Primary Care Prevention Updates on the Internet

Joseph L. Breault, MD, MS, MPHTM
Department of Family Medicine, Ochsner Clinic and Alton Ochsner Medical Foundation

Doing effective primary care prevention during the typical 12-minute office visit when the patient has come for other things is a challenge. Primary Care Physicians should be experts in health maintenance. As a practical matter in our office visits, this should often be #1 on the Assessment part of our SOAP notes. In this fast changing evidence-based medical world, we need to know the big picture behind health maintenance, the current recommendations, and how we keep up to date.

The Internet is a rich resource we can tap to keep up with the latest in prevention recommendations. You can use this article as an Internet guide to introduce yourself to some of these resources. This is an interactive tutorial, so sit down in front of a computer and surf the Internet as directed. Given how fast data and recommendations change, it is increasingly difficult to keep up to date without computer and Internet access. While what we cover here is limited, it provides an introduction to using the Internet to keep up with the latest in prevention and screening recommendations.

The Big Picture

What are people dying from? We need to know this before we can work on how we can prevent it. The facts have been tabulated and are on the government's website at www.cdc.gov/nchs. From their homepage, click on "Data Warehouse" and from the new page, click on "Statistical tables, charts, and graphs." At the bottom of the next page under "Vital Events" view or download the PDF file (see sidebar) on "Leading Causes of Death." The two-page table gives the latest (1997 preliminary) information on "Deaths and death rates for the 10 leading causes of death in specified age groups: United States." Looking over this gives us insight into what we need to be doing with our patients at their office visits.

For example, the average 24-year-old is most likely to die from (1) accidents, (2) homicide, or (3) suicide – so discussing these should be more of the focus than the sinus infection they may have come in for, or at least discussed while you are examining their sinuses. The top 10 varies for age groups, and you can see the breakdown as you review the lists.

Of course, things are more complicated than just age partitions. We know sex and race are factors in health and health needs. To get more detailed tables, click on the search function – usually a tab or icon on the left within the webpage (not the search icon on the browser, which will search the whole Internet)—you may have to click on the "Back" button of your browser to get to the previous page first. When the search box comes up, type in "leading causes of death, race, sex" and review the search results by score. One of the first ones will be: "National Vital Statistics Reports; Volume 47 Number 19... Summary: The 15 leading causes of death remained the same as in 1996, although human immuno-deficiency virus (HIV) infection plummeted from the 8th leading cause of death to the 14th leading cause. The largest decline in age-adjusted death rates among the leading…"

Sidebar: PDF files

Many Internet documents are presented as PDF files. To read these you need to have the free Adobe Acrobat Reader installed on your computer. You may already have this, in which case just clicking on the PDF file will open it up within the reader. If it doesn't work, you may need to download the free reader from Adobe. Go to www.adobe.com and click on the icon at the bottom of the page that says "Get Adobe Reader." Follow the directions on the page to download and install the reader on your computer.

When you open this 105-page document, Table 8 (pages 31-37) is the more detailed table and has leading causes of death by age by sex by race. It is well worth exploring it for a few minutes (see Table 1).

For a patient of ours who is a black female, age 35, the highest death rates are from (1) CA, (2) HIV, (3) cardiovascular, (4) accidents, and so forth. This helps us adjust our mindset to what is important to focus on for the patient. However, note that these death rates are low since young people don't die that often. Built into national screening guidelines are also realizations of what will cause this younger person's death later on in life, which is also to be prevented.

