

Warned, But Worse Off

By Steven Woloshin,
Lisa Schwartz
and H. Gilbert Welch

WHITE RIVER JUNCTION, Vt. Lung cancer seems to be the disease of the moment. The announcement that Dana Reeve, the widow of Christopher Reeve, has the disease — coming just two days after Peter Jennings died from it — has many Americans wondering if they should get tested with a CT scan. They should think twice. Wait, isn't CT screening one of those "quick and painless tests" that could save your life? And hasn't it been reported that people whose lung cancer is found early by such scans have a five-year survival rate of 80 percent, as opposed to 15 percent for the typical lung-cancer patient whose condition is detected later? Why not get scanned today?

The answer may surprise most Americans: we just don't know if lung cancer screening does more good than harm. While the benefits of screening are unproven, the harms — one familiar, the other less so — are certain.

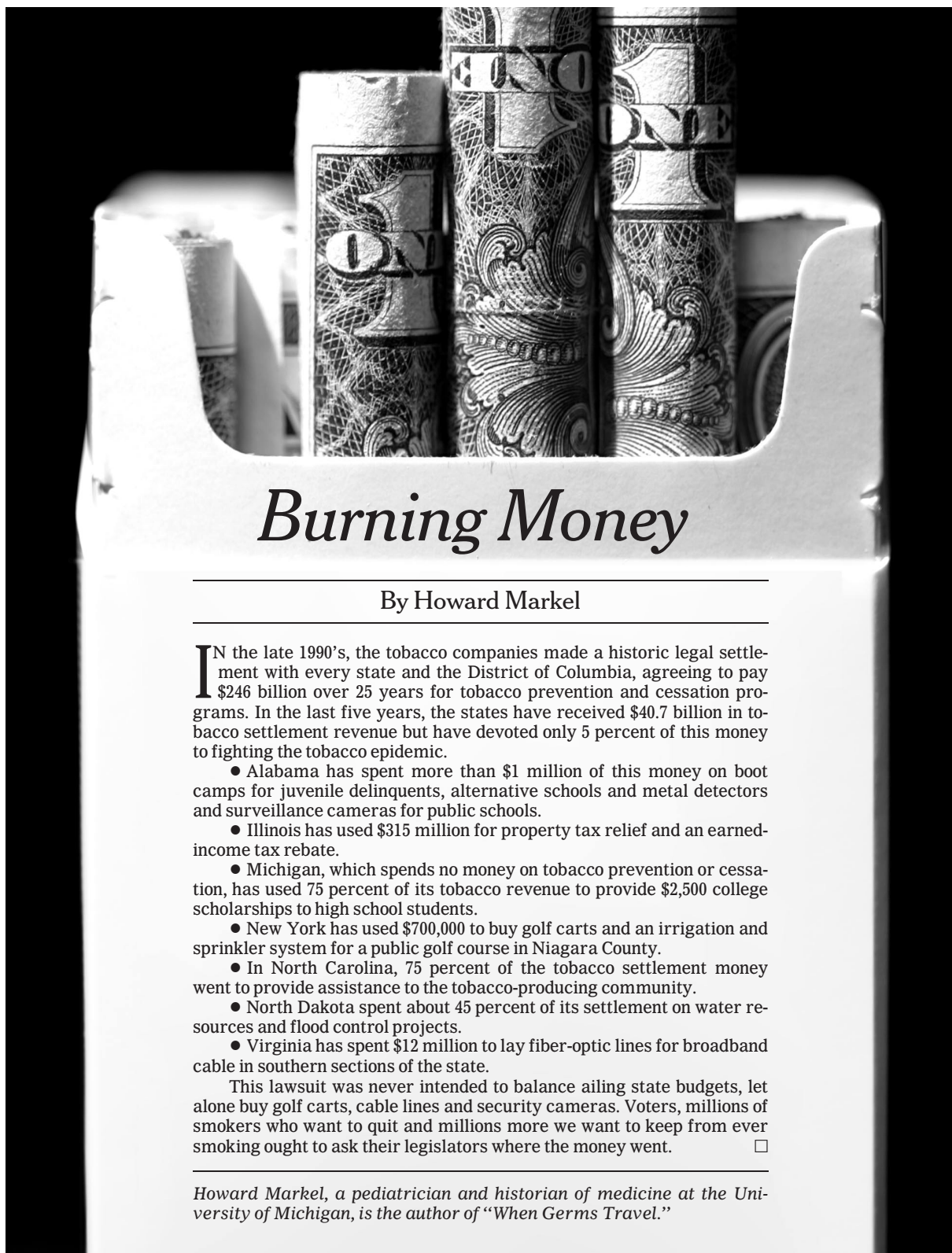
The familiar harm is caused by false alarms. CT scans are great at finding abnormal areas of the lung. But while relatively few people have lung cancer, many have other lung abnormalities. After a positive CT scan, many are biopsied, and most will turn out not to have cancer. A lung biopsy is not a trivial procedure. Although serious complications are rare, the procedure may result in hospitalization (largely for a collapsed lung), and there have been deaths.

