

Facts and ideas from anywhere



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CHOLESTEROL ATTACK

The September 1989 issue of *The Atlantic* published a long (25-page) article by Thomas J. Moore entitled “The Cholesterol Myth” (1). The essence of his piece was the following: “Diet has hardly any effect on your cholesterol level; the drugs that can lower it often have serious or fatal side effects; and there is no evidence at all that lowering your cholesterol level will lengthen your life.” Nearly

all of his criticisms leveled 19 years ago have subsequently been refuted, and cholesterol has been reestablished to its rightful etiologic position until just recently when the attacks on cholesterol resumed.

The January 28, 2008, issue of *BusinessWeek* carried a similar piece entitled “Do Cholesterol Drugs Do Any Good?” and its theme was similar: “For many people cholesterol drugs may not do any good” (2). Other cholesterol debunking pieces also have appeared (3). For many, these drugs prevent first and recurring atherosclerotic events, and they do prolong life. Nearly all of us buy life insurance policies, but in reality many of us actually do not need them. In contrast to life insurance, which is actually death insurance (the insured pays for the policy, then dies, and then someone else gets the money), lipid-lowering drugs prolong life and prevent many atherosclerotic events. Thus, these lipid-lowering drugs are actually *true* life insurance.

These recent attacks on cholesterol were prompted mainly by media reports on the results of the 24-month ENHANCE trial involving carotid artery medial-thickness measurements in 720 patients with average low-density lipoprotein (LDL) serum cholesterol levels of 318 mg/dL (4). The patients were divided into two similar-sized groups: one was treated with a combination of simvastatin 80 mg plus ezetimibe 10 mg (Vytorin) and the other group with simvastatin 80 mg but no ezetimibe. Comparison of baseline and 24-month intimal medial thickness measurements showed insignificant differences between the two groups, but the group taking the combination pill had an increase in thickness of 111 microns whereas the group taking only the single drug had an increase of 66 microns.

Are there problems with the trial? Yes. First, the measuring “instrument of precision” is simply incapable of reliably telling the difference in a tenth of a millimeter (0.006 mm vs 0.011 mm). Second, the patients studied had enormously high LDL cholesterol levels at baseline (>300 mg/dL), and the study was not between a drug and a placebo but was between two groups, both of whom received the highest dose of simvastatin available. The group receiving simvastatin plus ezetimibe had a 58% reduction in LDL cholesterol, and the group receiving simvastatin alone had a 41% LDL reduction. Thus, a 17% LDL reduction difference between groups in a short period of time (2 years) would unlikely, in my view, show a difference in carotid wall thickness by an imprecise instrument!

Furthermore, although the percentage drop in LDL cholesterol levels in both treatment groups is impressive, the final LDL levels achieved are unimpressive, namely 134 (58% reduction) and 188 (41% reduction). These achieved levels are still much too high. The reason, of course, is that the patients studied had incredibly high LDL cholesterol levels at baseline. Most physicians in their lifetime never see a patient whose serum LDL cholesterol level is >300 mg/dL! Thus, the 720 patients gathered for this study are a most unusual group of patients. Most studies involving effects of cholesterol-lowering drugs enroll patients whose LDL cholesterol levels at baseline are between 130 and 190 mg/dL, the levels achieved *after* lipid-lowering therapy in the present study. Outcomes and side effects were similar in both groups of patients.

In summary, in my view, by measuring an arterial wall’s thickness after only 2 years, it is not possible to show a significant difference between groups when achieved LDL cholesterol levels are still very high. Maybe in 5 years a significant difference would be demonstrated. The companies involved, Merck and Schering-Plough, are presently doing a very expensive outcome study involving these drugs in 20,000 patients, but results will not be available until 2011.

In the meantime, it is unwise to give up on the statin drugs with or without ezetimibe. They prevent atherosclerotic events, and they allow us to live longer. The statin drugs are to atherosclerosis what penicillin is to infectious disease. They are indeed miracle drugs, and, in my view, most American adults need them unless they are willing to drastically change their eating habits. Every study thus far has shown that if we reduce our

serum LDL cholesterol levels we reduce our chances of having an atherosclerotic event (heart attacks, etc.). I say that LDL cholesterol elevation is not just an atherosclerotic risk factor; it is the *cause* of atherosclerosis! That claim cannot be made for any of the other so-called cardiovascular risk factors.

PLANETARY AND ENVIRONMENTAL CONSEQUENCES OF EATING BOVINE AND PORCINE MUSCLE

It has been several years since this column has discussed this topic. But it is hard to resist summarizing Mark Bittman's piece entitled "Rethinking the Meat-Guzzler," which appeared recently in *The New York Times* (5).

Some facts: the world's total meat supply in 1961 was 71 million tons; by 2007, it was estimated to be 284 million tons. Per capita consumption more than doubled during that 46-year period, growing twice as fast in the developing world than in the developed world. World meat consumption, assuming the present rate, is expected to double again by 2050. Americans eat about 8 ounces of meat a day, roughly twice the global average. The average American eats about 200 pounds of meat, poultry, and fish per year, an increase of 50 pounds per person from 50 years ago. We each consume about 110 grams of protein a day, at least twice the recommended allowance, and of that about 75 grams comes from animal protein. (We would all be healthier if we consumed <30 grams of protein a day and virtually all of it from plant sources.) Although the US population represents about 5% of the world's population, we grow and kill nearly 10 billion animals a year, more than 15% of the world's total!

An estimated 30% of the Earth's ice-free land is directly or indirectly involved in livestock production, and that production generates nearly a fifth of the world's greenhouse gases—more than transportation (6)! If Americans were to reduce meat consumption by just 20%, it would be as if we all switched from a standard sedan to the ultra-efficient Prius. To produce 2.2 pounds of beef generates the equivalent amount of carbon dioxide emitted by the average European car driven 155 miles or enough energy to light a 100-watt bulb for nearly 20 days. About 16 times more fossil fuel energy is required to produce beef than to produce vegetables and rice. To produce a 6-ounce beef steak requires 0.16 gallons of gasoline.

More meat means a corresponding increase in demand for feed, especially corn and soy, which contributes to higher prices. Although about 800 million people of the roughly 6000 million people on the planet now suffer from hunger or poor nutrition, most corn and soy grown in the world feeds cattle, pigs, and chickens, not humans. About 3.5 times more grain is required to produce the same amount of calories through livestock as through direct grain consumption. The environmental impact of growing so much grain for animal feed contributes to nearly three quarters of all water-quality problems in US rivers and streams.

