Do Vitamins Fight Cancer?

Did you see the recent news stories saying that multivitamins can reduce the risk of cancer? Is this based on science or wishful thinking? Let’s scrutinize the research more carefully to see how much is hype and how much is fact.

Until now, most studies have found that multivitamins don’t affect our chances of getting cancer, but a few studies have found lower rates and a few have found higher rates. For example, a study of 35,000 Swedish women found that women taking multivitamins were 19% more likely to develop breast cancer than women who weren’t taking them.

Cancer takes a long time to develop, so any study of multivitamins and cancer has to last for at least 10 years, preferably 15 to 20. Ideally, studies on how to prevent cancer should include many thousands of people who were randomly assigned to take vitamins or a placebo. So far, most well-designed studies show that vitamins do not protect against cancer. In fact, men who took vitamins that are antioxidants had a slightly higher risk of prostate cancer than the men who took nothing. Only studies of people with very poor nutrition seem to show that vitamins lower their risk of cancer.

Hype Sells

In the fall of 2012, the results of a large, well-designed study were published in a prestigious medical journal, making headlines across the country that multivitamins prevented cancer. They studied 14,641 male doctors in the U.S. for over 11 years, and found an 8% reduction in cancer among men taking multivitamins. The 8% decrease was statistically significant, which means it probably did not occur by chance.

So that means vitamins help lower your chances of developing cancer, right? Yes, slightly, if you’re a healthy, well-educated man, 50 years or older. (Fewer than 4% of the men smoked, for example).

Why so much media attention for such a small improvement in already healthy men? The company that makes the multivitamins helped pay for the study and widely publicized the results. The hyped-up media failed to mention that the men who developed cancer were just as likely to die from it whether or not they were taking multivitamins. A few other facts about the doctors and multivitamins study that you might not have heard:

• Three out of 4 doctors in the study were also taking daily aspirin, which lowers the risk of many types of cancer (the doctors participated in a study of aspirin as well). We can conclude that vitamins plus aspirin were more beneficial than aspirin alone, but we don’t know if the vitamins alone, without the aspirin, would have had any benefit or not.

• The study found an 8% reduction in “total cancer” but no reduction in prostate cancer, colorectal cancer, or other site-specific cancers. If you lump many tiny gains together, you...
The National Research Center for Women & Families paid tribute to four fabulous women and broke bread with their friends, family, and fans at one of our most memorable Awards Luncheons this year.

Our annual Foremother awards honor remarkable women for their lifetime of achievements that have enriched the lives of all Americans. At the same luncheon, we recognize a “health policy hero,” whose work has promoted the health and safety of adults and children, in keeping with our mission to use research-based information to improve health programs and policies.

Katherine Weymouth, CEO and Publisher of Washington Post Media, gave opening remarks again this year, telling us about her grandmother, Katharine Graham, the publisher of the Washington Post best known for her support for the Watergate investigation, and her great grandmother, Agnes Meyer, about whom President Truman complained that there wasn’t a day that went by that he didn’t get a letter from two people: Eleanor Roosevelt and “that Meyer woman.”

Ms. Weymouth explained why the Foremother Awards Luncheon is one of her favorite events. “This is my favorite ‘chick party’ of the year, because it is celebrating women who have laid the groundwork for other women behind you, and that is what we all are inspired by and why we are able to do what we do -- because you carved a path.”

Foremother Honorees
We honored Joan Claybrook, who was President of Public Citizen from 1982-2009. Her most impressive accomplishment: mandatory air bags in all new cars, a policy that saves 3,000 lives every year in this country. She also fought for campaign finance reform and the rights of consumers to be adequately compensated for harm caused by faulty products or medical malpractice.

Ms. Claybrook, whose law degree is from Georgetown, told an inspiring story about how she and others banded together to protest the unjust firing of Georgetown Law School’s first woman dean, including printing 1,000 “Don’t Dump the Dean” buttons for the student body to wear and organizing a rally to get her reinstated. “We did the right thing for Judy…we did the right thing for the law school…and we did the right thing for the whole university. So the moral of the story to me is to make a fuss when you see a wrong, and you may have more power than you realize.”

We also honored Dr. Beatrix Hamburg, a preeminent medical researcher whose pioneering work has helped advance the field of child psychiatry, and who served as past president of the William T. Grant Foundation, which supports key research on child development. Dr. Hamburg was the first African-American to graduate from Vassar and the first African-American woman to graduate from Yale Medical School. She has been on the faculty of the country’s most prestigious universities and has published extensively about groundbreaking topics, such as the importance of mentoring and peer counseling, and reducing health and mental health disparities.