The less familiar, but more worrisome, harm comes from overdiagnosis and overtreatment. In the largest study to date, Japanese researchers using CT scans found almost 10 times the amount of lung cancer they had detected in a similar group of patients using X-rays. Amazingly, with CT screening, almost as many nonsmokers were found to have lung cancer as smokers.

Given that smokers are 15 times as likely to die from lung cancer, the CT scans had to be finding abnormalities that were technically cancer (based on their microscopic appearance), but that did not behave in the way most people think of cancer behaving — as a progressive disease that ultimately kills. So here's the problem. Because we can't distinguish a progressive cancer from a nonprogressive cancer on the CT scan, we tend to treat everybody who tests positive. Obviously, the patients with indolent cancers cannot benefit from treatment; they can only experience its side effects. Treatment — usually surgery, but sometimes chemotherapy or radiation therapy — is painful and risky. Some 5 percent of patients older than 65 die following partial lung removal, and nearly 14 percent die with complete removal.

But wait a minute. Don't those compelling five-year survival statistics of 80 percent vs. 15 percent prove that

Steven Woloshin, Lisa Schwartz and H. Gilbert Welch are physician-researchers at the Department of Veterans Affairs and faculty members at Dartmouth Medical School.



Burning Money

By Howard Markel

IN the late 1990's, the tobacco companies made a historic legal settlement with every state and the District of Columbia, agreeing to pay \$246 billion over 25 years for tobacco prevention and cessation programs. In the last five years, the states have received \$40.7 billion in tobacco settlement revenue but have devoted only 5 percent of this money to fighting the tobacco epidemic.

- Alabama has spent more than \$1 million of this money on boot camps for juvenile delinquents, alternative schools and metal detectors and surveillance cameras for public schools.
- Illinois has used \$315 million for property tax relief and an earned-income tax rebate.
- Michigan, which spends no money on tobacco prevention or cessation, has used 75 percent of its tobacco revenue to provide \$2,500 college scholarships to high school students.
- New York has used \$700,000 to buy golf carts and an irrigation and sprinkler system for a public golf course in Niagara County.
- In North Carolina, 75 percent of the tobacco settlement money went to provide assistance to the tobacco-producing community.
- North Dakota spent about 45 percent of its settlement on water resources and flood control projects.
- Virginia has spent \$12 million to lay fiber-optic lines for broadband cable in southern sections of the state.

This lawsuit was never intended to balance ailing state budgets, let alone buy golf carts, cable lines and security cameras. Voters, millions of smokers who want to quit and millions more we want to keep from ever smoking ought to ask their legislators where the money went. □

Howard Markel, a pediatrician and historian of medicine at the University of Michigan, is the author of "When Germs Travel."

Tony Cenicola/The New York Times

CT screening works? The short answer is no. You have to consider exactly how a five-year survival rate is figured. It is a fraction. Imagine 1,000 people diagnosed with lung cancer five years ago. If 150 are alive today, the five-year survival is 150/1000, or 15 percent. Yet even if CT screening raised the five-year survival rate to 80 percent, it is entirely possible that no

Scans for lung cancer may do more harm than good.

one gets an extra day of life.

