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Preventive Medicine Guidelines for the Geriatric Population

To promote and maintain the health of elders, it is critical that physicians adopt preventive medicine practices. This review of published geriatric health-maintenance research provides comprehensive guidelines for healthcare providers.

By Lisa Dockter, M.D. and David A. Simpson, M.D.

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Changing attitudes about health maintenance and advances in screening tests have made preventive medicine the foundation of healthcare. It is now widely known that changing lifestyle behaviors reduces risk factors for disease and that early detection and treatment can prevent disease progression. Health-maintenance guidelines for young people were established, but despite increases in the elderly population, comparable guidelines for elderly lagged. Estimates from the U.S. Bureau of Census show the population aged sixty-five or older has grown to thirteen percent, and persons over sixty-five comprise the fastest-growing age group.¹ This phenomenon is due partly to increasing longevity and partly to the aging Baby Boomers. By 2005, seventy-eight million Baby Boomers, people born between 1946 and 1964, will comprise a majority group aged fifty through seventy-four.²

It is imperative that physicians adopt practices to promote and maintain the health of seniors. Health-advisory groups and leading gerontologists recognized the lack of emphasis on geriatric preventive medicine and rigorously evaluated clinical data to develop comprehensive geriatric health-maintenance guidelines. We reviewed published guidelines and summarized the most salient features to achieve our goals as primary-care physicians to promote healthy aging and preserve function and quality of life for the elderly.

Fundamental Principles of Preventive Medicine

Three levels of preventive medicine are defined:

1. Primary prevention aims to prevent the onset of disease. Classic examples include counseling for smoking cessation, weight

- loss, dietary changes, and exercise. All these lifestyle changes reduce risk factors and help prevent the onset of disease.
2. Secondary prevention targets early detection of an existing condition to facilitate prompt treatment. Most screening tests fall under this category.
 3. Tertiary prevention typically involves treatment goals to minimize complications of chronic problems.

Screening

Screening is an important tool of preventive medicine, but not all screening methods are equal. Screening tests must meet an accepted standard. Well-established criteria for screening include:

1. The condition must have a significant impact on health/functioning.
2. The condition must have treatment available.
3. The test must be able to detect the condition at a stage where treatment will improve the outcome.
4. Tests must be safe and acceptable to patients.
5. Tests must be cost effective.
6. Tests must be accurate.

A good screening test must be sufficiently accurate to avoid large numbers of false results. Test accuracy is calculated using *sensitivity* and *specificity*. Sensitivity is defined as the fraction of people who test positive when they have the condition. A test with high sensitivity correctly identifies most people with a disease and has a low false-negative rate. It is important to minimize false negatives because people with the disease need treatment and may develop a false sense of security and ignore warning symptoms because a test result was negative.

Specificity is defined as the fraction of people who test negative when they do not have the condition. A test with high specificity correctly identifies healthy people as free of disease and minimizes the drawbacks of false positives. It is important to minimize false positives for the personal and monetary costs of follow-up testing. Patients may suffer from psychological distress over false-positive results and may be exposed to further risks due to additional diagnostic testing and procedures.

A good screening test is simple, accurate, inexpensive and available to a large population. Finally,

it is important to distinguish between screening asymptomatic individuals and testing people with symptoms.

Health Agencies and Professional Organizations

Numerous government-sponsored health agencies, health-promotion committees, and professional associations have created general screening guidelines. The American Cancer Society (ACS) reviews pertinent primary literature and periodically convenes a panel of experts to make recommendations on cancer screening. The Joint National Committee on the Detection, Evaluation and Treatment of High Blood Pressure (JNC) periodically convenes to analyze new data and treatments to update their hypertension guidelines. The JNC guidelines have become the standard of care for the diagnosis and treatment of hypertension.