Because the stomachs of cows are meant to digest grass, not grain, cattle raised for their meat gain weight quickly. The grain diet removes cattle from their natural environment and encourages the efficiency of mass confinement and slaughter.

Mass confinement, however, leads to infections, causing almost routine administration of antibiotics to these animals.

These animals produce many times their weight in manure. Immense lagoons used to store waste degrade the surrounding air and water. US livestock (cows, pigs, chickens) produce 900 million tons of waste annually, or about 3 tons of manure for each American. That is the equivalent of two Toyota Priuses in weight. An 1100-pound cow produces annually about 15 tons of manure, the weight equivalent of 10 cars. Hogs produce at least 50 million tons of waste annually, or about 17 tons of manure for each of the nearly 3 million residents of the state of Iowa. That is equivalent to the weight of 11 cars.

Solutions: Eliminating farm subsidies might help. Just over 30% of global farm income is subsidized by governments. There is discussion about the possibility of "meat without feet"—meat produced in vitro by growing animal cells in a super-rich nutrient environment before it is further manipulated into burgers and steaks. Another option is to return to grazing cows, but grazing could never produce as many cattle as feedlots. Americans could eat more pigs and chickens than cows. Pigs and chickens convert grain to meat far more efficiently than cows, and, as a consequence, they are increasingly the meats of choice for producers, accounting for 70% of total meat production.

The real answer, of course, is to eat less flesh. If consumers were more aware of the true costs of meat production and that nearly all of the environmental problems in the USA have their source in food production, and particularly in meat production, more cows would be happier, the planet would be better off, and fewer human beings would face starvation. We need a stronger public relations campaign to reduce meat consumption, like the campaign that reduced cigarette consumption—emphasizing personal health, compassion for animals, and doing good for the poor and the planet. If we ate less flesh, there would be less deforestation, pollution, climate change, starvation, atherosclerotic cardiovascular disease, and animal cruelty. We all need to contribute for the benefit of ourselves, for those less fortunate, and for our planet.

ANIMAL AGRICULTURE AND GLOBAL WARMING

Animal agriculture, a major source of water pollution and deforestation, has become one of the biggest culprits in global warming. The Food and Agriculture Organization of the United Nations released a report in 2007 showing that farm animals are a top contributor to today's environmental problems, including greenhouse gases (7). The report found that livestock produced about 40% of all methane emissions (which have 23 times the global warming potential of carbon dioxide), 65% of nitrous oxide (which is 320 times as warming as carbon dioxide), and 64% of ammonia (which contributes to acid rain).

Nearly 30% of the Earth's land surface is used for grazing animals, and that percentage is expected to increase, with the global livestock sector growing faster than any other agricultural subsector. That's because, of course, in almost every region of the world, consumption of animal products is on the rise. As Dr. Patrice Green advocates, it's time to go beyond greening our cars, light bulbs, and cleaning products. By putting more

leafy green vegetables on our plates, we can green our diets and reduce environmental damage to the planet. Individuals on a plant-based diet are slimmer and have less risk of diet-related diseases than people on high-fat, meat-based diets. Our blood pressures, blood sugar, and blood cholesterol levels would fall substantially if we turned to a high-fiber, low-fat vegetarian diet consisting primarily of vegetables, fruits, whole grains, beans, lentils, and peas. Thus, fighting global warming and staying healthy go hand in hand.

GREENLAND'S ICE SHEET AND GLOBAL WARMING

I understand that Greenland was originally named such in an attempt to get people to migrate to that country, which for the most part is covered with ice. But that is changing. Some scientists have projected that the Arctic Sea ice is melting so rapidly that it could disappear entirely by the summer of 2040 (8). The Arctic Ocean could be nearly ice-free by the end of summer 2012. Faster melting in the Arctic means an eventual rise in sea level and more immediate changes in winter weather because of less sea ice.

According to satellite data from NASA in 2007, an estimated 552 billion tons of ice melted in the summer of 2007 from the Greenland ice sheet. A record amount of surface ice was lost over Greenland in the same period, nearly quadruple the amount that melted just 15 years ago. It is an amount of water that could cover Washington, DC, a half-mile deep!

The surface area of summer sea ice floating in the Arctic Ocean in 2007 was nearly 23% below the previous record. The dwindling sea ice affected wildlife such that in October, 6000 walrus came ashore in northwest Alaska for the first time in recorded history. Additionally, the Northwest Passage was open to navigation. Surface temperatures in the Arctic Ocean in 2007 were the highest in 77 years of recordkeeping, with some places 8 degrees Fahrenheit above normal.

Greenland is a significant bellwether. Most of its surface is covered by ice. If it completely melted—something key scientists think would likely take centuries—it could add >22 feet to the world's sea level. White sea ice reflects about 80% of the sun's heat off Earth. When there is no sea ice about 90% of the heat goes into the ocean, which warms up everything else, and warmer seas lead to more melting. That's why models predict that the Arctic warming is going to be faster.

ANIMAL RIGHTS

The nonhuman animal activist groups, such as the Humane Society of the United States and People for the Ethical Treatment of Animals, are rather rapidly increasing their membership and their power. According to a piece by Larry Copeland (9), animal rights campaigns are moving on several fronts:

- Twenty-eight state legislatures in 2008 are expected to consider strengthening existing bans on dog fighting and cock fighting.
- Thirteen states are considering bills regulating “puppy mills,” mass dog breeding operations that keep puppies in small crates.
- Massachusetts activists are seeking to ban commercial greyhound racing in that state by 2010. Apparently, over

700 greyhounds have been injured racing at the state's two tracks.

- During the past 3 years, 330 colleges have stopped or dramatically reduced the use of eggs from hens in cramped wire crates called battery cages, and they want to use only eggs produced by cage-free hens.
- More than 90 American Bar Association–approved law schools now offer courses in animal law, compared with only a few 10 years ago.
- Only a few remaining medical schools in the USA use animals in their physiology or other classes for educational purposes.