The best way to understand this paradox is to work through a thought experiment. First, consider a group of people with lung cancer who will all die at age 70. If they first receive the diagnosis when they are 67, their five-year survival rate would be zero percent. But if these same people had received their diagnoses earlier — at, say, age 63 — the five-year survival rate would be 100 percent. Yet death would still come at 70 for all of them. Earlier diagnosis always increases

the five-year survival statistic, but it doesn't necessarily mean that death is postponed.

A second thought experiment helps further understand why CT scans, which find so many minute, nonprogressive tumors, inflate survival rates. Imagine a city in which 1,000 people are found to have progressive lung cancer following evaluation for cough and weight loss. At five years after diagnosis, 150 are alive and 850 have died: a five-year survival rate of 15 percent. However, if everyone in the city were screened with CT scans, perhaps 5,000 would be given a cancer diagnosis, although 4,000 would actually have indolent forms. These 4,000 would not die from lung cancer in 5 years, and the five-year survival rate would increase dramatically — to 83 percent — because these healthy people would appear in both parts of the fraction: 4150/5000. But what has really changed? Some people have been unnecessarily told they have cancer (and may have experienced the harms of therapy), and the same number of people (850) still died.

This is exactly what was found in a randomized trial of chest X-ray screening at the Mayo Clinic — five year survival was higher for those who were screened (35 percent vs. 19 percent) but death rates were in fact

slightly higher in the screened group. Consequently lung cancer screening with chest X-rays is not recommended.

Someday we will know if CT lung cancer screens help more than they hurt (the results of a major National Cancer Institute trial will be available in about five years). But until then, everyone should know that screening is a two-edged sword. □

Most Americans will tell you that they believe in honest, truthful, straightforward, ethical behavior.

So here's a question: Should people who are being recruited into the armed forces be told the truth about the risks they are likely to face if they agree to sign up and put on a uniform?

Right now, that is not happening. Recruiters desperate for warm bodies to be shipped to Iraq are prowling selected high schools and neighborhoods across the country with sales pitches that touch on everything but the possibility of being maimed or killed in combat.

The recruiters themselves are under enormous pressure from higher-ups who are watching crucial components of the all-volunteer military buckle under the strain of a war that was supposed to have been won in a jiffy, but instead just goes on and on.

So the teenagers who are the prime targets for recruitment are being told just about anything to ward off whatever misgivings they may have. Need money for college? No problem. You want to go to a nice place? Certainly. Maybe even Hawaii.

A young man who recently registered, as required, with the Selective Service System received an upbeat brochure in the mail touting the military's 30 days of annual "paid vacation," its free medical and dental care, its "competitive retirement" benefits and its "home loan program."

There was no mention of combat, or what it's like to walk the corridors and the grounds of the Walter Reed Army Medical Center in Washington, where you'll see a tragic, unending parade of young men and women struggling to move about despite their paralysis, or with one, two or three limbs missing.

I am not at all opposed to the military. I was in the Army for two years, and I've personally known many people who have had long and honorable careers in the service. I've known many men and women who made almost unimaginable sacrifices — including, in some cases, giving up their lives — while in uniform.

But I think it is precisely because the stakes are so high that we should be straight with potential recruits. Instead we present them with a lollipop, sugarcoded, fantasyland version of what life in the military is like.

In a segment on PBS's "NewsHour" last December, an Army recruiter said: "I joined because I was seeking some adventure, all right? And I've

E-mail: bobherb@nytimes.com

been to a lot of different countries — Athens, Greece, Ireland, Rome. Been to Egypt twice, to the pyramids. All sorts of fun stuff."

The Army actually has an online video game that it likes to brag is one of the "top five" on the Web. Geared to children as young as 13, it has more than five million registered players.