“Healthy People 2010” is a health-promotion initiative under the auspices of the U.S. Department of Health and Human Services. The United States Preventive Services Task Force (USPSTF) publishes a “Guide to Clinical Preventive Services” targeted to primary-care providers and has become the cornerstone of preventive medicine in the United States. The Task Force, a team of eight medical doctors from different disciplines and two analysts, developed standardized criteria to evaluate the evidence. Using these criteria, they evaluated randomized controlled trials (the “gold standard”), non-randomized, placebo-controlled trials, and cohort studies. Evidence was weighed only from well-designed studies. The USPSTF assigns ranked grades to each recommendation on the basis of the quality of the evidence to support or refute an intervention:

- Grade A = good evidence of useful intervention
- Grade B = fair evidence of useful intervention
- Grade C = poor evidence of useful intervention, but probably not harmful, and may be useful in certain situations (i.e., high-risk patients)
- Grade D = fair evidence to exclude intervention
- Grade E = good evidence to exclude intervention

The USPSTF recommendations are the definitive, evidence-based guidelines that direct implementation, delivery, and payment of preventive health services in the United States; yet many protocols fail to specify the upper age limit for services.³

Defining “Elderly”

An obstacle to developing a consensus on geriatric preventive medicine is how to define “elderly.” Anyone over age sixty-five is considered elderly, but people over age sixty-five comprise a heterogeneous group. We all can think of two people the same age who have vastly different health status.

There are detailed equations that weigh medical problems, smoking history, family history, and other environmental factors to calculate a “physiological age.” Such a research tool is impractical in the typical primary-care setting. However, when performing the physical exam of a senior patient, doctors commonly document whether the patient “appears younger or older than their stated age.”

Many researchers have attempted to better define “elderly.” Buchner and Wagner (1992) describe a conceptual model of frailty that may better categorize seniors. Frailty is a dynamic condition resulting from aging, disease, and deconditioning and may be amenable to rehabilitation.⁴ It seems prudent to distinguish between robust elderly and frail elderly.

Life expectancy provides additional data to help categorize seniors. Average life expectancy of a healthy sixty-five year old is about twenty years compared to the five-year average life expectancy of an eighty-five year old.⁵

Factors Affecting Geriatric Preventive Medicine

Klinkman, Zazove, Mehr and Ruffin (1992) investigated the extenuating circumstances in geriatric preventive medicine and strove to provide a rational approach to health maintenance in the elderly. They appreciated that additional barriers to geriatric preventive medicine existed. They addressed the lack of homogeneity of seniors. They cited impairment of cognitive function. They examined the concept of health in the elderly and how the definition may vary depending on age. Good health in the elderly includes absence of disease, but equally important health outcomes are quality of life, independence, productivity, and general satisfaction. They analyzed cost and benefit and found that in general, the cost-effectiveness of preventive medicine screening in elderly patients is decreased compared with screening in younger patients.

Faced with conflicting and controversial data regarding preventive medicine screening in the

elderly, researchers adapted criteria for evaluating preventive services and tailored them to include the special issues affecting the elderly. Their key questions are:

- Is the disease clinically important or does it significantly affect functioning?
- How long does the disease take to develop?
- Is screening inexpensive?
- Will Medicare/insurance cover the cost?
- Is the screening acceptable to the patient?
- Is there a reasonable treatment?

Researchers then utilized these questions to evaluate preventive-medicine services in the elderly and developed a Geriatric Health Maintenance Program.⁶

Data Integration

A systematic literature search pertaining to preventive medicine in geriatric populations was conducted using MEDLINE and MD Consult. Primary research was evaluated for its *validity*, *generalizability*, and *bias avoidance*. These concepts are key to determining whether the recommendations of a given study are appropriate to apply to clinical practice. Validity is the degree to which the results are true for the study group and requires a focused hypothesis, objective outcome criteria appropriate to the hypothesis, and reproducible results. Generalizability means that the study group is truly representative of the target population and the results should be applicable to the whole population. Bias is best avoided by appropriate patient selection (well-defined study groups versus comparison groups with appropriate inclusion and exclusion criteria); randomly assigned patients (if possible); adequate follow-up time; controlling for confounding variables; and blinding study patients and researchers. Standard-of-care guidelines were reviewed and summarized. Available data on Medicare coverage has been included.

This summary focuses on the most common preventive-medicine screening and counseling methods, and limits protocols to the average-risk person.

Immunizations

The utility of immunizations for respiratory infections has been well established. Seniors have more morbidity and mortality associated with respiratory infections. Hospital stays are more frequently necessary for seniors and are generally longer than for their

younger counterparts. The USPSTF recommends (grade B) annual influenza vaccines and a single pneumococcal vaccination. There remains some debate about whether a pneumococcal booster is necessary, but the most recent Centers for Disease Control (CDC) guidelines recommend a repeat vaccination after ten years. Medicare covers these vaccinations.