IT'S THE FARM BILL, STUPID

According to Dr. Neal Barnard, president of the Physicians Committee for Responsible Medicine, “the real scandal in Washington is the farm bill. Senators take millions from corporations that produce bacon, burgers, and other fatty foods. Then Congress buys up these unhealthy products and dumps them on our school lunch program. Companies get rich, and kids get fat” (10). The farm bill comes up for a vote every 5 years. The latest is the 2007 bill, and the previous one was the 2002 bill. The 2007 farm bill determines which food industries get the most help from US taxpayers over the next 5 years. Between 1995 and 2004, <0.5% of the farm bill agriculture subsidies went to fruit and vegetable production. The total agriculture subsidies in the 2007 bill amount to just over \$70 billion: of that, \$1.3 billion goes for nuts and legumes; \$7.5 billion, for sugar, starch, oil, and alcohol; \$9.3 billion, for grain for human consumption; and \$52 billion, for meat and dairy subsidies! The high-fat, high-cholesterol foods subsidized by the bill find a way into the school lunch programs, obviously contributing to our obesity problem. Amazing (to me), prices of fruits and vegetables have increased 40% in the USA since 1985, while the prices of sugar and fats have declined by 14%.

CLONED MEAT AND MILK

The Food and Drug Administration (FDA) has given its okay to the consumption of cloned meat and milk products (11). The European Union's Food and Safety Agency also is expected to endorse the safety of meat and milk from clones.

SAFETY OF IMPORTED FOODS

The US food-safety laws are more than a century old and were simply not designed to deal with such modern problems as escalating imports, bioterrorism, or tainted produce (12). US imports of agricultural and seafood products from all countries have increased by nearly 50% in the last 10 years. We now import 13% of our annual diet, with the average American eating about 260 pounds of imported food yearly, and much of the food we import comes from developing nations that lack the infrastructure to regulate the safety of the products they export. China supplies 22% of our nation's seafood. Some of the seafood is contaminated with illegal levels of antibiotic residues. Additionally, the USA imports millions of pounds of seafood from India, Thailand, and other Asian countries, who also have

problems with water quality and banned drugs. An FDA study found that the *Salmonella* frequently detected in Asian farmed fish comes from feces in the pond water. In other words, the fish were swimming in human and nonhuman animal waste before they were shipped to our grocery stores.

The FDA simply cannot rely on other countries to ensure the safety of exports. The FDA inspects <1% of imports! The FDA has only 300 import inspectors who must screen almost 9 million shipments of food. That averages 30,000 shipments per inspector. And the FDA does not have the authority to inspect foreign fish farms and pet-food factories. The US food safety budget is ridiculously low. As advocated by the Center for Science in the Public Interest, Congress must do two things: modernize food safety laws to give the FDA more authority and dramatically increase FDA funding. Our food is now an easier target for bioterrorists than it was before 9/11!

RESTAURANT FOOD

Americans consume about one third of their food at restaurants, cafeterias, and other places outside the home (13). More than 45% of foodborne-illness outbreaks are due to foods prepared in restaurants. The most common causes of outbreaks are not rats and cockroaches but germs on raw meats that spread to other foods in the kitchen, undercooked food, and employees' not washing their hands. An especially hidden cause of restaurant food poisoning is unsafe food from suppliers. Consumers deserve more protection than they are getting from their local health departments.

TOO MUCH SALT

Years ago, I picked up the salt shaker and sprinkled all of the foods on my plate with salt before taking a bite. I noticed when about age 45 that my systolic blood pressure was beginning to rise, and I quit adding salt at the table immediately. Within a month I preferred foods without any table salt added. I understand, however, that only about 15% of our salt intake comes from the salt shaker at the dinner table.

In the few pockets on Earth where individuals consume no measurable salt, the blood pressure throughout life is about 90/60 mm Hg. In developed countries where salt proliferates, the systolic blood pressure rises with age. And about 65 million American adults have high blood pressure (>140 systolic and/or >90 mm Hg diastolic).

Obviously, as the Center for Science in the Public Interest has emphasized (14), government, industry, and consumers must work together to reduce sodium in processed and restaurant foods. Unfortunately, the FDA still rates salt as "generally recognized as safe." While the recommended sodium intake for people over age 50 has been cut from 2400 mg to ≤1500 mg daily, the food industry keeps heaping on the salt. A typical can of soup contains 700 to 1000 mg of sodium in a 1-cup serving. Spaghetti sauce contains 900 to 1200 mg per cup; canned tomatoes, 400 to 800 mg; and tomato juice, 700 mg of sodium. Many poultry processors inject salt in water to keep their raw produce moist. Pressure is building on industry, however, to lower sodium consumption by one third over the next 5 years.

CALORIES AND EXERCISE

Each mile we walk or run utilizes 100 calories, and to lose 1 pound we must utilize 3500 calories, which translates into 35 miles either walked or run (without stopping at McDonald's during the stretch). That fact is useful to keep in mind when eating certain high-caloric foods. We must ask the question, "Are they really worth it?" The following are some high-caloric foods that we might want to avoid because of the considerable amount of work necessary to expend the calories so consumed (15). One slice of cheese pan pizza (like Sbarro) is 650 calories; Caffè Mocha (20 oz with whipped cream, like Starbucks), 400 calories; two chocolate truffles (like Godiva), 200 calories; chocolate chip cookie (like Starbucks), 400 calories; muffin (like Starbucks), 450 calories; slice of New York-style cheesecake (like the Cheesecake Factory), 700 calories; bagel with cream cheese, 500 calories; and teaspoon of oil, 120 calories. So, to neutralize the slice of cheese pan pizza is equivalent to 70 minutes of playing tennis; a Caffè Mocha, 40 minutes of swimming laps; two chocolate truffles, 20 minutes of bicycling; a chocolate chip cookie, 40 minutes of stair machine; a muffin, 1 hour of jogging; a slice of New York-style cheesecake, 2 hours and 40 minutes of brisk walking; a bagel with cream cheese, 2½ hours of ballroom dancing; and a tablespoon of oil, 30 minutes of raking leaves.

It doesn't take very long to eat the chocolate chip cookie, but it takes a while to run 4 miles! A full glass of water fills the stomach quite well, keeps our arterial linings cleaner, and requires no caloric utilization because there are no calories in water.

CALORIE COUNTS ON MENUS

A new battle is taking place. On one side are public health officials trying to combat the epidemic of obesity, and on the other are the chain restaurants fighting the idea of putting the number of calories next to each item on the menu (16). The restaurants contend that displaying the numbers could confuse customers. More than a dozen state and local governments, however, are considering putting calories on menus. In addition to the large food chains hiring big-name law firms, the Center for Consumer Freedom, a Washington-based not-for-profit organization initially funded by Phillip Morris and now backed largely by food and restaurant companies, is railing against "food police" and proclaims that "Americans should still have the right to guilt-free eating." The calorie counters in my view will eventually win.