But war is not a game. Getting your face blown off is not fun. The fundamental task of the military is to fight and kill the enemies of the United States, and fighting and killing is a grotesquely brutal experience. Potential recruits should be told the truth about what is expected of them, and what the risks are. And they should be told why it's a good idea for them to take those risks. If that results in too few people signing up for the military, the country is left with a couple of other options:

Stop fighting unnecessary wars, or reinstate the draft.

War is not a video game.

Instead, the military and its harried recruiters are preying more and more on youngsters who are especially vulnerable and impressionable, and they're doing it by creating a patently false impression of what life in the wartime military is like.

The youngsters recruited most relentlessly are those from small towns, rural areas and impoverished urban neighborhoods. They are kids who are not well-to-do, and who don't have much of a plan for their future. The military, with its uniforms, its slick ads and its video games, can look very good to these unsophisticated youngsters.

With a series of television ads, the Army is also trying to win over what it calls the "influencers," the parents and other adults who have been counseling youngsters to stay away from the military. That campaign was packaged by the Leo Burnett agency, which has the following to say about itself:

"Leo Burnett USA creates ideas that inspire enduring belief for many of the world's most valuable brands and most successful marketers, including McDonald's, Disney, Procter & Gamble, Marlboro, Altoids, Heinz, Kellogg, Nintendo and the U.S. Army." □

PAUL KRUGMAN

Don't Prettify Our History

The 2000 election is still an open sore on the body politic. That was clear from the outraged reaction to my mention last week of what would have happened with a full statewide manual recount of Florida.

This reaction seems to confuse three questions. One is what would have happened if the U.S. Supreme Court hadn't intervened; the answer is that unless the judge overseeing the recount had revised his order (which is a possibility), George W. Bush would still have been declared the winner.

The second is what would have happened if there had been a full, statewide manual recount — as there should have been. The probable answer is that Al Gore would have won, by a tiny margin.

The third is what would have happened if the intentions of the voters hadn't been frustrated by butterfly ballots, felon purges and more; the answer is that Mr. Gore would have won by a much larger margin.

About the evidence regarding a manual recount: in April 2001 a media consortium led by The Miami Herald assessed how various recounts of "undervotes," which did not register at all, would have affected the outcome. Two out of three hypothetical statewide counts would have given the election to Mr. Gore. The third involved a standard that would have discarded some ballots on which the intended vote was clear. Since Florida law seemed to require counting such ballots, this standard almost certainly wouldn't have been used in a statewide recount.

The Herald group later did an anal-

E-mail: krugman@nytimes.com

ysis of "overvotes," in which more than one choice was recorded, but that wasn't a true recount, because some of it was based on computer records rather than the ballots themselves.

In November 2001 a larger consortium, which included The New York Times, produced more definitive results that allowed assessment of nine hypothetical recounts. (You can see the results at www.norc.uchicago.edu/fl — under articles.) The three recounts that had been most widely discussed during the battle of Florida, including the partial recount re-

We need the truth, however disturbing.

quested by the Gore campaign and two interpretations of the Florida Supreme Court order, would have given the vote to Mr. Bush.

But the six hypothetical manual recounts that would have covered the whole state — including both loose and strict standards — would have given the election to Mr. Gore. And other evidence makes it clear that many intended votes for Mr. Gore were frustrated.

So why do so many people believe the Bush win was rock solid?

One answer is that many editorials and op-ed articles have claimed that no possible recount would have changed the outcome. Let's be charitable and assume that those who write such things are victims of the echo chamber, and believe that what everyone they talk to says must be

true.