Table 1. National Vital Statistics Reports; Volume 47 Number 19 (6/30/99) Black, Female, 25-44 year. www.cdc.gov/nchswww/data/nvs47-19.pdf

#	Cause	Deaths	Rate
	All Causes	12,107	211.7
1	Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (140-208)	2,275	39.8
2	Human immunodefieciency virus infection (*042-*044)	1,673	29.3
3	Diseases of heart (390-398, 402, 404-429)	1,612	28.2
4	Accidents and adverse effects (E800-E949)	1,128	19.7
	Motor vehicle accidents (E810-E825)	610	10.7
	All other accidents and adverse effects (E800-E807, E826-E949)	518	9.1
5	Homicide and legal intervention (E960-E978)	817	14.3
6	Cerebrovascular diseases (430-438)	602	10.5
7	Diabetes mellitus (250)	282	4.9
8	Pneumonia and influenza (480-487)	240	4.2
9	Chronic liver disease and cirrhosis (571)	220	3.8
10	Chronic obstructive pulmonary diseases and allied conditions (490-496)	210	3.7
All other causes (Residual)		3,048	53.3

* Figure does not meet standards of reliability or precision.

Current Recommendations

What advice is useful to give? The US Preventative Services Task Force (USPSTF) has looked at this from an evidence-based approach. Their recommendations can be accessed at http://158.72.20.10/pubs/guidecps/ - Guide to Clinical Preventive Services, Second Edition (1996). On this page, you can open the PDF version, and toggle down the table of contents to section two on counseling. You can review the various chapters (54 – 64) and note that the following are where it is recommended that we give advice:

54. Counseling to Prevent Tobacco Use
55. Counseling to Promote Physical Activity
56. Counseling to Promote a Healthy Diet
57. Counseling to Prevent Motor Vehicle Injuries
58. Counseling to Prevent Household and Recreational Injuries
61. Counseling to Prevent Dental and Periodontal Disease
62. Counseling to Prevent HIV Infection and Other Sexually Transmitted Diseases
63. Counseling to Prevent Unintended Pregnancy
64. Counseling to Prevent Gynecologic Cancers

This entire document is available on line and is an important one that we should be familiar with. Go back on the browser to the document's table of contents and click in the introduction on "The Periodic Health Examination: Age-Specific Charts." These will start on page 62 of the PDF document that opens. These are the evidence-based summaries of what we should be doing with our patients in various age groups.

We can compare these to similar charts of other expert groups. Point your browser to www.aafp.org/exam/app-d-c.html and review the recommendations of the American Academy of Family Physicians (AAFP) for periodic health examinations.

These were last revised in July 1999 and are divided into five sections:

1. Positive Recommendations - General Population Standards
2. Positive Recommendations - General Population Guidelines
3. Positive Recommendations - Specific Populations Standards
4. Positive Recommendations - Specific Populations Guidelines
5. Negative Recommendations - No Strength Implied

Sometimes the expert group recommendations are easier to review by looking at a particular topic, such as breast cancer screening. There is a useful new tool on the Internet for comparing these guidelines.

Set your browser to www.guidelines.gov/ and you will see the homepage of the National Guideline Clearing House. In the search box, type in "breast cancer screening." My search found 27 guidelines, and I put a check next to the ones from the USPSTF, the AAFP, and the American College of Preventive Medicine (ACPM). You may want to add more to your list. After marking the ones you are interested in on each page, click on the button that says "Add to Guideline Collection," and then go back in your browser to toggle to the next page to do the same. When you are finished, you will have a page with the guidelines you are interested in and then click on the button marked "Compare Selected Guidelines." You are then given a useful table of comparisons about the guidelines. Toggle down to the end, and in the next to last row you can view the major recommendations. A few excerpts from these follow.

The AAFP recommends: Women age 50-69: "Offer mammography and clinical breast exam every 1-2 years;" Women age 40-49: "Counsel about potential risks and benefits of mammography and clinical breast exam."

The ACPM recommends the following for low-risk women (no family history, familial cancer syndrome, or prior cancer): "There is inadequate evidence for or against mammography screening of women under age 50. Women between ages 50 and 69 should have annual or biennial, high-quality, two-view mammography. Women aged 70 or older should continue undergoing mammography screening provided their health status permits breast cancer treatment."

