectiveness at £20,000 to 30,000 per QALY. The NICE policy is posted at http://www.nice.org.uk/newsroom/features/measuringeffectivenessandcosteffectivenesstheqaly.jsp.

This may not be a cut-off point for payment much longer. NICE may lose its ability to block market entry of interventions it deems not cost effective and would be downgraded to a guideline-writing organization, http://www.guardian.co.uk/politics/2010/oct/29/nice-to-lose-new-drug-power/print.

More Data Needed For Screening Guideline

The decision to release the NLST results was made on narrow criteria and was non-controversial, members of the trial's data and safety monitoring board said. The trial, which was powered to detect a 20-percent improvement, crossed the pre-specified boundary, leaving no room for controversy.

"My opinion is that one can conclude from the NLST data that three annual low-dose helical CTs in individuals ages 55 to 74 with 30-pack-year smoking history can lower lung-cancer-specific mortality by 20 percent," NCI's Berg said in an interview. "Claims beyond that we are not addressing. We are saying that our data speak to what we did in the population in which we did it."

The implications of these results for health policy are unclear.

"People (either individuals or policy-makers) should not make a decision about the wisdom of screening for lung cancer until the study is published," said the trial's DSMB member Russell Harris, director of the Health Care & Prevention Concentration at the University of North Carolina School of Public Health and a former member of the U.S. Preventive Services Task Force. "The decision depends on weighing benefits and harms as well as resource utilization. We need to await a careful analysis of these issues."

David Ransohoff, a gastroenterologist and an expert in cancer screening at the University of North Carolina, agrees.

"The NLST results are genuinely important because this is the first RCT to show that lung cancer screening reduces mortality," Ransohoff said. "However in considering whether and how to implement screening, patients, doctors, and policy-makers will want critical details like the amount of benefit vs. the amount of harm from false-positive results, lung biopsies and thoracotomies and their complications, radiation used in follow-up x-rays, and worry."

The American Cancer Society is likely to be among the first organization to issue a guideline on lung cancer screening, insiders say. Others—including USPSTF—have a lead-time of about two years.

In a statement, ACS Chief Medical Officer Otis Brawley cautioned against making screening decisions until all evidence is assessed.

The text of Brawley's statement follows:

The trial result applies to people with a high risk of lung cancer due to a history of heavy smoking. But it doesn't yet mean that all people at high risk should be screened.

There is significant information that still needs to be analyzed, and until that is done, the best advice is that long-term, heavy smokers talk to a physician and make a decision about screening given the currently available information. The hope that screening using low dose CT scans can reduce deaths from lung cancer is real. But we need to proceed with caution.

The complete results of the trial need to be examined and analyzed by the scientific community. Elements that need to be discussed and evidence that still needs to be weighed include the proportion of suspicious scans that lead to further evaluation only to be determined to be negative, a situation called a "false positive."

We also need to know how many patients underwent actual surgery only to reveal no disease. Another important number we'll need to know is the estimated number of people who would have to undergo treatment to save one life, something scientists call "number needed to treat."

It is clear some of those who underwent screening were harmed and not necessarily helped by it. There was reduced quality of life and even death from interventions caused by CT screening. These harms need to be quantified. They then need to be fully weighed and compared to the potentially lifesaving benefit before groups like the American Cancer Society and others can make any recommendation.

This technology has clear potential to create more birthdays, and this study's results were strong. Still, it is very important that this study not be over interpreted. It is very concerning that some are already encouraging persons at intermediate risk for lung cancer and even low risk non-smokers to get screened. It is unknown if spiral CT screening is beneficial for these populations. Screening could quite possibly do more harm than good in these low-risk groups.

The ACS is convening a group of experts in lung cancer, cancer screening, health practices and ethics to answer these important questions. This group will begin the process of reviewing all of the data. The goal is to guide the public with a screening recommendation, with a thoughtful explanation explaining how the data supports that conclusion.

