Section 23

Prevention CAP

Problem

It is preferable to prevent illnesses and disabilities rather than be required to address them once they have occurred. Therefore, the Prevention CAP is designed to alert the health care worker to the need to determine if the person has unmet preventive health requirements (for example, blood pressure screening, immunizations, mammograms) and to meet as many of them as possible in all settings of care. Although preventive health directives often may best be instituted before age 65, there is increasing evidence that many can be introduced profitably even in the later years of life. Some recommendations are designed specifically for use in that time period. It has been suggested that the most reasonable approach to screening most adults, and especially older adults, would be to incorporate such activities into the routine physician visit.

In general, preventive health measures include immunizations and screening for unrecognized health problems. While immunizations are designed to prevent illness, screening is designed to detect unrecognized illness at an early and treatable stage. The goal of both is to reduce morbidity and mortality. Although the advantage of any preventive health intervention is likely to decline with advancing age if measured in years of morbidity saved, prevention is still of great value for most older persons. It must be appreciated that the average 65-year-old currently has a life expectancy approaching 20 years. Furthermore, although many disorders of older adults are chronic and not curable, early detection and treatment of problems that interfere with functioning may result in functional deficits being postponed or even prevented altogether.

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Overall Goal of Care

- Ensure that persons who have not received preventive measures are identified and appropriate action is taken.

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Prevention CAP Trigger

TRIGGERED BECAUSE PREVENTIVE STRATEGY WAS NOT PURSUED,
DESPITE A RECENT PHYSICIAN VISIT

This group includes persons who have recently seen a physician and have not followed one or more of the following prevention strategies:

- Blood pressure measured in the last year
- Colonoscopy test in the last 5 years
- Dental exam in the last year
- Eye exam in the last year

- Hearing exam in the last 2 years
- Influenza vaccine in the last year
- Mammogram in the last 2 years (for women only)
- Pneumovax vaccine in the last 5 years

This triggered group includes about 40% of persons receiving home care and 80% of persons in long-term care facilities.

TRIGGERED BECAUSE PREVENTIVE STRATEGY WAS NOT PURSUED AND THERE HAS BEEN NO RECENT PHYSICIAN VISIT

This group includes persons who have **not** recently seen a physician and have **not** followed one or more of the following prevention strategies:

- Blood pressure measured in the last year
- Colonoscopy test in the last 5 years
- Dental exam in the last year
- Eye exam in the last year
- Hearing exam in the last 2 years
- Influenza vaccine in the last year
- Mammogram in the last 2 years (for women only)
- Pneumovax vaccine in the last 5 years

This triggered group includes 35% of persons receiving home care and almost no persons living in long-term care facilities.

NOT TRIGGERED

This group includes all other persons. The "Not Triggered" group includes about 20% of persons in long-term care facilities and 25% of persons receiving home care.

Prevention CAP Guidelines

The Prevention CAP concept of prevention encompasses a wide variety of tests, procedures, and clinical interventions. This CAP concentrates on some of the more traditional preventive health measures. Many other CAPs relate to prevention of a variety of other problems.

A negative response to any item noted in this CAP raises the possibility of poor preventive health care and further suggests the need to determine whether the person has access to high-quality comprehensive medical care. Persons who have not had specific preventive health tests likely should be recommended for consideration of those tests. The potential benefit and harm derived from each screening procedure and possible intervention must be considered in light of the age and frailty of the person.

The vaccines and screening procedures commonly recommended in the care of adults, and especially older adults, are noted in the following sections. In general, this CAP does not address preventive health measures that require the collection of laboratory data although, unquestionably, the comprehensive management of all older persons requires routinely obtaining some laboratory data both for screening and for establishing a "baseline" for future comparisons. There are considerable data about, but not absolute agreement on, which tests are indicated at what age.

Preventive health measures likely to be included in other CAPs are not considered here (for example, items that are pertinent to the prevention of pressure ulcers or the problems related to alcohol consumption).

It is important to note that recommendations for "routine" screening vary among countries. This CAP is based on commonly adopted strategies in many countries. It is important to understand which of these strategies have been adopted in your country, as it may not be possible to implement recommendations without financial support from a government or other relevant funding agency. The country-specific guidelines cited in this CAP are intended to illustrate guidelines that may be found in other countries.

Vaccinations. Older adults especially are susceptible to a number of infectious diseases, in particular those of the lower respiratory tract. Influenza and pneumonia remain the fifth leading cause of death in this age group. The merits of screening older adults to determine if they have received appropriate vaccines are clear. If an older person is admitted to the hospital in the United States for community acquired pneumonia, screening for a history of having received influenza and pneumonia vaccine is the standard of care as determined by Medicare. The Public Health Agency of Canada recommends influenza immunization yearly as well as timely pneumococcal vaccinations for those age 65 and over. If the person has not received these vaccines within the designated time period, they should be offered to the person while in the acute-care setting.

Influenza. Influenza epidemics usually occur in the late fall and winter season, and all older persons should be vaccinated each year before the influenza season except under unusual circumstances (for example, allergy to the vaccine). Because the virus changes on an annual basis, vaccination in one year is not likely to provide significant protection in subsequent years.