Vision

Varying degrees of visual impairment are common in elderly populations. Common causes are:

- **Presbyopia:** Loss of accommodation of eye, leading to difficulty seeing close up. This process typically begins at age forty and progressively worsens.
- **Cataracts:** An opacification of the lens affecting nearly one-third of persons age sixty-five to seventy-four, and is likely present in sixty percent of people over age seventy-five. Cataracts are the second leading cause of blindness in the United States.
- **Glaucoma:** High pressures in the blood vessels of the eyes damage the retina and optic nerve. This occurs in approximately five percent of people over age sixty-five.⁷
- **Macular Degeneration:** Loss of central vision that causes a profound decrease in visual acuity. This occurs in about ten to fifteen percent of elderly people aged sixty-five to seventy-five, and in up to thirty percent of seniors over seventy-five.⁸

Improving vision may improve quality of life for seniors and reduce disability. There is an association between visual loss and fractures, and improving vision may decrease risk of fractures.⁹ The USPSTF gives a (grade B) recommendation to performing vision screening with a Snellen eye chart and offers no age limit, as this benefit extends throughout a person's life. The USPSTF gives glaucoma screening a (grade C), and recommends utilizing a patient's individual risk factors to guide decision-making. Neither Medicare Part A nor B pays for routine eye care.

Hearing

Hearing loss in the elderly is typically due to simple presbycusis. The mechanism of presbycusis is not known, but results in loss of high-frequency tones.

Hearing loss due to noise exposure and other problems likely contribute to total hearing deficit. Hearing loss occurs in roughly one-third of people aged sixty-five to sixty-nine; two-thirds of those aged seventy to seventy-nine; and in nearly three-fourths of those seniors aged eighty or over.

Hearing is clearly related to communication and quality-of-life issues. It has been directly linked to functional disability, and screening effectively works to identify patients with the problem.

Treatment is readily available.¹⁰ The USPSTF recommends (grade B) screening patients with periodic questioning about their hearing, and recommends (grade C) audiometric hearing tests only with symptoms such as hearing loss or tinnitus (ringing in the ears). No age limit is offered. Medicare Parts A and B do not pay for hearing aids.

Tobacco Use

Use of tobacco products has been linked to many medical conditions, most notably cancer, heart disease, and lung disease. It is the single most significant patient-controlled cause of premature death.¹¹ There are widely established, noncontroversial benefits to quitting smoking both in primary, secondary, and tertiary prevention. Quitting smoking reduces risk factors for disease onset and minimizes complications due to existing disease. There is no time limit on the benefits of quitting smoking, and USPSTF recommends (grade A) frequent tobacco cessation counseling for any person using tobacco products, regardless of their age.

Nutrition

Nutrition counseling in the elderly must include both prevention of malnutrition and promotion of a balanced healthful diet to avoid obesity. Approximately fifteen percent of community-dwelling elders, and up to fifty percent of institutionalized aged persons may suffer from malnutrition.¹² Poor nutrition has been associated with slow healing, presence of pressure ulcers and memory loss. Obesity has been linked to coronary artery disease (CAD), diabetes mellitus (DM) and many cancers.¹³

The USPSTF recommends dietary counseling (grade B) for balanced diet that limits fat intake and encourages consumption of fruits and vegetables. The USPSTF does not specifically cite malnutrition in the elderly. Other researchers illustrate the controversy. Zazove (1992) failed to acquire sufficient evidence

to recommend that screening is beneficial, while later studies recommend an annual weight check.¹⁴

Urinary Incontinence (UI)

UI is a frequent problem affecting up to thirty percent of active seniors and more than fifty percent of nursing-home residents.¹⁵ UI is more common in women due to anatomical differences and effects of childbirth on pelvic muscles. Men are affected by UI due to prostate disorders. Medically, UI increases risk of urinary-tract infection and complicates pressure ulcers in nonambulatory patients. The larger burden of UI is psychosocial impairment.

The USPSTF has not evaluated UI, but other researchers have extensively reviewed the problem and recommend questioning patients about symptoms, as patients are often too embarrassed to address the problem.¹⁶ Nursing staff have been in an ideal situation to assess the extent of the problem. Patient education material, "Urinary Incontinence, The Best Kept Secret," has been developed, and is available for distribution.¹⁷

Burn Prevention

Burn injuries occur frequently in seniors, and are associated with relatively high morbidity and mortality rates.¹⁸ The USPSTF recommends general counseling (grade A) to reduce water temperature to less than 120° Fahrenheit and to prevent smoking in bed. They provide a (grade B) recommendation to maintain working smoke detectors.