Dr. Hamburg’s daughter, FDA Commissioner Margaret Hamburg (recipient of our 2011 Health Policy Hero award), shared the podium and highlights of her 89-year old mother’s career, saying, “She recognized that if you really want to help support adolescents, that maybe the best people to do it are the peers of those adolescents…I said, ‘Mom, it will never work,’ but she pushed on…and now it’s really a nationwide, worldwide approach.” The FDA Commissioner concluded by saying that her mother’s focus on having a mentor, “having someone that takes a special interest in you and checks in on you and follows up with you can make all the difference, and I think that really has epitomized her life, her contributions, and certainly has made an enormous difference in my life and, frankly, in the lives of everyone who has come to know her.”

When her daughter received our Health Policy Hero award last year, Dr. Beatrix Hamburg said, “I just thought, I couldn’t be happier, I couldn’t be more proud,” but after receiving the Foremothers award, “Well, I am happier,” she wryly added.

We recognized Alice Rivlin for her many accomplishments and contributions toward our country’s fiscal health. Dr. Rivlin is one of the foremost experts on the U.S. budget and budgetary policies. She was founding director of the Congressional Budget Office,
deputy director of the White House’s Office of Management and Budget (OMB), and became the first woman director of OMB in 1994. She has been credited with rescuing Washington, D.C. from bankruptcy in the late 1990s. In 2010, President Obama appointed her a member of the Commission on Fiscal Responsibility and Reform (the Simpson-Bowles Commission), whose recommendations are currently being considered as part of efforts to avoid the “fiscal cliff” facing our country.

Dr. Rivlin shared two stories about how times have changed. She recalled that in the 1970s she was invited to attend an important dinner at the Cosmos Club (where our Awards luncheon was held) with Senator Muskie and top educators. At the time, the Cosmos Club did not allow women through the front door. Colleagues snuck Ms. Rivlin in through a side door, but she exited the event very publicly, descending the main staircase, escorted by the president of Harvard University. She also spoke about the chasm today between the two main political parties. “The two parties have pulled apart, are not talking to each other, let alone working with each other... That’s where I think women can play a role. Women have some experience with settling squabbles.” She concluded by saying that “women bring something special to the table.”

Health Policy Hero
Dr. Linda Birnbaum is director of the National Institute of Environmental Health Sciences (NIEHS), which is part of the National Institutes of Health, and director of the National Toxicology Program. She oversees a $770 million budget that funds biomedical research on how the environment influences human health and disease. In her 32 years as a federal scientist, her own research and much of the research she supports has focused on toxic chemicals in plastics and personal care products, known as endocrine disruptors, which mimic human hormones and interfere with them. She has championed new research showing that low doses of these chemicals can have bigger effects than higher doses – findings that have turned toxicology on its head.

“It’s organizations like yours that make our research possible,” she stated. “Thank you for reminding our communities and our Members of Congress that research must be supported if we want to cure, and probably more importantly, prevent disease. Please don’t give up.” Dr. Birnbaum noted, “In the 8th grade, I had this really great science teacher. She was an attractive young blonde, and was also the cheerleading coach. I was a cheerleader at the time. And somehow, she made it okay for a girl to like science. There was a lot of discrimination at that time, when girls didn’t ‘do’ science very much. And in 9th grade I had her again, and I became interested in hormones (maybe it was because I was a 14-year-old girl!). I became interested in the thyroid gland. I wanted to know what happened if you had too much or too little thyroid. It’s kind of interesting that what goes around, comes around, because here I am, later in my career, working on hormones all over again.”

After a long career in research on the health effects of environmental pollutants and chemicals, she’s realized, “You can’t change some things, but you can change your environment. This award tells me that we’re headed in the right direction.”

Thanks to Our Supporters
Board member extraordinaire, Judith Harris, made closing remarks and thanked the many nonprofit organizations and corporate sponsors who made the 2012 Foremothers Luncheon possible: American Association for Justice, the William T. Grant Foundation, Morgan Stanley Smith Barney, Charles Schwab, Net-Centric Enterprise Solutions (NES), and Complete Document Solutions.

Special thanks to the nonprofit organizations who also supported our luncheon: American Humane Association, Center for Science in the Public Interest, Bipartisan Policy Center, National Consumers League, National Business Group on Health, National Women’s Health Network, Public Citizen, Public Justice, and U.S. Public Interest Research Group (PIRG).

We like making choices when we buy bread or boots, but when it comes to treatment options for cancer or other serious diseases, many patients would rather rely on their doctors. That’s because they don’t think they have the information they need to make the best decision.

