

Pharmacist Involvement in Healthy People 2010

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Objective: To review opportunities through which pharmacists can help the United States achieve its public health goals as expressed in *Healthy People 2010*, a document issued by the federal government that expresses the areas of focus for Americans in the first decade of the 21st century. **Summary:** *Healthy People 2010* provides general goals for 10 leading health indicators (such as tobacco use, overweight and obesity, and immunizations), and these are then further subdivided into 28 focus areas, many of them with quantifiable goals (such as, "Reduce hospitalization rates for three ambulatory care-sensitive conditions—pediatric asthma, uncontrolled diabetes, and immunization-preventable pneumonia and influenza."). As health care professionals, pharmacists have the responsibility to help the country meet these goals. Ideas for increased pharmacist involvement are described in the article, including the conduct of screening programs and provision of specialized services that focus on such areas as hypertension, diabetes, asthma, patient education, smoking cessation, or general medication management. Pharmacists can build their efforts in these and similar areas by collaborating with physicians and other appropriate professionals, identifying target patients who have obtained services at the pharmacy, contacting patients in at-risk populations within the pharmacy's patient base and/or the community, choosing and monitoring an objective of interest, and maintaining efforts for sustained time periods. **Conclusion:** The message of *Healthy People 2010* is that the health of the individual is closely linked to the health of the community and hence the health of the nation. Pharmacists, uniquely positioned as the most accessible health care providers in the community, can dedicate their considerable strengths toward using *Healthy People 2010* as a tool to organize their own efforts and motivate their patients.

Keywords: Healthy People 2010, public health, disease prevention, disease screening, pharmacy practice, pharmacist roles, pharmaceutical care services.

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Since the publication of *Promoting Health/Preventing Disease* in 1980 and *Healthy People 2000* in 1990, pharmacists have complained that the nation's goals to promote public health provide little role for members of the profession to play in these grand plans.^{1,2} In the recently published *Healthy People 2010*,³ the U.S. Department of Health and Human Services' public health blueprint for this decade, pharmacists can find a multitude of

opportunities to become involved.

The overarching goals of the Healthy People 2010 initiative are to increase the years, as well as the quality, of life of Americans and to eliminate health disparities in subgroups defined by gender, race, ethnicity, income, education, disability, sexual orientation, and rural/urban location. *Healthy People 2010* is divided into 10 leading health indicators (see Table 1) and further subdivided into 28 focus areas (see Table 2). However, the details are in the document's 467 objectives, which translate the more general indicators and focus areas into specific targets and goals for the country. Examples of pharmacist-centered objectives are provided in Table 3.

Addressing the challenge of health improvement is a responsibility shared by federal, state, and local governments; policy makers; health care providers; business executives; educators; community leaders; and the American public.³ Among health care providers, linkages among physicians, nurses, dentists, dietitians, therapists, physician assistants, laboratory technologists, and pharmacists must be developed to maximize the impact on Healthy People 2010 objectives.

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Table 1. Healthy People 2010: Leading Health Indicators

Physical activity	Mental health
Overweight and obesity	Injury and violence
Tobacco use	Environmental quality
Substance abuse	Immunization
Responsible sexual behavior	Access to health care

Identifying Objectives of Importance to Pharmacists

A few Healthy People 2010 objectives point directly to pharmacists as the responsible party, such as objective 17-5: "Increase the proportion of patients who receive verbal counseling from prescribers and pharmacists on the appropriate use and potential risks of medications."⁴ Other objectives, such as those addressing alcohol abuse, physical fitness, dietary control, and sexual responsibility, are far more general, and are the province of various segments of society. Many objectives, however, provide community pharmacists, health-system pharmacists, managed care pharmacists, and consultant pharmacists opportunities to get involved.

To illustrate this point, consider the contributions pharmacists could make toward achieving Objective 12-14: "Reduce the proportion of adults with high total blood cholesterol levels." The baseline value for this objective is that 21% of adults aged 20 or older had total blood cholesterol levels of 240 mg/dL or greater in 1994. The goal stated in *Healthy People 2010* is to reduce that figure to 17%.³

Heart disease and stroke are, respectively, the first and third leading causes of death in the United States.⁵ High blood cholesterol is a major risk factor for coronary artery disease (CAD). Total blood cholesterol levels of 240 mg/dL or above are considered high and should result in further testing and intervention.⁶ More than 50 million U.S. adults have blood cholesterol levels that require them to seek medical advice and treatment, while another 90 million adults have levels that are borderline high (200–239 mg/dL).⁷ For Americans under age 40, the lifetime risk for developing CAD is one of every two men or boys and one of every three women or girls.⁸ Lifestyle changes—such as stopping smoking, increasing physical activity, maintaining a healthy weight, and controlling diet, along with pharmacologic management of blood pressure and elevated cholesterol levels—are extremely effective in lowering the risk of heart attack or stroke.^{7,9}

Among American subpopulations, 21% of whites age 20 and older have total blood cholesterol levels of 240 mg/dL or greater, compared with 19% of African Americans, 22% of women and girls, and 19% of men and boys. Data for American Indians or Native Alaskans and Asian or Pacific Islanders are statistically unreliable.⁶

Pharmacists have a history of involvement in disease management programs related to cholesterol. For example, they have engaged in screening and monitoring cholesterol and high blood