Cognitive Function

Dementia is most common after age seventy-five and increases in frequency as people age. Dementia is defined as overall diminishment in mental function that impairs daily life. Depression can often be confused with dementia because it hinders concentration and can decrease short-term memory. Multiple problems cause dementia and most are not readily treatable.

This restricts the utility of screening. No firm evidence supports screening asymptomatic individuals. The USPSTF gives screening a (grade C). Other research concurs that screening has little utility.¹⁹ Symptomatic patients, those with memory problems and concentration difficulties, should be screened using the Folstein Mini-Mental Status Exam, and undergo a thorough medical exam if deficits are found.

Motor-Vehicle Accidents

Family members frequently inquire about when their elderly relatives should stop driving. On average, drivers aged seventy and older have more motor-vehicle accidents (MVA) than middle-aged drivers. Fatalities due to MVA are also much higher in the elderly, though this is likely attributable to higher rates of complications from injuries. Sensorimotor deficits probably contribute to decreased driving safety, but the problem is not clear-cut. Dementia has not been definitely associated with MVA.

The USPSTF recommends (grade A) counseling patients to wear seatbelts, but does not address the issue specifically in elders. Other research has not developed a consensus. It is probably appropriate to refer patients to state motor vehicle departments for behind-the-wheel evaluations when questions of driving safety arise.²⁰

Falls

Risk of falling is quite high in the elderly population. Estimates are as high as thirty percent of independent-living seniors fall each year. Gait problems due to degenerative joint disease, neurological disease, and deconditioning are partly to blame. Another proposed mechanism includes visual disturbance.²¹ While only a small fraction of falls in community-dwelling seniors result in fractures (five to ten percent)²² and only one percent of these fractures involve the hip,²³ fractures generate a functional and financial burden for patients. Death rates increase fourteen to thirty-six percent within the first year following hip fractures. Admissions to nursing homes increase up to twenty-five percent after hip fractures. Vertebral compression fractures cause pain and necessitate additional medication usage. Even the fear of future falls may decrease seniors' activities of daily living and increase their dependence on other resources.²⁴

The USPSTF recommends counseling to prevent falls under their general category of accident prevention. For high-risk individuals, they recommend (grade B) in-home fall prevention programs. The issue of falls is also addressed under the exercise intervention category, and exercise programs to prevent falls in the elderly earned a (grade B) from USPSTF.

Exercise

It is well known that regular exercise reduces risk of CAD, obesity, high blood pressure, DM, osteoporosis

and mental health disorders. Specific studies have documented that vigorous exercise reduces all causes of mortality and improves longevity.²⁵ In addition to specific health benefits, exercise improves quality of life in seniors. Evidence suggests that exercise programs, including weight training and cardiovascular fitness regimens, prevent decline of physical ability by improving strength, endurance, flexibility, and balance.²⁶ USPSTF recommends (grade A) counseling patients to enjoy regular, moderate physical activity and applies no age limit.

High Blood Pressure

The Joint National Committee on the Detection, Evaluation and Treatment of High Blood Pressure (JNC) estimates that hypertension occurs in as many as fifty-eight million Americans and has a higher incidence in the elderly.²⁷ Hypertension significantly increases a person's risk for coronary artery disease, cerebrovascular disease, and renal disease. Hypertension is diagnosed on the basis of three elevated readings separated in time with systolic ≥ 140 and/or diastolic ≥ 90 . The JNC makes allowances for elderly person's risk of medication side effects and tolerates a systolic blood pressure up to 160. Diabetics have lower cut-off goals of 130 systolic and 85 diastolic. These are levels above which treatment is recommended.

It has been well established that lowering blood pressure into normal ranges reduces the incidence of heart attack and stroke. JNC, the American Heart Association, and USPSTF recommend (grade A) screening normotensive persons once every two years without any age limit.