But doctors may lack the information they need as well. The U.S. has one of the most expensive health systems in the world, but the Institute of Medicine reports that most medical treatments lack clear evidence that they are effective! When there are two or more ways of preventing or treating the same medical problem, there is rarely solid research evidence about which one is more effective. As a result, doctors and patients need better information to make the best treatment decisions.

The Affordable Care Act, also called “Obamacare,” established the Patient-Centered Outcomes Research Institute (PCORI), which is a nonprofit organization. The Affordable Care Act also provides support for the Agency for Healthcare Research and Quality (AHRQ), a small government public health agency. Both PCORI and AHRQ are responsible for comparative effectiveness research studies that will answer the questions most important to patients: which are the safest, most effective treatments for me?

For example, every year thousands of men and women need to decide whether to have blocked arteries of their heart widened through surgery (angioplasty) or to take heart medicine instead. Thanks to comparative effectiveness research, we now know that taking heart drugs, combined with quitting smoking and eating healthier, is much safer and just as effective as surgical treatment.

Comparative effectiveness research also lets us know the best way to screen for cancer. For example, we now know that low-dose CT scans given once a year for 3 years in a row are much better than chest x-rays at detecting early lung cancer among those at highest risk. More research is needed to figure out which former and current smokers are most likely to benefit and how often they need to be screened to catch cancer early enough to prolong or save their lives.

Cost ≠ Quality
Many doctors and patients believe that newer, more expensive medical treatments are “cutting edge,” and therefore better. In fact, many new products cost 5 or 10 times as much as old ones, but are no better, and sometimes they’re worse! For example, most medical devices, even implanted ones like surgical mesh and hip replacements, are not proven safe or effective in clinical trials of human beings before they are sold to doctors and patients. Since it may take years before it is obvious that a newer device is better or worse than an older model, it is often better to use an older device with a proven track record.

Another example is antibiotics. New antibiotics are approved by the FDA if they are “non-inferior”—they don’t have to be as effective as older antibiotics as long as they are no more than 15% worse than the drug they were compared to. The company can choose to compare their new drug to the least effective older drug on the market for the same condition. And yet, the new drug will almost always cost much more than the old one and be prescribed frequently.

Who Cares?
Polls show that people in the U.S. are skeptical of medical guidelines, thinking that they will interfere with their doctors’ judgment, and fearful they might be aimed at saving money rather than helping patients live longer. That’s not true.

Comparative effectiveness research is designed to evaluate the quality of different treatments, not the cost. Cost-effectiveness analysis is excluded from the Affordable Care Act, and nothing in the law states that research findings should be used to require specific treatment decisions by doctors.

What You Can Do
Here’s how you can learn more about the treatments that are best for you:

• AHRQ compares the benefits and risks of different treatments. Visit www.ahrq.gov and click “Effective Health Care Program.”

• Ask your doctor if any research has been conducted to compare the effectiveness of your treatment options, or show your doctor the information you found on www.ahrq.gov.

Our Center has been awarded a grant from AHRQ to host a national conference for 100 consumer and public health experts. Conference participants will develop action plans to educate and engage their members and the general public about the benefits of using evidence-based research to make treatment decisions. For more info, contact us at info@center4research.org.
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can sometimes come up with one statistically significant result that might not mean much.

• Two very different groups of men appeared to benefit more than the rest from taking multivitamins. The 648 men with a previous history of cancer (who were at higher risk) were 34% less likely to develop cancer than men not taking vitamins. Meanwhile, the 3,000 men whose parents hadn’t had cancer (and therefore lower risk) were 14% less likely to develop cancer. These findings are very difficult to explain. Did they happen by chance?

Antioxidants such as vitamins A, C, E, beta carotene, and selenium may help explain the conflicting results of different studies. Although antioxidants help boost the immune system and fight some of the signs of aging, they can also prevent cancer cells from dying. Supplements with antioxidants that exceed the daily recommended allowance seem to increase the risk of cancer for smokers and others who are at high risk of cancer. That is why chemotherapy patients are often advised to avoid supplements with antioxidants (although foods rich in antioxidants are considered safe for everyone). The vitamins used in the 2012 multivitamin study, made by Centrum, contained several antioxidants, but these may not have been harmful because they were close to the recommended daily doses.

What Does This All Mean?

• Even large studies done to the highest standards can yield puzzling and not very useful results.

• Even if multivitamins have a small benefit for preventing cancer, there are far better ways to reduce your cancer risk. The study’s lead author, Dr. Michael Gaziano, cautions against people taking multivitamins instead of quitting smoking, eating better, getting exercise, and wearing sunscreen.