Subway became the first restaurant to list calories on its menu boards in New York City (17). While other fast-food restaurants fought the groundbreaking New York City menu labeling law in court, Subway went ahead and made it easy for their customers to know how many calories are in every item on the menu. Thanks to bad publicity, good laws, and targeted litigation, all the major fast-food companies have removed most or all of the partially hydrogenated fat (the source of artificial trans fat) from their products. KFC, Wendy's, Burger King, and McDonald's have gone trans fat free or soon will be that way.

PREMEDICAL GRAND ROUND CALORIES

I have attended “grand rounds” at Baylor University Medical Center and at a number of other institutions, and most are superb learning experiences. Attendees at most grand rounds in most hospitals are provided with appetizing calories before the session begins, and most commonly the calories consist of sweet buns, donuts, and coffee, but no fruit. An original glazed donut from Krispy Kreme contains 3 grams of saturated fat, plus 3½ grams of trans fat; a chocolate-iced crème donut has 5 grams of saturated fat plus 5 grams of trans fat; and a honey bun contains 5 grams of saturated fat plus 7 grams of trans fat and 310 calories (18). The American Heart Association recommends that we eat <2 grams of trans fat in *an entire day!* Given the amount of naturally occurring trans fats which many of us eat every day—small amounts are found in some meats and dairy products—virtually no room is left for industrially manufactured trans fats! Krispy Kreme wants to get rid of trans fat in its products, but its desire is not being carried out, and maybe that’s why its stock price is so pathetic. Physicians might be even more receptive to the information flowing from the mouths of the superb medical grand round lecturers were their stomachs filled with bananas or oranges rather than donuts and sweet buns.

WINE DRINKING AND OMEGA-3 FATTY ACIDS

Both moderate alcohol drinking and marine (omega-3) fatty acids have been associated with low mortality from coronary heart disease. de Lorgeril and colleagues (19) from Grenoble and Lyon, France, studied individuals who had participated earlier in the Lyon Diet Heart Study. Complete data about drug treatment, dietary (including drinking) habits, major prognostic factors, and blood fatty acids were available after 27 months of follow-up in 437 patients. In the end they analyzed data from 353 male patients. There was a progressive increase in marine omega-3 fatty acid levels with increased alcohol intake. After multivariate analysis, the association between wine intake and omega-3 fatty acid levels remained significant. In conclusion, the men who drank moderate amounts of wine had higher omega-3 fatty acid concentrations than those who did not use alcohol. The effect of wine appears comparable to that of fish and may partly explain its protective effects against coronary heart disease.

WELLNESS PROGRAMS, LAWYERS, AND LAWS

According to Victoria Knight, health plans that penalize unhealthy workers are on the way out (20). Regulatory guidelines recently issued by the Department of Labor are likely to curtail the ability of employers to motivate workers to kick unhealthy habits. In effect, the guidelines close a legal loophole that could have allowed employers to make health insurance more expensive for unhealthy workers than for healthy colleagues. In December 2007, the Department of Labor’s Employee Benefits Security Administration issued guidelines on supplemental insurance. Under such programs, workers enroll in an employer-sponsored health plan with a high insurance deductible. They can offset the deductible by earning “wellness credits” for meeting certain

health benchmarks—such as lowered cholesterol counts—issued under a separate supplemental policy. It is like giving a good driver a good-driver discount. Exposure to higher out-of-pocket costs motivates employees to improve their health, which saves employers money. But lawyers have voiced concerns that such programs could hurt employees with health problems and make insurance deductibles higher for unhealthy employees than for healthier coworkers. Although people with health problems already pay more for health insurance in the individual market, the Health Insurance Portability and Accountability Act requires that all workers covered under the same employer-sponsored plan pay the same premiums regardless of their health. The kicker for wellness programs is a requirement that a supplemental policy that is group-health insurance coverage “must not differentiate among individuals in eligibility, benefits or premiums based on any health factor of an individual.” It seems to me that not smoking, maintaining ideal body weight, and acquiring ideal cholesterol levels should be rewarded, not only for their health benefits but financially. Our government does not seem to think so.

VAGUS NERVE BLOCKAGE AND WEIGHT LOSS

According to Jon Kamp (21), at least four companies are working on a device that periodically blocks transmission on the digestion-controlling vagus nerve. One device, called Maestro, has been inserted into nine patients, and in a follow-up period of 9 months they have lost an average of 30% of their excess weight. The producing company is hopeful for approval of the device in 2010, and it is estimated that it will cost an average of \$21,000. The device presently being tested requires patients to wear a belt that transmits power and programming to the implanted component. The trial called Empower hopes to reduce excess weight by 25%. It is a lot less expensive simply to push away from the table.

HEART DISEASE DEATH RATES

New government data show that heart disease death rates dropped 26% between 1999 and 2005, from 195 to 144 deaths per 100,000 people, and stroke deaths dropped 24% from 61 to 47 deaths per 100,000 (22). That adds up to roughly 160,000 lives saved in 2005. This analysis is from the National Center for Health Statistics. But, signs of trouble loom with our twin epidemics of diabetes mellitus and obesity. So these encouraging figures may be transient.

GENOME SCANS

Dr. Eric Topol (23), not long ago chairman of the Department of Cardiovascular Medicine at the Cleveland Clinic, had an editorial recently in *The Wall Street Journal* (24) on the genome scan, which can be purchased by each of us for \$1000. Three companies (DeCode, 23 and Me, and Navigenics) analyze 1 million changes in coding letters. The scan requires simply a small amount of saliva or a swab of the inside of the cheek and a credit card. A single DNA letter change is known as a single nucleotide polymorphism (SNP). Present-day scans can rapidly access 1 million SNPs. Because the genome has been broken

down into a few hundred thousand “zip codes” or locator bins that are inherited as blocks, the window of a million SNPs provides valuable insight into most of the 3 billion DNA coding letters. So far, about 25 of the most important diseases have common SNPs. Nevertheless, most disease-risk genes have not been found, the genes that cancel out the risk (known as “modifiers”) are still largely unknown, and many diseases and conditions have not even been studied. Whether having one’s genome scanned can be good for one’s health is as yet unclear.

One reason the three companies have launched a direct-consumer approach is for privacy. If a physician ordered a genome-wide scan for an individual, it would become part of the patient’s medical record, and the information would potentially be accessible to health insurance providers or employers.