The Centers for Disease Control and Prevention (CDC) in the United States recommends this immunization program for all persons 50 years of age and over as well as certain other groups unless there is a specific contraindication. Recently the vaccine has been recommended for many more individuals in other age groups. Similar recommendations are made by the National Advisory Committee on Immunization (NACI) (www.hc-sc.gc.ca). Influenza vaccination is one of the most cost-effective medical interventions available. Of note, older adults have higher hospitalization and death rates from influenza than any other segment of the population and account for 80 to 90% of all influenza-related deaths. Although there is considerable year-to-year variation, vaccines have been shown to be on average 70% effective in preventing influenza, with the remaining 30% often having milder illness than unvaccinated persons.

Pneumococcal disease and other infectious diseases. An immunization program for pneumococcal disease is recommended for almost all older persons. However, it is not given annually. Unless there is a specific contraindication, tetanus immunization every 10 years is recommended for all adult age groups by agencies like the CDC and NACI. Details of immunization programs for other infections, such as hepatitis, varicella, and meningococcal disease, are available on the CDC Web site (www.cdc.gov) or Canadian Immunization Guide (www.phac-aspc.gc.ca/publicat/cig-gci/index-eng.php).

Screening. Traditional screening measures are valuable in circumstances where the disease in question has a high incidence rate and a treatment and/or therapy exists that can cure it or favorably modify its progression if found early. Also, there must be a reasonable likelihood that the person will live and function well for a period of time.

Hypertension. Hypertension is defined as a blood pressure of 140/90, with a systolic pressure of 120 to 139 and a diastolic pressure of 80 to 89 viewed as "pre-hypertensive." Hypertension is a very significant risk factor for both coronary artery disease and cerebrovascular disease.

According to the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure of the National Institutes of Health (NIH), as many as 90% of persons who are normotensive (having normal blood pressure) at age 55 will develop hypertension over the course of their lives. There is now compelling evidence that lowering blood pressure (including isolated systolic hypertension) is advantageous well into the later years. Several major studies have demonstrated good outcomes when hypertension was controlled, including a reduced incidence of stroke, congestive heart failure, and mortality. Therefore, screening at regular intervals is highly recommended. The level to which the blood pressure should be lowered varies to some degree according to the age of the person and his or her medical conditions.

Recommendations for frequency of screening vary by organization. The Institute of Medicine in the United States suggests that persons age 50 and older without known cardiovascular disease and with a history of normal blood pressure readings should have their blood pressure checked once every 2 years if there are no known risk factors (see also the Canadian Hypertension 2007 Educational Program: www.hypertension.ca/bpc/wp-content/uploads/2008/02/2008publicrecommendations.pdf). Most professional organizations would recommend that the blood pressure be measured routinely when adults seek care for most conditions. The proper means of taking the blood pressure can be found on the NIH Web site (www.nih.gov).

Breast cancer. Breast cancer is the most common cancer in women (except for skin cancers). Approximately one in nine women will develop breast cancer. Several factors are associated with a higher risk, such as a mother or sister having breast cancer, as well as the presence of certain genetic markers. There is evidence that breast cancer screening by means of mammography reduces mortality from breast cancer for women over 50 years of age. Of note, newer radiologic and imaging procedures may well be far more effective, but good data are not readily available at this time.

The U.S. Preventive Services Task Force recommends screening mammography, with or without a clinical breast examination, every 1 to 2 years for women age 40 or older. According to the Canadian Task Force on the Periodic Health Examination (CTPHE), women age 50 to 69 should receive screening with clinical breast examination (CBE) and mammography annually. In the United Kingdom, the NHS Breast Screening Programme suggests screening every 3 years for this age group, and it also offers screening to women over 70 at their request.

For women with a strong family history of breast cancer, the age to begin screening and the frequency to do so may be different. The value of the breast self-examination is not clear, and therefore many organizations make no specific recommendation. Data to support formal recommendations about mammography for those above about age 75 to 80 are hard to come by. Screening recommendations must be made in light of the woman's other medical conditions, insofar as they have an impact on her life expectancy. In general, if a woman has a life expectancy of greater than about 6 years, a case can be made to recommend mammography and perhaps newer screening procedures. Many groups recommend that a primary care provider perform breast examinations routinely on their female patients, although data to support the efficacy of this recommendation as a screening measure are lacking.

Colorectal cancer. The lifetime probability that a person will develop colorectal cancer is reported to be about 6 per 100 individuals. There are certain medical conditions that increase the risk. Race-specific rates suggest there are significant genetic factors that increase the incidence of this type of tumor, and certain races appear to have a higher risk of developing colon cancer at a younger age than others. Furthermore, the prevalence of colon cancer varies strikingly around the world, likely in part as a result of different dietary habits and perhaps other environmental factors. In general, the incidence increases with age. In Canada, colorectal cancer is the second most diagnosed cancer in women and third most in males (www.cancercare.on.ca).