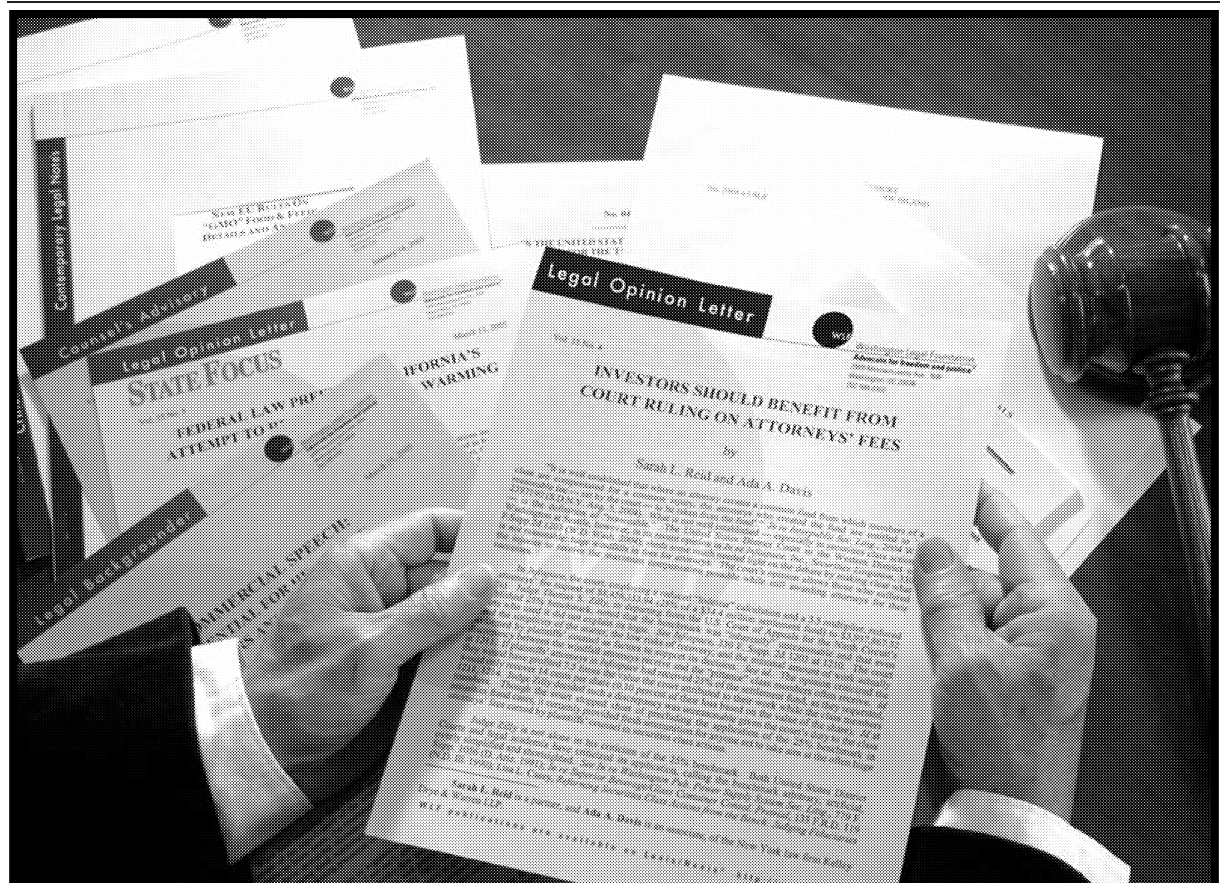
The other answer is that many though not all reports of the results of the ballot reviews conveyed a false impression about what those reviews said. A few reports got the facts wrong, but for the most part they simply stressed the likelihood — in some cases presented as a certainty — that Mr. Bush would have won even if the U.S. Supreme Court hadn't intervened. But even if a proper recount wasn't in the cards given the political realities, that says nothing about what such a recount would have found.

The tone of these reports may have been influenced by the timing: the second consortium's report came out just two months after 9/11. The country wanted very badly to believe in its leadership. Nobody wanted to write stories suggesting that the wrong man was sitting in the White House.

More broadly, the story of the 2000 election remains deeply disturbing — not just the fact that a man the voters tried to reject ended up as president, but the ugliness of the fight itself. There was an understandable urge to put the story behind us.

But we aren't doing the country a favor when we present recent history in a way that makes our system look better than it is. Sometimes the public needs to hear unpleasant truths, even if those truths make them feel worse about their country.

Not to be coy: election 2000 may be receding into the past, but the Iraq war isn't. As the truth about the origins of that war comes out, there may be a temptation, once again, to prettify the story. The American people deserve better. □



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