How might knowledge of one’s DNA be useful for one’s health? If positive and used in the right way, the scan might lead to weight loss, better nutrition, or more exercise. Another byproduct is that this knowledge will lead to better physician education. When a patient arrives in his or her doctor’s office to get help in interpreting the genomic data, the physician is likely to respond: “What’s a SNP?” So, the medical community will have to increase its knowledge about genetics. Patient pressures will drive this.

Meanwhile, patients can look up all the information on each relevant SNP on a “SNPedia” website, modeled after Wikipedia. Advances in DNA research and Internet technology—combined with an increasingly empowered public—could trigger long-overdue changes in the way medicine is practiced. If all of the information from the thousands of individuals who get genome scans were used for research, these data might accelerate the creation of a new form of health care and prevention.

VACCINATIONS

I usually get a flu vaccination each year. This year I did not, and I got the flu for the second time in my life. That was not very smart. Unfortunately, there are too many others like me. The US National Foundation for Infectious Diseases in a recent survey showed that many adults in the USA are skipping the vaccinations that could help prevent illnesses (25). The *Table* shows the recommended vaccines (26).

CHLAMYDIA

More than 1 million cases were diagnosed in 2006, the most ever reported for a sexually transmitted disease. The incidence of the other sexually transmitted diseases, namely gonorrhea and syphilis, is also increasing (27). Since 1993, the Centers for Disease Control and Prevention has recommended annual screening in sexually active women aged 15 to 25. Meanwhile, urine and swab tests for the bacteria are getting better and are

Table. Recommended adult immunization schedule, by vaccine and age group, United States, October 2007–September 2008†

Vaccine	Age group		
	19–49	50–64	≥65
Tetanus, diphtheria, pertussis (Td/Tdap) ^{1,*}	1 dose Td booster every 10 years		
	Substitute 1 dose of Tdap for Td		
Human papillomavirus (HPV) ^{2,*}	3 doses females (0,2,6 mos)		
Measles, mumps, rubella (MMR) ^{3,*}	1 or 2 doses	1 dose	
Varicella ^{4,*}	2 doses (0, 4–8 weeks)		
Influenza ^{5,*}	1 dose annually		
Pneumococcal (polysaccharide) ^{6,7}	1–2 doses	1 dose	
Hepatitis A ^{8,*}	2 doses (0, 6–12 mos or 0, 6–18 mos)		
Hepatitis B ^{9,*}	3 doses (0, 1–2, 4–6 mos)		
Meningococcal ^{10,*}	1 or more doses		
Zoster ¹¹			1 dose

For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack documentation of vaccination or have no evidence of prior infection).

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications).

*Covered by the Vaccine Injury Compensation Program.

†From reference 26. Recommendations in the chart must be reviewed in conjunction with the page of footnotes included in the full publication. See <http://www.cdc.gov/vaccines/recs/schedules/adult-schedule.htm#print>.

used more often for men as well as women. About three quarters of women infected with Chlamydia have no symptoms. Left untreated, the infection can spread and ultimately lead to infertility. It’s easily treated if caught early.

TEEN PILL POPS

According to Laurie Fox and Tawnell Hobbs (28), teens find pills in the medicine cabinet, on the Internet, and in “pharming” parties. They use them because they are the easiest kind of high and virtually invisible to parents and teachers. They apparently are turning away from traditional illicit drugs like marijuana and methamphetamine and instead abusing over-the-counter and prescription medications, according to a national survey on teen drug use released in December 2007. According to a 2005 national survey of more than 7000 adolescents, teenagers reported several reasons for abusing prescription pain relievers: they said they were available in parents’ medicine cabinets, available everywhere, easily available over the Internet, or easy to get through other people’s prescriptions; that they were inexpensive and not illegal; that they were safer and had fewer side effects than illegal drugs; that minimal shame was attached to using them; that they could be used as study aids; and that parents didn’t care as much if they discovered them. Some prescription and over-the-counter drugs teens are abusing include Xanax, OxyContin, Vicodin, Percocet, Valium, Adderall, Ritalin, Codeine-laced cough syrup, Tylenol with codeine, and cold medicines containing dextromethorphan

or DXM (Contact, Pertussin, Robitussin, Sudafed, Triaminic, Vicks Formula 44).

TEENAGE PREGNANCIES

According to Eric Aasen (29), the number of teenage pregnancies has risen for the first time in 15 years, and Texas has the highest rate in the USA! Teen mothers often drop out of school and end up with minimum-wage jobs, struggling to buy necessities for their children. And their kids are at risk of following in their footsteps. Some Dallas-area social service organizations work with teens to help them provide better lives for themselves and their children. Alley's House served 280 girls last year, and it also helps teen mothers earn their graduate equivalency diploma and find jobs while providing diapers, baby clothes, and other items. It's certainly better to wait a while before having a baby.

US ABORTIONS

Of the 1.2 million US women who have abortions each year, 50% are ≥ 25 years of age (30). About 60% have given birth to at least one child before getting an abortion. A disproportionately high number are black or Hispanic. Regardless of race, high abortion rates are linked to hard times. The number of abortions, however, in recent years has fallen; the 1.2 million tallied for 2005 was down 8% from 2000, and per capita abortion rates were the lowest since 1974. Since the Roe ruling on January 22, 1973, there have been roughly 50 million abortions in the USA, and more than one third of US adult women are estimated to have at least one. Although the 1.2 million abortions in 2005 is down from a peak of 1.6 million in 1990, abortions still represent more than 20% of all pregnancies in the USA. In 2005, the nation's capital had the highest abortion rate, 54%; Texas' rate was 17%, and the national average was 19%.

BIRTH CONTROL PILL AND CANCER

Surprisingly (to me), women taking birth control pills for as long as 15 years half their chances of developing ovarian cancer, and the risk remains low >30 years later, according to a recent piece in the *Lancet* (31, 32). Thus, not only does the pill prevent pregnancy, but in the long run it lowers at least one (ovarian) cancer rate. Beral and colleagues analyzed data from 45 studies worldwide covering 23,257 women with ovarian cancer and 87,303 women without ovarian cancer. In the former group, 31% were on the pill, and in the latter group, 37% were on the pill. Thus, without the pill, about 12 women per 1000 are expected to get ovarian cancer before age 75, and on the pill, that figure dropped to 8 women per 1000. A woman's ovarian cancer risk was cut by 20% for every 5 years she was on the pill. Nevertheless, while the pill may protect against ovarian cancer, it slightly increases the chances of breast and cervical cancer. These latter risks disappear after women stop taking oral contraceptives. And the pill also provides long-term protection against endometrial cancer. The pill's protective effects against ovarian cancer outweigh the small increased risks of breast and cervical cancer—unless women already have a history of those cancers. Few physicians suggest that women take the pill exclusively for its anticancer properties because the pill also increases risks of blood clots, migraine

headaches, and high blood pressure. These risks are particularly elevated in women in their late 30s and in smokers.