The USPSTF has the following clinical intervention: screening for breast cancer "every 1-2 years, with mammography alone or mammography and annual clinical breast examination (CBE), is recommended for women aged 50-69... ("A" recommendation"). There is insufficient evidence to recommend annual CBE alone for women aged 50-69 ("C" recommendation).

For women aged 40-49, there is conflicting evidence of fair to good quality regarding clinical benefit from mammography with or without CBE, and insufficient evidence regarding benefit from CBE alone; therefore, recommendations for or against routine mammography or CBE cannot be made based on the current evidence ("C" recommendation). ...There is limited and conflicting evidence regarding clinical benefit of mammography or CBE for women aged 70-74 and no evidence regarding benefit for women over age 75; however, recommendations for screening women aged 70 and over who have a reasonable life expectancy may be made based on other grounds, such as the high burden of suffering in this age group and the lack of evidence of differences in mammogram test characteristics in older women versus those aged 50-69 ("C" recommendation). There is insufficient evidence to recommend for or against teaching BSE [breast self-examination]in the periodic health examination ("C" recommendation)."

Table 2: Comparison of Recommendations for Prostate Cancer Screening. www.guidelines.gov/

USPSTF (1996)

Routine screening for prostate cancer with digital rectal examination (DRE), serum tumor markers [e.g., prostate-specific antigen, (PSA)], or transrectal ultrasound (TRUS) is not recommended, based on fair evidence. Patients who request screening should be given objective information about the potential benefits and harms of early detection and treatment. Patient education materials that review this information are available. If screening is to be performed, the best-evaluated approach is to screen with DRE and PSA and to limit screening to men with a life expectancy greater than 10 years. There is currently insufficient evidence to determine the need and optimal interval for repeat screening or whether PSA thresholds must be adjusted for density, velocity or age.

ACPM (1998 Jul)

ACPM recommends against routine population screening with DRE and PSA. Men age 50 or older with a life expectancy of greater than 10 years should be given information about the potential benefits and harms of screening and limits of current evidence and should be allowed to make their own choice about screening, in consultation with their physician, based on personal preferences. Methods and tools for helping patients review this information are available; however, the ACPM recommends further research be conducted in optimizing the process of patient education and informed consent.

ACP (1997 Mar)

Recommendation 1: Rather than screening all men for prostate cancer as a matter of routine, physicians should describe the potential benefits and known harms of screening, diagnosis, and treatment; listen to the patient's concerns; and then individualize the decision to screen. Factors to consider include the following:

1. The principal reason for caution is that the balance of benefit and harm from early treatment is unknown. The risks of treatment are known, but the benefits are not known because no controlled studies of the effect of early treatment on death from prostate cancer have been done.
2. Indirect evidence based on decision models suggests that if screening and treatment prove beneficial, men who are 50 to 69 years of age will enjoy most of the benefit from screening. Men older than 69 years of age will gain little from screening.
3. It is important to note that because additional information is obtained from digital rectal examination (for example, information on occult blood in the stool, masses, rectal fissures, fistulas, and hemorrhoids), digital rectal examination is valuable for evaluating conditions other than prostate cancer.
4. In issuing a general recommendation against the routine use of such tests, the College acknowledges that it may be reasonable for a physician to recommend that an individual patient be screened for prostate cancer. The area of greatest controversy is screening for men who are between 50 and 69 years of age. For men in this age group, the physician should be particularly guided by the patient's preference and by the physician's and the patient's interpretation of the risk-benefit equation. Clinicians should be prepared to discuss this issue with their patients, to provide counseling on an individual basis, and to document these discussions. Potential benefits must be balanced against the potential morbidity and mortality related to treatment by radical prostatectomy or radiation therapy.
5. Black men and men with a family history of prostate cancer should be made aware of their higher lifetime risk. However, available evidence does not suggest that they should be cared for differently from men at average risk.

Recommendation 2: The College strongly recommends that physicians help enroll eligible men in ongoing clinical studies.