Traditional screening tests have included the digital rectal exam and the fecal occult blood test. Regrettably, the evidence that they are valuable screening tools is limited at best. Nonetheless, because of the ease with which they can be carried out, they may be of some value in situations where screening by means of colonoscopy is not available. There are a large number of false positive and false negative tests with the fecal occult blood test. Flexible colonoscopy has become the standard in prevention. In no small part this is because most malignancies of the colon arise from other growths, usually adenomas (benign tumors that have a glandular origin), which can be found and removed by means of this procedure. Other radiologic screening tools are being developed. Of course, should a growth be discovered, likely a colonoscopy will be necessary for biopsy and/or removal. The frequency that a colonoscopy should be performed is under continual review and depends in part on whether or not a polyp (abnormal growth of tissue [tumor] projecting from a mucous membrane) is found on an initial study. Also, some premalignant growths are not easily seen unless the bowel is well cleaned out. It is known that the risks of colonoscopy are greater in the very elderly, and that although the prevalence of colonic neoplasia is higher among older persons, the mean extension in life expectancy is lower among adults age 80 and older compared with those age 50 to 54.

Gynecological (cervical/uterus) cancer. Although some groups have recommended a Pap smear every 1 to 3 years for older women, the upper age limit for screening remains a point of debate. If a woman has been screened regularly and if she does not have a high number of sex partners, the value of continuing screening beyond age 65 appears to be small, assuming she is asymptomatic and has no menstrual bleeding.

Prostate cancer. Although some groups continue to recommend yearly rectal examinations, many leading agencies do not. Screening by means of a PSA test is widely carried out in many places; however, its value as a screening tool remains controversial, in part because of the large number of false positive and false negative tests. However, it has great value in follow-up of men who have been diagnosed with cancer of the prostate.

Sensory impairments. Many preventive strategies involving screening for early hearing loss are addressed in the Communication CAP. It is clear that the provision of hearing aids as well as other assistive devices may produce dramatic improvement in function. With respect to vision, many groups recommend an annual ophthalmologic evaluation in older persons.

Osteoporosis. Approximately 20 to 25 million Americans are at increased risk for fractures because of low bone density. More than one million fractures in the United States each year can be attributed to this condition. According to the Public Health Agency of Canada, about one out of four women and one out of eight men over age 50 have osteoporosis. Similar data are available for other nations, especially those with large numbers of Caucasian women and those in Northern Europe, where

decreased exposure to sunlight over long periods of the year results in the limited bio-availability of vitamin D. This issue is addressed in the Falls and Nutrition CAPs.

At this time, screening by means of bone mineral density (BMD) x-rays (test that measures the density of minerals such as calcium to estimate the strength of bones) is recommended for all women age 65 and older by the National Osteoporosis Foundation (www.nof.org). Because such studies measure bone density and not bone structure itself, these recommendations may be modified in the near future when other screening mechanisms become widely available. Screening recommendations for men are under consideration.

Skin testing for tuberculosis. In the United States, skin testing for tuberculosis is now a two-step process. If the initial PPD (Purified Protein Derivative TB Skin Test or Mantoux) is negative, a repeat study is recommended usually in about 2 weeks.

Screening blood tests. There are a large number of screening blood tests that can be and often are used in different age groups. The merits of each test individually are difficult to ascertain. This should not be construed to mean that there is no merit in doing any number of blood tests, for example the measurement of hemoglobin, B12 levels, and thyroid function, on a regular basis. It is unclear how frequently they should be ordered. Screening for the various lipid abnormalities, especially in men beginning at age 40 and in women perhaps at a somewhat older age, is recommended by many professional organizations.

Smoking. Smoking is hazardous at any age both to those who smoke and those in the environment of the smoker. In addition, there is evidence that ceasing to smoke even a few weeks prior to an elective surgical procedure will decrease the risk of some of the complications associated with that procedure. The Center for Medicare and Medicaid Services (CMS) in the United States requires all persons admitted with a diagnosis of pneumonia to an acute-care facility to be screened for smoking and to be given smoking cessation material if the person does smoke.

Miscellaneous. The value of screening for certain tumors, specifically ovarian cancer (for example, by means of serum tumor markers, ultrasound), lung cancer (chest x-ray, sputum cytology), and cardiac disease (by means of CT scanning) is not clear at this time. Recently there has been a recommendation to screen men age 65 and above for presence of abdominal aortic aneurysm. If normal, no further screening is recommended at this time.

Lastly, screening to determine if there is a need to counsel a person about the value of an exercise program targeted to his or her clinical condition is strongly recommended by most.

Additional Resources

Fact sheets on immunization developed by Victoria, Australia, Department of Human Services: www.health.vic.gov.au/immunisation/factsheets
Health Canada Web site: www.hc-sc.gc.ca
NHS Breast Screening fact sheet:
www.cancerscreening.nhs.uk/breastscreen/publications/over70.pdf
Osteoporosis Canada Web site: www.osteoporosis.ca
U.S. Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure:
www.nhlbi.nih.gov/guidelines/hypertension/jnc7full.pdf

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