Benefit Could Erode With Later Screens

Guideline-writing authorities have made use of modeling in the past.

A recent case was colorectal cancer. In a guideline published in October 2008, the USPSTF relied on CISNET models to determine alternative screening strategies (The Cancer Letter, Oct. 10, 2008) and http://www.uspreventiveservicestaskforce.org/uspstf08/colocancer/cartzaubap.htm.

In November 2009, USPSTF used modeling to select strategies as part of the controversial breast screening guideline (The Cancer Letter, Nov. 20, 2009) and http://www.uspreventiveservicestaskforce.org/uspstf09/breastcancer/brcanart.htm. That approach determined that mammography screening every two years saves the same number of life years as mammography annually.

Harvard's Gazelle started work on the lung cancer model in 1999, after seeing the results of Henschke's Early Lung Cancer Action Program study appear in The Lancet. The paper showed that low-dose helical CT had the capability to detect early-stage lung cancer.

"I said to Pamela McMahon, then a research assistant, 'Let's start building a lung cancer model,'" Gazelle recalls. "The idea was to say that no matter what happens, one randomized trial, five randomized trials, they cannot possibly ask every question and answer every question. They can't be powered to do it. They can't look at all the different combinations and permutations.

"That was the point we made when we applied for our first grant that funded the start of the model. We were funded before NLST was started."

NLST, too, was launched in response to Henschke's 1999 paper. Richard Klausner, NCI director at the time, concurred that lung screening should be based on solid evidence.

Over the years, Henschke and her allies fought NLST. However, after the trial results were announced, Henchke portrayed them as her vindication.

In press interviews, she claimed that additional annual screening would produce a higher benefit that would reach the 80-plus-percent level she claimed in the 2006 NEJM paper.

Mainstream epidemiologists counter that it's unknown whether additional screens would yield additional benefit, and many say that the highest number of nodules is found in the initial screens, called the prevalence screens, and the first few repeat screens, called the incidence screens.

Additional incidence screens could just as easily erode the benefit found in NLST after three screens.

"I would suspect that the prevalence screen is going to be the biggest scooper, because if there is cancer out there, especially if it's slowly growing, it could have been there for several years, and you picked them up when you look, not surprisingly," said Donald Berry, principal investigator of the CISNET-funded M.D. Anderson breast cancer model.

Incidence screens that immediately follow the prevalence screen would similarly discover old cancers. "In the incidence screening, if you find something a year after the prevalence screen, it was probably there on the first screen. It just came under the radar," said Berry, head of M.D. Anderson's Division of Quantitative Sciences and the Department of Biostatistics.

With each repeated screen, the number of cancers found could diminish, epidemiologists say. "That's why in the mammographic screening case, there is really not much benefit for doing annual screening versus biennial screening," Berry said.

Similarly in the case of NLST, the advantage of CT screening could diminish after the third screen, Gazelle said.

The Selling Begins

On the very day the day the NLST findings were announced, Beverly Hills-based groups called Westside Medical Associates of Los Angeles and Westside Medical Imaging, declared that they are ready to serve.

"We have argued for some time that this is a life-saving examination and have offered it to our patients," Norman Lepor, co-director of Westside Medical Imaging, said in a press release. "It is clear that in patients at risk, particularly those who have smoked for over 10 years, this is an indispensable part of your annual examination since cure rates are over 90 percent if the cancer is identified in the early stages with CT imaging, and only 10 percent if one waits to see an abnormality on a chest x-ray, which is the most commonly used screening exam in doctors' offices."

Not really.

NLST enrolled patients between 55 and 74 who had 30 pack-years of smoking. This cannot be extrapolated to people who have smoked for 10 years or more. Also, the 90-percent cure rate exceeds even Henschke's most optimistic claims.

Atlanta's St. Joseph's Hospital similarly didn't feel inclined to dwell on limitations. In radio ads, the hospital's thoracic surgeon offered CT screening to a remarkably broad population.