You can do a similar guidelines synthesis search for any topic you are interested in. If you do it for prostate cancer screening and substitute the American College of Physicians (ACP) for the AAFP, Table 2 is generated for you.

These three groups tend to have more evidence-based guidelines. If you searched for the guidelines of the American Cancer Society (www.cancer.org): "The American Cancer Society recommends that health care providers offer the prostate-specific antigen (PSA) blood test and digital rectal examination (DRE) yearly, beginning at age 50 years, to men who have at least a 10-year life expectancy, and to younger men who are at high risk" (www3.cancer.org/cancerinfo/main_cont.asp?st=ds&ct=36#early). While the Internet can keep you up to date with the latest recommendations, it cannot get all the expert groups to agree.

When Do We Stop Screening People?

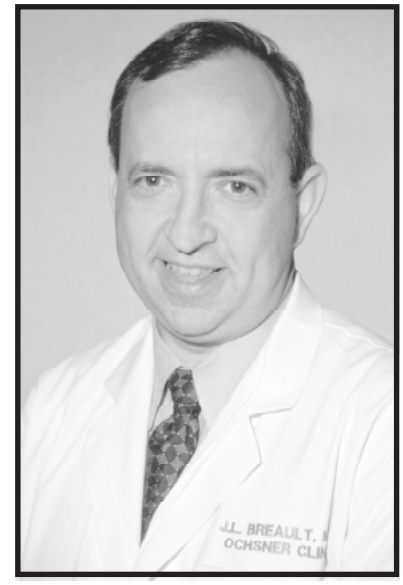
Many of the national guidelines do not clarify when we should stop screening, that is, when is a person too old to benefit from screening. The first step is knowing how long a person will be living. For example, a 75-year-old black female that comes to your office has how much longer to live? Certainly, it depends on their health status and longevity in their family, but you can look up a statistically based answer at www.cdc.gov/nchs/data/nvs47_28.pdf, published on December 13, 1999. If you go to page 5 of the PDF document, you will see the list of detailed tables that you can click on and jump to. In our case we go to the life table for black females. We find out that the average 75-76 year old black female has 11.5 years to go. This will certainly be a factor in decisions about breast and colon cancer screening, favoring screening in this age-race-sex group.

There is new evidence about when to stop screening that has not yet made it into guidelines. The Internet can be helpful in locating this. For example, point your browser to jama.ama-assn.org/issues/v282n22/pdf/jsc90092.pdf to see the recent article: "Continuing Screening Mammography in Women Aged 70 to 79 Years: Impact on Life Expectancy and Cost-effectiveness" (*JAMA* 1999; 282:2156-2163). The authors conclude: "This analysis suggests that continuing mammography screening after age 69 years results in a small gain in life expectancy and is moderately cost-effective in those with high BMD [bone mineral density] and more costly in those with low BMD. Women's preferences for a small gain in life expectancy and the potential harms of screening mammography should play an important role when elderly women are deciding about screening."

National screening guidelines will often be months to years behind the newest data that may modify them. Nevertheless, they are valuable for the depth of resources and expertise that goes into them. We need to keep abreast of the latest information that affects how we should apply primary care prevention, including screening, to our patients. Journals, books, and conferences are all important. It may be time for online access over the Internet to take its place with them.

Summary

Prevention and screening should be part of office visits. It should be efficiently done and relevant to the patient. We should know the big picture of mortality causes, life spans, and how much bang for the buck you will get from various screenings. The Internet can help us to keep up with the moving target of guidelines. While not discussed here, important other issues in screening are the science behind screening test evaluations, sensitivity and specificity, and cost effectiveness measured in dollars per healthy year equivalent or quality adjusted life year. All of these can be searched for on the Internet.



Dr. Breault is the Associate Director of the Family Practice Residency at Ochsner. He is a Fellow of the American Academy of Family Practice, a Diplomate of the American Board of Family Practice, and a member of The Ochsner Journal Editorial Board.