Cholesterol

Coronary artery disease (CAD) is the number-one cause of death in the United States for people over sixty-five.²⁸ Elevated cholesterol has been unquestionably associated with increased risk of CAD, but this risk varies with age. The Framingham Data provided the most comprehensive age-related association data on CAD risk and lipids. All causes of mortality are significantly increased with high lipids at age forty. For persons aged sixty-five to seventy-five, there is about a sixty percent increased risk of CAD with increased lipids. The association wanes after age eighty, and there is no benefit to CAD risk with lipid modification.²⁹

The USPSTF recommends (grade B) screening for cholesterol between ages thirty-five to sixty-five.

Other researchers recommend screening healthy seniors until age seventy-five, and there is good consensus to discontinue screening beyond age seventy-five.³⁰

Diabetes

Complications of diabetes include CAD, kidney disease, peripheral vascular disease, and blindness. Diabetes is common in the United States (fourteen million people), and ninety to ninety-five percent of these patients have Type Two, or adult-onset diabetes. Risk factors for this type are primarily obesity and family history of diabetes. Tests for diabetes are accurate and treatment dramatically improves health outcomes for people with diabetes. Onset of the disease occurs at any age, but incidence increases with age. Despite these factors, routine screening of asymptomatic individuals has not proven useful.³¹

The USPSTF recommends (grade C) screening only high-risk patients. Medicare will pay for tertiary preventive medicine services for the control of diabetes.

Post-menopausal Osteoporosis

Risk factors for osteoporosis include female gender, lack of weight-bearing physical activity, smoking, thin body habitus, low calcium intake, corticosteroid use, and family history. Osteoporosis has been implicated in vertebral compression fractures and hip fractures. It is estimated that one-quarter of U.S. women over age sixty suffer vertebral fractures and fifteen percent sustain hip fractures. The American Society of Rheumatology recommends a DEXA scan (bone density test) after age fifty to screen for osteoporosis, but evidence-based guidelines do not support this recommendation. Screening for osteoporosis has not been shown to improve outcomes.

Starting at menopause, patients should be offered therapy to prevent osteoporosis, 1,500 milligrams of dietary calcium each day, and hormone-replacement therapy. Evidence suggests that this is especially important in the first five years following the onset of menopause, during the period of rapid bone loss.³²

The USPSTF recommends routine DEXA scan screening only at (grade C). The USPSTF does recommend (grade B) calcium and hormone-replacement therapy. For women who cannot or will not use hormonal supplementation, other therapies are available that have shown some efficacy in trials.

Medicare will pay for DEXA scans every two years for patients at risk for osteoporosis.

Lung Cancer

No data support routine screening for lung cancer, regardless of risk. USPSTF rates routine chest X-rays a (grade D).

Skin Cancer

Skin cancer is a common condition affecting more than 1 million people a year in the United States.³³ Two types, Basal Cell Carcinoma (BCC) and Squamous Cell Carcinoma (SCC) occur more frequently in the elderly. BCC has a low incidence of metastasis and low mortality. SCC has a higher incidence of mortality, though it is not a leading cause of cancer deaths overall.

No evidence warrants routine skin checks in low-risk individuals.³⁴ The USPSTF gives routine skin checks a (grade C) recommendation.

Cervical Cancer

Well-documented evidence illustrates the importance of routine Pap smears to detect precancerous changes of the cervix to dramatically reduce risk of invasive cervical cancer. Upper age limits remain the only controversial point.

The American College of Obstetrics and Gynecology recommends screening throughout life. The American Geriatric Society recommends screening until age eighty-five. The USPSTF and other researchers support screening only until age sixty-five, as long as previous Pap smears have remained normal.³⁵ The USPSTF gives a (grade C) rating for screening after age sixty-five. Medicare will pay for Pap smears once every two years.

Breast Cancer

One in nine women in the United States can expect to develop breast cancer, although the lifetime risk of dying of breast cancer is only about four percent. The incidence of breast cancer increases in each decade of life.³⁶

The USPSTF recommends (grade A) screening mammography every year for women aged fifty to sixty-nine. The American Cancer Society (ACS) offers no upper age limit, while the American Geriatric Society suggests stopping at age eighty-five. Other investigators recommended discontinuing screening once life expectancy is less than six years.³⁷ Medicare pays for yearly mammogram screening.

Colon Cancer

Colorectal cancer is one of the most common cancers in the United States and is equally common in both sexes. It is the second most common cause of cancer deaths, and carries a six percent lifetime risk of dying. This statistic is especially disheartening considering that colorectal cancer can be detected early in the disease course with screening procedures.