REGRET

A friend called my attention to a piece in the January 1, 2008, *New York Times* about regret (33). Studies in the last 15 or so years by psychologists have convincingly indicated that ruminating on paths not taken is an emotionally corrosive exercise and what hurts the most is not what we did but what we didn't do. Psychological researchers have found that people think about past foul-ups or missed opportunities in several ways. Some tend to fixate on them, and they are at an elevated risk for mood problems. Others have learned to ignore regrets and seem to live more lighthearted, if less-examined, lives. In between are those who walk carefully through the minefield of past choices. One study showed that young adults who scored high on measures of psychological well-being tended to think of regretted decisions as all their own. By contrast, older people who scored highly tended to share blame for their regretted decisions. With age, people apparently "detoxified" their regrets by reframing them as shared misunderstanding.

In another study, Laura A. Kine, a psychologist at the University of Missouri, had people write down a description of their future as they imagined it before a life-altering event, like divorce. She found that those who were able to talk or write about this lost future without sinking into despair or losing hope tended to have developed another quality, which she called complexity—an ability to incorporate various points of view into a recollection, to vividly describe the circumstances, context, and other dimensions. Dr. King found that this knack for self-evaluation only developed over time, was a learned ability, and indicated a psychologically mature person.

Another study found that reimagining painful scenes from a third-person point of view, as if seeing oneself in a movie, blunted their emotional sting and facilitated clearheaded self-perception.

STATE EXECUTIONS

According to Adam Liptak (34), in 2007 there were 42 executions in the USA, and 26 (62%) occurred in Texas. The remaining 16 were spread across 9 other states. Over the past 3 decades the number of yearly executions in Texas has held relatively steady, averaging 37. The reason Texas will end up monopolizing executions is primarily because every other state has eliminated *de jure*, as New Jersey did, or *de facto*, as other states have. Exoneration now seems to have penetrated popular culture in 49 of our 50 states, possibly because of the time and expense of capital litigation, the possibility of a wrongful conviction, and the remote chance someone sent to death row will actually be executed.

The US Supreme Court in January 2008 heard all arguments in *Baze v. Rees* (35), a case that has effectively imposed a national moratorium on the death penalty since September 2007. Most states are delaying executions until the high court rules. At stake, of course, is the future of capital punishment in the USA. Forty states have the death penalty on their books, but only 34 have carried out executions since the Supreme Court permitted states

to resume capital punishment in 1976. None come close to Texas, which has carried out 405 executions in the last 3 decades. Virginia, with 98 executions, is a distant second.

JUDAH FOLKMAN (1933–2008)

Dr. Judah Folkman, a classmate of Dr. Marvin Stone's when he was growing up in Columbus, Ohio, developed the idea in 1971 that cancer could be stopped by cutting off the blood vessels that tumors need to keep growing (36). He died suddenly on January 14, 2008, of an apparent heart attack while traveling to give a lecture. He created the antiangiogenesis school, which today includes some big-selling drugs. He headed the Karp Family Research Laboratories of Harvard Medical School for >3 decades after having stepped down as chairman of the Department of Surgery at the Children's Hospital in Boston. In the room where his weekly laboratory meeting for members of the vascular biology program was held, honors and plaques covered every inch of the walls.

A splendid interview of Dr. Folkman by the Academy of Achievement appears on that organization's website (37). Children's Hospital also published a splendid piece on Dr. Folkman (38).

J. ROBERT CADE, MD, AND GATORADE

Robert Cade was born on September 26, 1927, in San Antonio, Texas, and died in Jacksonville, Florida, on November 27, 2007, at age 80. He graduated from the University of Texas at Austin and the University of Texas Southwestern Medical School. In 1965, while researching at the University of Florida, he created Gatorade to help the school's football players replace carbohydrates and electrolytes lost through sweating while playing in the humid heat (39).

Now sold in 80 countries and in dozens of flavors, Gatorade was born thanks to a question from former Gators coach, Dwayne Douglas, to Robert Cade: "Doctor, why don't football players wee-wee after a game?" Cade's research demonstrated that a football player could lose as much as 18 pounds—90% to 95% of it water—during the 3 hours it takes to play a football game. Players sweated away sodium and chloride and lost plasma volume. Using about \$43 in supplies, Cade and his research colleagues concocted a brew for players to drink while playing football. The first batch was not exactly a hit.

Cade then added sugar and lemon juice to improve the taste. It was first tested on freshmen because the coach did not want to hurt the varsity team. Eventually, however, the use of the beverage spread to the Gators, who enjoyed a winning record and were known as a "second-half" team by outlasting opponents. After the Gators beat Georgia Tech 27 to 12 in the Orange Bowl in 1967, Tech coach Bobby Dodd told reporters that his team lost because "we didn't have Gatorade. . . . That made the difference." Stokely-Van Camp obtained the licensing rights for Gatorade and began marketing it as the "beverage of champions." PepsiCo now owns the brand, which has brought the University of Florida more than \$150 million in royalties since 1973. Cade said that Stokely-Van Camp hated the name "Gatorade," believing it to be too parochial, but stuck with it after tests showed consumers liked the name.

Gatorade held 81% of the \$7.5 billion a year US sport drink market in 2006! Cade said he thought the use of Gatorade would be limited to sports teams and never dreamed it would be purchased by regular consumers.

Dr. Cade was the University of Florida's first nephrologist and was proud that Gatorade was based on research into what the body loses in exercise, not on marketing preferences. Dr. Cade taught internal medicine at the University of Florida from 1961 to 2004. He and his wife had six children.

DEBAKEY AND COOLEY

Dr. Michael DeBakey (40, 41) was awarded the Congressional Gold Medal on November 27, 2007, and not long thereafter, the Denton A. Cooley (42) Cardiovascular Surgical Society awarded DeBakey a lifetime achievement award (43). Thus, it appears that these two great surgeons have decided to stop their 4-decade moratorium on speaking to one another. That's good. Both are great men.