• Avoid multivitamins with antioxidants if they are significantly above 100% of the recommended daily intake, or if you are already consuming high levels of antioxidants in berries, nuts, beans, and other foods. This is especially true if you are undergoing chemotherapy or if you are at higher risk for cancer because you have a family history of cancer, have already had cancer, smoke, or are obese.

• Remember that supplements are not regulated by the Food and Drug Administration. Consumer Reports found that the ingredients in the pills are often not the same as what is listed on the bottle.

Meet Our Legacy Interns

Laura Covarrubias is our Marcy Gross intern. She is responsible for our public policy efforts to reduce violence against women and researching a variety of women’s health issues. She is also in charge of managing our social media presence; recently, she mobilized our social media followers to urge Congress to re-authorize the Violence Against Women Act. Laura is currently using her internship to complete her practicum at the Bloomberg School of Public Health at Johns Hopkins University, where she is focusing on reproductive, perinatal, and women’s health.

Jessica Cote is our Ros Branigan intern, working on a range of health issues including prevention and treatment of lung cancer, the impact of diet on health, and the safety of medical devices. A recent graduate of Trinity College in Hartford, Connecticut, she translates complicated science information into easy-to-understand information for the general public. After her internship, Jessica will travel to Chile as a Fulbright scholar to research the health benefits of the Chilean maqui berry.

Deadly Medicines

More than 500 men and women have developed fungal meningitis due to contaminated medical injections, and 36 have died. By the time you read this, the numbers are likely to be even higher. Thousands of men and women are fearful, waiting to find out if they will get ill.

This tragedy was absolutely preventable, and follows a familiar pattern we’ve seen before. The bottom line: loopholes in the FDA law allow medical products to be sold that are not proven safe or effective.

Rep. Ed Markey, (D-Massachusetts) who is active on health issues, introduced a bill aimed at closing the loopholes and protecting patients. Two key Senators, Tom Harkin (D-Iowa) and Mike Enzi (R-Wyoming) are also working on a bill. Can a bipartisan bill pass during 2012, and if not, will it have a chance in 2013, when this meningitis outbreak is over? NRC is supporting these efforts. See www.center4research.org for more info.

Is there someone you would like to honor? Internships and fellowships provide training that can result in a lifetime of good work. Honor a loved one through a donation of cash or stock, a distribution from a retirement plan or life insurance policy, or a will. For more information, contact Brandel at (202) 223-4000 or bfb@center4research.org.
HEALTH MATTERS

Bacteria are everywhere, including your entire body. The bacteria in your body weigh as much as your brain—3 lbs! (You may not want to tell anyone that, but it is true for all of us.) Bacteria can be harmful, but some species of bacteria are needed to keep us healthy. The bacteria on our skin, in our airways, and in our digestive system are the first line of defense against foreign “invaders” (pathogens) that can cause infection and other problems.

Bacteria also act as “tuning forks” for our body’s immune system, making sure it’s pitched just right. The immune system shouldn’t be too sensitive or too sluggish: it needs to respond quickly to an infection but it shouldn’t overreact. (If it does overreact and attacks the body itself, the result is an autoimmune disease, such as rheumatoid arthritis, lupus, or MS.)

Each person has a personalized collection of bacteria called the microbiome. We acquire our first bacteria while being born, and every day our environment exposes us to more. Some of these bacteria will take up residence inside the body and help develop a robust immune system.

The Good
The species of bacteria that colonize our respiratory and digestive systems help set up checks and balances in the immune system. White blood cells police the body, looking for infections, but they also limit the amount of bacteria that grow there. Likewise, bacteria keep white blood cells from becoming too active. Bacteria also break down carbohydrates and toxins, and they help us absorb the fatty acids which cells need to grow. Bacteria help protect the cells in your intestines against invading pathogens and also promote repair of damaged tissue. Most importantly, by having good bacteria in your body, bad bacteria don’t get a chance to grow and cause disease.

The Bad
Of course, some species of bacteria in your body can result in diseases, such as cancer, diabetes, cardiovascular disease, and obesity. Usually, these diseases happen only when our microbiome is disrupted, but that can occur even from using antibiotics. Antibiotics kill bacteria, and some of those will be good bacteria that we need to protect our health. When that happens, the bad bacteria that normally are kept in check have room to grow, creating an environment ripe for disease.

Bad bacteria can exist at low levels in your body without causing harm or can grow too much and wreak havoc. Staphylococcus aureus (called staph) can cause something as simple as a pimple or as serious as pneumonia or toxic shock syndrome. P. gingivalis can cause gum disease and has been recently linked to pancreatic cancer (visit www.stopcancerfund.org to find out more). Similarly, when not suppressed by good bacteria, Klebsiella pneumonia can cause colitis, and subsequently lead to colorectal cancer.