Screening has been shown to significantly decrease mortality due to colon cancer in people aged fifty to eighty. Specifically, yearly fecal occult blood test (FOBT) screening has been shown to decrease mortality thirty-three to forty-three percent in studies. Flexible sigmoidoscopy every three to five years has been shown to decrease mortality up to fifty-nine percent. The five-year survival rate for localized colon cancer (typically cancer detected early) is ninety-one percent.³⁸ USPSTF recommends (grade B) yearly fecal occult blood testing (FOBT) and flexible sigmoidoscopy every five years. No age limit is specified. ACS guidelines recommend yearly FOBT plus one other study—either flexible sigmoidoscopy every five years, barium enema every five years, or colonoscopy every ten years. Gerontologists postulate that screening can be discontinued at age seventy-five or when life expectancy is less than thirteen years,³⁹ or discontinued at age eighty-five when the patient has limited life expectancy.⁴⁰ While there is no firmly established upper age limit for screening, there is a consensus that the upper age limit should depend on patient's life expectancy. Medicare pays for FOBT. Medicare pays seventy-five to eighty percent for flexible sigmoidoscopy every forty-eight months.

Prostate Cancer

Prostate cancer screening remains the most controversial cancer-screening category based on the risks/benefits analysis of the disease compared to the treatment. Men may harbor cancer cells but never develop clinically significant disease. Prostate cancer treatments, typically surgery or radiation, have a high side-effect profile that includes impotence and urinary incontinence.⁴¹ These side effects significantly affect quality of life for most men.

The USPSTF has repeatedly recommended (grade D) against prostate cancer screening. Conversely, the ACS guidelines have reviewed research that shows benefit to screening and recommend yearly digital rectal exam and Prostate Specific Antigen (PSA) testing beginning at age fifty. African-American men have

a higher risk of prostate cancer and screening should begin earlier than the general recommendations suggest.⁴² No consensus on age limit has been decided. Medicare pays for annual PSA.

Conclusions

Physicians' traditional role was to diagnose and treat disease, but the new philosophy of prevention has remodeled that role to promote health maintenance. The research supports a number of strong recommendations, including cancer screening in the elderly; this is especially important considering the incidence of most cancers increases with age. Only prostate cancer screening raises controversy because of the possibility of unnecessary treatment and serious side effects. Risk-factor reduction in cardiovascular disease, the leading cause of death in Americans over age sixty-five, is well established. The benefit of immunizations against respiratory infections to prevent disease and lower rates of death and disability is unquestioned. Yet, despite the health benefits, many seniors do not get recommended preventive medicine.

Barriers to screening are many. Physicians may not offer the full panel of preventive services to seniors. Given the large number of effective screening protocols available, lack of time becomes an issue—especially in the managed-care environment. A systematic organization system in the primary-care office to prompt physicians that these services are due is necessary. Many primary-care providers have developed preventive-medicine checklists or utilize computerized medical records that can be replicated. Physicians must also remain up to date on evolving practice guidelines.

Patient-erected barriers exist as well. Costs of preventive screening—even tests covered by Medicare—can create a significant hurdle for elderly patients on fixed incomes. Patients' perceptions about screening also contribute to lower rates of adherence to recommended guidelines. Some patients feel that development of disease is a normal part of aging, and some tests can cause discomfort. Pelvic exams, rectal exams, mammograms, and flexible sigmoidoscopy are frequently refused on the basis of patient comfort. When a patient refuses a screening method, the physician should discuss the basis for refusal and try to alleviate the patient's concerns.

Of course, the patient retains the right to direct his or her own medical care. Preventive-medicine

interventions should be agreed upon by shared decision-making. Physicians must educate patients on which screening protocols apply to them and explain the reasoning behind testing.

Finally, given the heterogeneity of elderly patients, issues such as individual medical history, risk factors, and life expectancy should be factored into the decision on whether or not to screen for a specific condition. Patients need to be aware of the risks and benefits of testing and the options for treatment if a problem is discovered. Well-informed physicians and elderly patients can work as a team to improve longevity and quality of life.

Endnotes

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40. See Omenn, *supra* note 4.
41. See generally A. Von Eschenbach et al., *American Cancer Society Guideline for the Early Detection of Prostate Cancer: Update 1997*, 47 CA. CANCER J. CLINICIANS 261 (1997).
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