THE AIDS DOCTOR IS RETIRING

Dr. Brady Allen (*Figure*), who for 25 years would leave his home for work at 6:00 AM and return home about 10:00 PM, is retiring at age 54 (44). He grew up in Groves, near

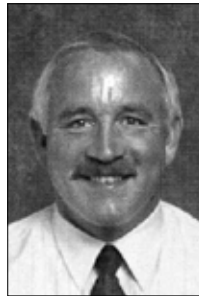


Figure. Dr. Brady Allen.

Port Arthur, Texas, with an alcoholic father but a loving grandmother. He was valedictorian of his high school class and earned a scholarship to the University of Texas at Austin, graduating in 1975, and from the University of Texas Southwestern Medical School in 1979. His medical internship and residency were at the Yale New Haven Hospital from 1979 to 1982. He then returned to Dallas just when AIDS was appearing. He welcomed these patients when some other physicians did not and eventually grew a practice of about 2000 patients, most of whom were HIV positive with or without AIDS. Gay himself, he had great understanding with enormous compassion and capacity for friendship with both his patients and their families. Over the years, about 300 of his AIDS patients died. He has been very open about his positive HIV status (since 1994) and his sexual preference. When the new drugs for AIDS and HIV came along in the late 1990s, he felt that some of his skill sets were no longer needed and retirement began creeping into his mind. Finally, in December 2007, he officially retired with plans to take a year off and then maybe begin working again with AIDS patients in Africa or India or with the poor and uninsured in the USA. We wish him well.

DR. HENRY GRAY, DR. H. V. CARTER, AND *GRAY'S ANATOMY*

Bill Hayes, a science writer, examined *Gray's Anatomy* and became interested in its author, Henry Gray (45). Unfortunately, Dr. Gray left no diary, no letters, and few case notes. It is not known whether he was born in Windsor or London. After his death from smallpox at age 34, his possessions were

most likely burned. He left behind a single work, more than 1000 pages of precise descriptions of parts of the human body. His book was first published in 1858 and it is not just Gray's. He enlisted the help of a fellow physician, H. V. Carter, who created the 360 or so drawings by which most of us actually know the book. In contrast to Gray, Carter led an adventurous and well-chronicled life. The Wellcome Library in London contains a trove of little-studied personal documents. A devout Christian, Carter kept a detailed diary of his temptations in London. After marrying a woman who he subsequently learned was already married, Carter went on to become an expert on tropical diseases and honorary surgeon to the queen before dying of tuberculosis at age 65. As for Gray, what is known of his life consists almost entirely of the prestigious posts he held. His grave, which he shares with his mother, is in London's Highgate Cemetery. *Gray's Anatomy* is now in its 39th edition in the United Kingdom and its 37th edition in the USA. An estimated 5 million copies have been sold to date. The year 2008 is the 150th anniversary of *Gray's Anatomy*.

J. K. ROWLING

Harry Potter and the Deathly Hallows, J. K. Rowling's seventh book, sold a record-breaking 11.5 million copies in the USA alone during its first 10 days on sale in July 2007 (46). In December 2007, *USA Today* selected *Hallows* as its book of the year because Rowling gave her story an ending that was as graceful, unpredictable, and satisfying as the series itself. She shows that imagination still lives.

PARENTAL VISITING OF HOSPITALIZED CHILDREN

At every children's hospital in the USA at just about any time of day and night, there are as many parents there as patients. These days, it seems obvious that seriously ill children need their parents beside them during a hospitalization. Yet unlimited parental visiting hours, as Dr. Howard Markel has written (47), are relatively new in US hospitals. In 1894, Boston Children's Hospital had only two visiting days for parents per week, 11:00 AM to noon on Wednesdays and 3:00 to 4:00 PM on Sundays (fathers only). At Massachusetts General Hospital in 1910, homesick children who cried too much for their parents were moved to isolation wards so as not to disturb the other patients. Such prohibitions were the norm at hospitals across the USA at that time.

In the 19th century most American hospitals were charitable enterprises devoted to the care of the urban poor, orphans, seaman, and immigrants. Patients had to be "morally worthy of the healing experience" they were offered. Drunks, criminals, prostitutes, and the so-called undeserving poor were not admitted. Most physicians practicing in that era considered childhood diseases to be caused by unhealthy environments and improper parenting. Thus, removing children from deleterious home environments was considered therapeutic.

Because many children's hospitals focused primarily on the correction of orthopedic problems and congenital malformations, pediatric patients often required months of hospitalization. This situation made these institutions ideal places to

remodel children morally as well as physically. Children with infectious diseases were typically admitted to contagious-disease facilities with even more limited visiting hours.

From the early 1900s to the late 1950s, most American hospitals continued to promulgate strict rules separating children from their parents. The working poor were forced to choose between visiting their children and reporting for work, branding them either as bad parents or bad workers. Wealthy parents, who could afford private rooms for their children in the same hospitals, had unlimited visiting hours.

From the 1960s on, advances in hospital architecture have radically changed the accommodations for family members. The shift from open wards to semiprivate and private rooms made it impossible for the hospital staff to keep an eye on all patients simultaneously. Such changes meant that parents could pitch in and give their children the nonmedical but essential comfort they needed. Nurses also led major efforts to develop family-focused care programs at children's hospitals and health clinics.

The modern children's hospitals now compete for patient dollars with hotel-grade living spaces for parents, restaurants, and other amenities. Why visiting hours were restricted for so many decades is a bit unclear. It may have been simply habit—it was always done that way—or possibly many physicians simply found it convenient and considered parents to be in the way.

FOREIGN-BORN STUDENTS AND RESEARCH DOCTORATES AWARDED BY US UNIVERSITIES

According to an annual survey by the National Opinion Research Center at the University of Chicago, foreign-born students holding temporary visitor visas received 33% of all research doctorates awarded by US universities in 2006 (48). That number had climbed from 25% in 2001. Foreign students comprised 44% of science and engineering doctorates in 2006! China was the country of origin for the largest number of non-US doctorates in 2006, followed by India, Korea, Taiwan, and Canada. The percentage of doctorates earned by US citizens varied from 32% in engineering, 47% in physical sciences, 87% in education, and 78% in humanities. Thus, is it any wonder that 40% of PhDs working in US science and engineering occupations today are foreign-born?

