banks do not charge the donor for collection or storage, but do charge $15,000 to $25,000 when a unit is provided for transplantation. The fee is usually covered by health insurance, Steinbrook wrote. However, expansion of these public banks has been limited by a shortage of stored cord blood and a lack of funding for storage and collection, he added.

In contrast, private cord blood banks offer parents the opportunity to store their own child’s cord blood for subsequent use by the child or a sibling. Fees generally are about $1,000 to $1,500 for collection and $100 a year for storage. Blood from private banks has been used in only a handful of transplants, Steinbrook notes. One issue: “As medicine is currently practiced, a child’s own cord blood cannot be used if the child is born with a genetic disease or develops leukemia.”

Steinbrook concludes, “A person’s own cord blood is very unlikely to be needed for personal or family use, so patients and society are better served when matches from unrelated persons can be found in a public bank.”

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**DOES FRUIT AND VEGETABLE INTAKE PROTECT AGAINST CANCER?**

A recent study questions whether the long-standing recommendation to eat an abundance of fruits and vegetables to reduce cancer risk may be overstated. In a report published in the *Journal of the National Cancer Institute* (2004;96:1577–1584), Walter Willett, MD, DrPH, and colleagues at the Harvard School of Public Health found that eating at least five servings of fruits and vegetables daily had an impact on cardiovascular disease risk but not overall cancer incidence.

Using data from the Nurses’ Health Study and the Health Professionals’ Follow-Up Study, Willett and colleagues examined the eating patterns of 71,910 women and 37,725 men as determined by food-frequency questionnaires. They compared fruit and vegetable intake with incidence of myocardial infarction, stroke, and all cancers combined (except non-melanoma skin cancer, in situ breast cancer in women, and organ-confined prostate cancer).

Study participants who ate greater amounts of fruits and vegetables showed statistically significant reductions in cardiovascular disease risk, with a relative risk of 0.88 for those who ate 5 servings of these foods each day. Overall cancer incidence, however, was not affected by the amount of fruits and vegetables in the diet.

“Our study means that everyone should still try to eat five or more servings of fruit and vegetables per day, but that the benefit will be mainly for cardiovascular disease,” said Willett, the study’s senior author and Professor of Epidemiology and Nutrition at the Harvard School of Public Health.

“It is still possible that there may be a small benefit [for cancer],” he continued, “but it is very unlikely that there will be the 30% to 50% reduction in cancer risk that has been suggested. Not smoking, avoiding [becoming] overweight, and staying physically active will be more effective in preventing cancer.”

Other cancer experts, however, questioned the methodology of the study and reiterated the soundness of recommending fruit and vegetable consumption for cancer prevention, as the ACS, the National Cancer Institute, and other groups do.

“The existing evidence supporting a reduced risk for cardiovascular disease is definitely stronger than for all cancers combined, but that doesn’t really mean there is no protective effect of fruits and vegetables for cancer,” said Jeanne Calle, PhD, Director of Analytic Epidemiology for the ACS.

“When you eat fruits and vegetables, you’re meeting your calorie needs with healthy food, as opposed to meeting them with sugar, fat, or low-nutrient foods,” she said. “Making good food choices is going to directly protect you from heart disease, but it’s also going to protect
you from weight gain, and that’s going to protect you from cancer.”

And in an editorial accompanying the study, Arthur Schatzkin, MD, DrPH, and Victor Kipnis, PhD, of the National Cancer Institute, note that the food questionnaires used to gauge people’s diets are subject to inaccuracies. If that’s the case, then it’s possible the protective effect on cardiovascular disease is even greater than the study showed and that there actually is an effect on cancer that the study couldn’t detect.

The time frame of the study may also have disguised an effect of fruits and vegetables on cancer risk, Calle pointed out. Because cancer can take decades to develop, it may simply take longer follow-up to find a benefit.

Or, she said, it may be that what people ate more recently has more of an impact on heart disease, while diet at a younger age has more of an impact on cancer. The Harvard researchers only tracked what participants ate during the course of the study (a 12-14 year period), not during earlier periods of life.

Another possibility, Calle said, is that the study masked any protective effect on cancer by looking at all cancers combined, rather than specific cancers.

“Cancers are very different from one another, and risk factors for cancer are very different,” she said. “If you looked at individual cancers you might see things that you don’t see with all cancers combined.”

Willett also acknowledged that some fruits and vegetables may have an effect on some types of cancer.

“I think it is plausible that there are some components of fruits and vegetables that may modestly reduce the risk of some cancers, but lumping all fruits and vegetables together obscures the benefit,” he said. “For example, we have seen evidence that a higher intake of tomato-based products may reduce the risk of prostate cancer.”

In addition, the Harvard researchers found a protective association for cruciferous vegetables (such as cauliflower, cabbage, broccoli, and even mustard and collard greens, for instance) and cancer risk, but only in men. Whether the types of cancers occurring in men are more responsive to these types of vegetables compared with cancers in women remains to be determined.

The bottom line, Calle said, is that studying the effects of foods on disease is a very complex process.

“While the data don’t really indicate a reduction in risk for all cancers combined, we’re not really ready to believe there’s no reduction for individual cancer sites,” she said. “Fruits and vegetables are healthy choices whether we can directly show this impact on all cancers combined or not.”

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**SURVEY: INSURANCE, DOCTOR CRUCIAL IN COLON CANCER SCREENING**

A survey from California confirms that people are more likely to get screening or diagnostic tests for colorectal cancer if they have health insurance and a regular source of health care. While that finding is in line with previous studies, the new survey also offers some insights into other factors responsible for low prevalence of screening—particularly among ethnic minorities and women.

Researchers from the University of California, Los Angeles, analyzed portions of the 2001 California Health Interview Survey (CHIS). Their findings were published in the journal Cancer (2004;101:2523–2532). The CHIS is a comprehensive statewide telephone survey conducted in English, Spanish, and several Asian languages. Using multiple languages assured that minority groups often excluded from such surveys because of language difficulties were included in the current study, said lead researcher Ninez Ponce, PhD, MPP, Assistant