The Ugly: Self-Destruction
In addition to allowing disease-causing bacteria to flourish, the elimination of good bacteria throws the immune system out of whack. The result can be simple allergies or very debilitating autoimmune diseases. Without the right balance of bacteria, your body might suffer from constant inflammation.

Inflammation is the body’s alarm system, which calls white blood cells to heal a wound or to get rid of infection. Chronic inflammation, however, can make the body more susceptible to autoimmune diseases and cancer, such as causing inflammatory bowel disease which if uncontrolled can cause colon cancer.

The Future
Research suggests that efforts to make a cleaner environment, free from bacteria, are contributing to obesity, cancer, and heart disease around the world. Experts are trying to figure out how “probiotics” (foods like yogurt with active cultures and dietary supplements that contain live bacteria) can improve our health. Research is underway so that in the future, specific bacteria may be prescribed as individually tailored treatments for patients.

Our immune system needs the right combination of bacteria so that we can stay healthy and rely less on medications. Antibiotics and antibacterials remain powerful tools to keep us healthy but shouldn’t be used when they aren’t needed. The more we learn, the more we appreciate the power of the bugs inside of us—to heal and not just to harm.

We don’t accept funding from drug companies or device manufacturers, so we rely on the generosity of individual donors. Donate online at www.stopcancerfund.org or CFC #11967

We’re here for you so you can be there for them. Let’s fight cancer together!
5k Run/Walk for the Cancer Prevention and Treatment Fund

Our Cancer Prevention and Treatment Fund 5k run/walk on September 23 was bigger and better than ever, thanks to our wonderful participants, supporters, and sponsors, and our new location, along the scenic C&O Canal Trail in historic Georgetown, Washington, DC. Runners and walkers ages 5 to 64 took advantage of the gorgeous fall weather.

Teams ran for cancer survivors and loved ones lost to cancer. **Team Mathias** raised $6,059 in honor of 11-year-old **Giordano (pictured here)**, recently diagnosed with osteosarcoma, who participated in the 5k in a wheelchair, wearing a smile that lit up the entire 5k. **Team Olson** raised $3,940 in honor of **Douglas Olson**, who has been treated for leukemia and is doing well. **Sarah Inman’s** team raised $1,050 in honor of Sarah, who was diagnosed with non-Hodgkin’s lymphoma in January 2011 and is doing well. **#TheMovement** raised $2,355 in honor of **Patrick Ryan**, who was diagnosed with testicular cancer in June of this year.

We also ran in honor of **Edith Mostow, Rob Mostow, Donna Prisnock**, and **Thomas Ryan** and in memory of **Ruth France, Renee Harris, Gwen Lewis, Myrna Nicholson, Raphael Prevet, Evelyn Reiter, Dorothy Pauline Sawyer (“Rans”), Jim Schwantes**, and many other cancer survivors and loved ones lost to cancer.

**Matt Roberson** crossed the finish line first, in 17 minutes 50 seconds. **Amara Lewis** took first prize among women with a time of 22:19. All runners who placed in the top three in their age category received a gift certificate from our sponsor **Georgetown Running Company**. Supporters who could not make it to Georgetown on race day participated virtually from as far as London and Anchorage, Alaska, running in solidarity with us.

The 5k would not have been possible without our Gold Sponsors **BoConcept Urban Design and Net-Centric Enterprise Solutions (NES); Silver Sponsors North Face, Patel Consultants, and Cassidy & Associates; Bronze Sponsor Georgetown Sports Massage; and Friends of the Race Mom’s Organic Market and Fitness Together.** North Face provided demo shoes to runners who wanted to test out their new line of sneakers. Trainers from Fitness Together fired up the racers with warm-up exercises. Thanks to the generosity of **Giant, Starbucks, Brueggers Bagels, Trader Joe’s, and Bethesda Bagels**, participants enjoyed snacks and coffee.

Special thanks to **BoConcept Urban Design**, where we kicked off our 5k with a Brazilian-themed party on September 13, complete with a Brazilian dance lesson as well as food, drinks, and a silent auction.

If you were unable to make the race, you can still participate by donating to your favorite runner or team on **www.cancer5K.com** through December 23. If you’d like to see and share photos of the event, “like” our Facebook page at facebook.com/CancerPreventionandTreatmentFund.

**Kristin Olson** did a fantastic job as race coordinator, a volunteer position. The $29,000 she helped raise will support our online cancer hotline, which provides free information to anyone who contacts us at info@stopcancerfund.org.
To:

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Who are the stars of our Cancer Prevention and Treatment 5k?
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We gratefully acknowledge our President’s Circle Donors:

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