"Anybody can develop lung cancer," he said in a radio spot. "Non-smokers make up 20 percent of all lung cancer cases now. One of the fastest-growing high-risk lung cancer groups are [sic.] made up for women who have never smoked. Anyone with a family history of lung cancer or has smoked 100 cigarettes is at high risk. At St. Joseph's we have a lung cancer screening program to reliably detect lung cancer at the earliest stage, where we can really make a difference."

This amounts to suggesting that just about anyone with lungs should forthwith bring them in for screening.

The St. Joseph's radio ads are posted at http://atlantahealthexperts.com/comprehensive-lung-cancer-care.

Though the American College of Radiology administers the cooperative group that co-sponsored NLST, the society wasn't restrained in its reaction to the trial's findings.

The text of the ACR statement follows:

As a medical association representing nearly 34,000 health care providers dedicated to saving and extending lives, the American College of Radiology fully supports the use of techniques shown to significantly reduce the number of people who die each year from lung cancer. The National Lung Cancer Screening Trial was stopped early so that the tremendous positive results could be made known. This speaks volumes to the ability of helical computed tomography screening of high-risk patients to save lives.

The significant number of lives saved should be the primary factor in decisions regarding the widespread use of CT screening for lung cancer. In that regard, important areas of discussion for determining the direction of any national policy include the following:

• The radiation dose cited in the trial, 20 percent of that of a normal chest CT scan, is encouraging. Each successive generation of scanner consistently enables better images to be taken with lower doses. Imaging providers continue to strive to optimize dose for each patient based on a number of factors. As the dose required to obtain medical images is reduced, this becomes less challenging. Any screening program would have to address when and how often to screen taking these factors into account.

• Any new screening program to be paid for by Medicare would require an act of Congress to accomplish. The NLST researchers have indicated that a cost-effectiveness study regarding the use of CT for lung cancer screening may be forthcoming in the next 12 months. This would be a Significant factor in the formulation of any lung cancer screening program. Private insurers will likely do their own cost effectiveness assessment of large-scale lung cancer screening policy.

• Widespread screening may also result in false positive (abnormalities detected that ultimately prove not to be cancer) and in heightened anxiety among patients awaiting exam results. All of these factors must be weighed against the significant reduction in lung cancer deaths that CT screening has been shown to provide among these patients.

As the expert organization in this area of care, the ACR is very encouraged by the NLST results. The College looks forward to working with the U.S. Department of Health and Human Services, the National Cancer Institute, patient advocacy groups, Congress and other stakeholders in addressing challenges to a potential lung cancer screening program.

Screening Claims Made With Impunity

If cancer screening were a drug, people who market it off-label without regard for evidence would be opening themselves to penalties from regulatory authorities, UNC's Ransohoff said.

"Does anyone control this airspace, or even monitor it?" he asks rhetorically.

The Cancer Letter asked Ransohoff, who watches the role of medical subspecialties in the writing of screening guidelines, to review advertising and other commercial communications sparked by NLST.

His comments follow:

The ACR statement is fascinating for its lack of detail and for its complete omission of important topics. NCI described a 20% mortality reduction—significant but not huge.

But the ACR doesn't mention the quantity "20%"; rather, it makes qualitative claims of "tremendous positive results" and "significant number of lives." Further, the ACR omits mention of side effects like lung biopsy or thoracotomy following false-positive CT results, citing only "anxiety." These details would be important to a patient, doctor, or policy-maker trying to decide about screening.

The ACR statement risks looking self-serving and disingenuous because it uses phrases like "tremendous positive results" rather than quantity, and because it sidesteps negative things like medically-important side-effects or "harms" of screening.

Part of the problem is that specialty professional organizations serve two totally different constituencies. For one constituency, its patients, a profession is supposed to put clients' interests ahead of its own interests.

But a professional organization also serves another constituency, the doctors in that specialty who have an economic interest in doing lots of procedures, in a way that may conflict with what is best for patients.