Furthermore, a mere 65,000 H-1B visas for foreign professionals are allocated each year in the USA. This fact means that more than half of all foreign nationals who earned advanced degrees in math and science in 2007 have been shut out of the US job market. Economic protectionists in the USA oppose lifting the visa cap to meet demand. It makes little sense, however, for our universities to be educating these talented foreign students and sending them packing after graduation to create wealth elsewhere. Closing the door to foreign professionals puts US companies at a competitive disadvantage and pushes jobs out of the USA. Additionally, the other countries are rolling out the welcome mats. In 2007, Microsoft, which is the third largest sponsor of H-1B visas, announced plans to open a new software development center near Vancouver,

Canada. The decision to locate the facility there was based in part on the fact that it doesn't have access to enough foreign workers stateside. If the USA spurns this human capital, it will be our loss.

BABY BOOMERS RETIRE

In 2008, the oldest of the 79 million baby boomers, born from 1946 through 1964, turn 62, which means they become eligible for Social Security (49). The boomers—projected to live longer than any previous generation of Americans—will have the longest retirements too. According to the American Academy of Actuaries, the likelihood of a 62-year-old living 10, 20, or 30 years longer is as follows: among 62-year-old men, 87% will live to age 72, 61% to age 82, and 21% to 92; among 62-year-old women, 90% will live to 72, 71% to 82, and 32% to 92. That's a long time to be out of work, so saving greatly before 62 should be a major priority.

THE LANCET AND IRAQI CASUALTIES

Three weeks before the 2006 election, the British medical journal *Lancet* published a bombshell report estimating that casualties in Iraq had exceeded 650,000 since the US-led invasion in March 2003 (50). That number was wildly exaggerated. It turns out that the *Lancet* study was funded by anti-Bush patricians and conducted by antiwar activists posing as objective researchers. The original *Lancet* report was featured later on 25 news shows and in 188 newspaper and magazine articles. But, the *Lancet* death toll was >10 times what had been estimated by the US and Iraqi governments and even by human rights groups.

Skeptics at the time of the report criticized the *Lancet* study's major methodological flaws. The high body count was an extrapolation based on a sampling of households and locations that were far too small to render reliable results. The *Lancet* study was funded by billionaire George Soros' Open Society Institute. (Mr. Soros, of course, is a famous critic of the Iraq campaign and a well-known patrician, having spent tens of millions trying to defeat Mr. Bush in 2004.) But Soros was not the only person associated with the *Lancet* study who had one eye on the data and the other on the US political calendar. Two coauthors, Gilbert Burnham and Les Roberts of Johns Hopkins University, told the reporters that they opposed the war from the outset and sent their report to the *Lancet* on the condition that it be published before the 2004 election. And the *Lancet* editor, Richard Horton, agreed to rush the study into print, with an expedited peer review process. He also made no secret of his political views.

It also turns out that the key person involved in collecting the *Lancet* data was an Iraqi researcher, Riyadh Lafta, who has subsequently refused to make his data available for inspection by other researchers. Mr. Lafta had been an official in Saddam's Ministry of Health when the dictator was attempting to end international sanctions against Iraq. He had previously written articles asserting that many Iraqis were dying from cancer and other diseases caused by spent US uranium shells from the Gulf War.

All this means that the *Lancet* study could hardly be more unreliable. Yet, it was trumpeted by the political left because it fit a narrative they wanted to believe. And *Lancet* is one of the

three best medical journals in the world! Few of us are free of interjecting our biases.

MILITARY BOOM IN GUAM

Located over 7800 miles west of Los Angeles and the size of the District of Columbia, Guam is now being spruced up to defend US interests in the Far East. Although the sultry island is plagued by typhoons, earthquakes, bad traffic, garbage, and tree snakes, the Pentagon has chosen Guam as the prime location in the Western Pacific for projecting US military might (51). Guam, which actually has served as an important US military outpost since World War II, is set to become a rapid response platform for problems ranging from pirates and terrorists to tsunamis, as well as a visible reminder to China that the USA is nearby.

To that end, thousands of US Marines and \$13 billion are to be dispatched to Guam over the next 6 years. Also arriving will be Trident submarines, a ballistic missile task force, Navy Special Operations forces, and Air Force F-22 fighter jets. Nuclear-powered attack submarines and B-2 stealth bombers already have arrived, and preparations are being made to accommodate aircraft carriers. The peace-time invasion, due to continue into 2014, will balloon the island's population by about 40,000 service people, contract workers, and dependents, an increase of almost 25% from its present 170,000.

The marine invasion is giving the Guamanians—an extraordinarily patriotic people who fight and die in US wars—considerable concern. The marines are moving to Guam from Okinawa, Japan, where their 6-decade presence has sometimes outraged the local people. To lessen chances of similar conflicts, the Guam government has asked the military to hold special courses in "how to behave" before the marines arrive and to periodically conduct refresher courses.

All this seems inappropriate to me. I think we need to come home, prepare our own bridges, roads, and airports, and improve our own manners. But we are soon to send our citizens who pay the least taxes a \$150 billion windfall, so I guess \$13 billion is not too much to be concerned about!

COFFEE FROM SEATTLE

It's a fantastic business (52, 53). A cup of coffee costs 16¢ to produce. Once labor and overhead are added, the markup still remains about 400%. Before Starbucks, I remember a cup of coffee cost 25¢ or so. The average spent for coffee per Starbucks visit, according to Taylor Clark, is \$4.05. (The average fast-food visitor spends \$4.34.) There are 57 Starbucks stores within 10 miles of downtown Dallas. Some are located across the street from one another. Starbucks' sales grew 21% in 2007. Six new Starbucks locations open every day. A \$4 cup of coffee means \$20 a week, at least, and that's just to start the day! It's no wonder we can't save any money in the USA.

WHERE THE US MONEY HAS GONE

A number of foreign governments have created gargantuan funds to invest the dollars they have accumulated by exporting oil, electronics, and other products to the USA (54). These "sovereign wealth funds," as they are known, now add up to

more than \$2.7 trillion—enough to buy ExxonMobil nearly 6 times over. The largest sovereign wealth funds (in billions of US dollars) and their estimated assets are as follows: United Arab Emirates, 700; Norway, 360; Singapore, 200; Saudi Arabia, 300; Kuwait, 200; China, 200; and Russia, 150. That's our money! The USA is broke and then some. We can expect our grandchildren to be annoyed.



—WILLIAM CLIFFORD ROBERTS, MD
February 18, 2008

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