The tension between two constituencies may cause problems when specialty organizations make statements about practice and policy. The ACR is not alone in this. There is no oversight of professional societies if they do make statements that are self-serving and not totally guided by what is best for patients.

Interview with Christine Berg:
$250 Million NLST Will Provide Patient-Level Data For Analysis

(Continued from page 1)

category is the evaluation of false positive examinations and the invasive procedures that occur as a consequence of the need for evaluation of these false positive procedures occur within a year of the initial screen.

And though all the participants have been followed for several years beyond their third and last screen, any harms that were direct consequence of the invasive procedures related to the screens have already occurred. Those have been factored into the benefit-harm analysis.

TCL: But this information isn't out yet…

CB: The DSMB has made the decision that the benefit that we see here in terms of [20.3 percent] reduction of lung cancer mortality and 7 percent reduction in all-cause mortalty includes everything.

We have not released the precise numbers of procedures performed. We have not released the precise number of invasive procedures and the precise types of those procedures and the categories of harm associated with those invasive procedures.

Those analyses are in the process of being done and will be incorporated into the final manuscript or an accompanying manuscript, depending on how we choose to present the data. There is a wealth of information here and it will take several manuscripts to portray it in full detail.

TCL: How soon do you expect to have something published?

CB: I expect that we will have a final manuscript ready to submit on March 1, 2011. And then I anticipate that there will be a time period, as usual with peer review of the manuscript and any modifications necessitated by that peer review. I would anticipate that we would have this published within one to two months following submission.

TCL: How far are we from a guideline?

CB: I can't address that question. The NCI doesn't issue guidelines in this arena. Dr. Berwick from CMS gave a statement that Medicare will be reviewing this information after the publication of the final manuscript, which would be in the spring. In terms of the guideline-making organizations, I would presume that they would wait until the final manuscript has been published, and any of these accompanying manuscripts, and they will review both.

There is additional information emerging from European studies, which I think should also help to inform the analyses and help inform the guideline-writers.

TCL: How far is the medical profession from making a recommendation to a patient?

CB: The medical profession—in terms of the guideline-making organizations—I would think they will start their process in the next few months and then some processes take a year, some may take less, some may take longer.

TCL: I guess what I am trying to ask is what kind of information needs to be on the table before you can get to a guideline?

CB: The guideline organizations have different standards. The U.S. Preventive Services Task Force has published their approach. The American Cancer Society also has an approach, and I know it's undergoing some modifications. I would think the information you at least would need is the final manuscript and the information emerging from Europe.

There will be two different types of modeling that also occur that will be very helpful to inform the guideline process. The [NCI] Cancer Information Surveillance Network has four groups of modelers who do lung cancer modeling. They will be utilizing our data from NLST once we have a final dataset to send to them.

They need individual level data, which we will be providing to them once it's finalized. And then they cal use their models to look at issues such as frequency of screening.

The NLST only screened for three rounds. The CISNET modelers may be able to look at different frequencies of screening, different ages at starting, different risk levels, such as 20 pack-year smokers or a 40 pack-year smokers. There is a number of different combinations and permutations of screening that I think CISNET modelers and other modelers will be able to shed light upon.

I think the only way we are going to have the answers to those additional questions is by modeling the available information.

TCL: Modeling has been done in lung cancer for some time. Is there anything unusual about this approach?

CB: The modeling that is going to be done for lung cancer by the new modeling groups is going to use a very well powered analysis on 54,000 individuals in a prospective randomized trial. There has never been this information before with this type of high-quality data.

The modeling that is going to occur is different from any other modeling that would have been done in lung cancer because of the individual-level data that will be available to the modelers.

Modeling benefits from having a high-quality data on which to base your assessment.

TCL: What was the total cost of the trial by now?

CB: Our current estimate is that the total cost will come in at approximately $250 million over the course of the 11 years. We started this process in 1999, the trial got up and running in 2002, and we are closing out within the next 10 months, and then there will be some analyses going on for another year after that.

And then there is the biospecimen repository, the acquisition of which was included in that cost.

TCL: Can we talk about the biospecimens?

CB: They are extraordinarily useful. We have obtained tumors from the lung cancer patients, all of which was done with the informed consent of the participants. A slide on each tumor has been analyzed by world-class pathologist Walter Franklin. The cores have been obtained from specifically designated areas of the tumor, and precisely constructed tissue microarrays have been done.

And then we have cores of tumor tissue where DNA and RNA can be extracted. There is a technique in place we have done quality assurance on. The RNA is of adequate quality. It's not perfect because of paraffin, by DNA is very high quality and there is useful, extractable RNA. Applications to use the biospecimens are already being accepted through the ACRIN website.

TCL: What about the claim I hear made by advocates of screening that if you keep screening, the benefits will keep accruing until you reach 80-plus percent, and then if you stop, the curves will just come together?

CB: The lives saved through three years of screening are lives saved. The benefits to be obtained by additional screening over the course of 10 years, I would be interested in seeing what the modelers are able to do with our data in terms of projecting the mortality reduction. I cannot make a projection as to what level it would reach.

TCL: There is also this idea in the press that advocates of screening have now been "exonerated"—that's the word that has been used—by the findings of NLST. Is this a fair characterization of the situation?

CB: The word "exonerated" is not the word I would choose. I would say that individuals who have done research utilizing low dose CT technology for screening and have stated that it will be beneficial had a valid position when that information first came out in 1999.

The extent of the benefit and the extent of the harm could only be determined in a prospective randomized trial. I think NLST is a solid, well-conducted study that has shown to the best of human science, that there is a benefit.

There were some other investigators who thought that there would be no benefit at all from screening.

We have been able to show that there is a benefit and that the initial promising evaluations held up on strict scientific analysis.

TCL: So nobody is exonerated? Nobody had the answer until the answer emerged.

CB: I would not choose the word "exonerated."

TCL: So it's a classic story: Nobody knew, there was equipoise, a trial was conducted, now there is an answer, and it's not really clear what the implications are for public health.

CB: The implications for public health will remain to be worked out; that's correct.

TCL: So when people jump to advertise their services right now and cite numbers like 90 percent [mortality benefit], which I've seen, that's a concern; isn't it?

CB: My opinion is that one can conclude from the NLST data that three annual low-dose helical CTs in individuals ages 55 to 74 with 30-pack-year smoking history can lower lung-cancer-specific mortality by 20 percent. Claims beyond that we are not addressing. We are saying that our data speak to what we did in the population in which we did it.

In Brief:

Berry To Step Down As Chair, Division Head, At MD Anderson

Donald Berry will step down as head of the Division of Quantitative Sciences and chair of the Department of Biostatistics at M.D. Anderson Cancer Center.

Effective Dec. 31, Berry will work 75 percent of the time at the cancer center and devote more time to work on Berry Consultants, a business he co-owns with his son Scott (www.berryconsultants.com).

Berry joined MD Anderson in 1999 as chair of Biostatistics and Applied Mathematics. In 2006, he was named chair of Biostatistics and head of the newly created Division of Quantitative Sciences. Since 1999, he also has held the Frank T. McGraw Memorial Chair of Cancer Research at MD Anderson.

The cancer center will identify an interim replacement and begin the search for a permanent replacement with Berry's participation, he said.

M.D. Anderson limits the amounts of time full time faculty members can spend on outside activities. As a result, Berry is moving to part time, he said.

Berry's company specializes in Bayesian, adaptive and other innovative trial design on cancer, diabetes, neurology, and other diseases. "M.D. Anderson has had an enormous impact on oncology clinical trial design and other innovations over the last 11 years," Berry said to The Cancer Letter. "Berry Consultants is supplementing and extending those achievements. Together we are changing the world."