Table 2. Healthy People 2010: Focus Areas

Access to quality health services
Arthritis, osteoporosis, and chronic back conditions
Cancer
Chronic kidney disease
Diabetes
Disability and secondary conditions
Educational and community-based programs
Environmental health
Family planning
Food safety
Health communications
Heart disease and stroke
Human immunodeficiency virus
Immunization and infectious disease
Injury and violence prevention
Maternal, infant, and child health
Medical product safety
Mental health and mental disorders
Nutrition and overweight
Occupational safety and health
Oral health
Physical activity and fitness
Public health infrastructure
Respiratory diseases
Sexually transmitted disease
Substance abuse
Tobacco use
Vision and hearing

pressure, counseling patients on smoking cessation, and managing patients' medication regimens. However, *Healthy People 2010* presents dual opportunities: a published goal against which to measure the impact of pharmacists' activities and a way to highlight the significance of pharmacists' involvement.

Getting Involved

To demonstrate how you, as a pharmacist, can have an impact on an important measure of health in the United States, we present the following example.

- Select an objective that lends itself to pharmacist input—in this case, reducing the incidence of high blood cholesterol levels.
- Seek collaboration with physicians, nurses, and health care organizations in your area of practice and your community. Leveraging with others will allow you to address the problem on multiple levels within the health care delivery process.
- Identify the patients in your practice who meet the objective's definition—in this example, those individuals aged 20 years

Table 3. Healthy People 2010: Objectives Presenting Opportunities for Pharmacist Activities

1-3	Increase the proportion of people appropriately counseled about health behaviors.	12-14	Reduce the proportion of adults with high total blood cholesterol levels.
1-9	Reduce hospitalization rates for three ambulatory care-sensitive conditions—pediatric asthma, uncontrolled diabetes, and immunization-preventable pneumonia and influenza.	12-16	Increase the proportion of persons with coronary heart disease who have their low-density lipoprotein cholesterol level treated to a goal of less than or equal to 100 mg/dL.
1-16	Reduce the proportion of nursing home residents with a current diagnosis of pressure ulcer.	13-13	Increase the proportion of human immunodeficiency virus-infected adolescents and adults who receive testing, treatment, and prophylaxis consistent with current United States Public Health Service treatment guidelines.
2-8	Increase the proportion of persons with arthritis who have had effective, evidence-based arthritis education as an integral part of their condition.	14-1	Reduce or eliminate indigenous cases of vaccine-preventable diseases.
2-9	Reduce the proportion of adults with osteoporosis.	14-8	Reduce the incidence of Lyme disease.
3-8	Reduce the rate of melanoma cancer deaths.	14-13	Increase the proportion of contacts and other high-risk persons with latent tuberculosis infection who complete a course of treatment.
3-9	Increase the proportion of persons who use at least one of the following protective measures that may reduce the risk of skin cancer: avoid the sun between 10 am and 4 pm, wear sun-protective clothing when exposed to sunlight, use sunscreen with a protective factor rating of 15 or higher, and avoid artificial sources of ultraviolet light.	14-18	Reduce the number of courses of antibiotics for ear infections for young children.
4-1	Decrease the rate of new cases of end-stage renal disease.	14-19	Reduce the number of courses of antibiotics prescribed for the sole diagnosis of the common cold.
4-7	Decrease kidney failure due to diabetes.	14-29	Increase the proportion of adults who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease.
4-8	Increase the proportion of persons with type 1 or type 2 diabetes and proteinuria who receive recommended medical therapy to decrease progression to chronic renal insufficiency.	15-7	Decrease nonfatal poisonings.
5-4	Increase the proportion of adults with diabetes whose condition has been diagnosed.	15-8	Decrease deaths caused by poisonings.
5-5	Reduce the diabetes death rate.	15-28	Decrease hip fractures among older adults.
5-7	Reduce deaths from cardiovascular disease in persons with diabetes.	16-13	Increase the percentage of healthy full-term infants who are put down to sleep on their backs.
5-10	Reduce the rate of lower-extremity amputations in persons with diabetes.	17-1	Increase the proportion of health care organizations that are linked in an integrated system that monitor and report adverse events.
5-11	Increase the proportion of persons with diabetes who obtain an annual urinary microalbumin measurement.	17-3	Increase the proportion of primary care providers, pharmacists, and other health care professionals who routinely review with their patients 65 and older with chronic illness and disabilities all new prescribed and over-the-counter medications.
5-12	Increase the proportion of adults with diabetes who have a glycosylated hemoglobin measurement at least annually.	17-4	Increase the proportion of patients receiving information that meets guidelines for usefulness when their new prescriptions are dispensed.
5-16	Increase the proportion of adults with diabetes who take aspirin at least 15 times monthly.	17-5	Increase the proportion of patients who receive verbal counseling from prescribers and pharmacists on the appropriate use and potential risks of medications.
5-17	Increase the proportion of adults with diabetes who perform self blood glucose monitoring at least once daily.	19-11	Increase the proportion of persons aged 2 years and older who meet the dietary recommendation for calcium.
6-11	Decrease the proportion of people with disabilities who report not having the assistive devices and technology needed.	24-1	Reduce asthma deaths.
7-8	Increase the proportion of patients who report they are satisfied with the patient education they receive from their health care organization.	24-2	Reduce hospitalizations for asthma.
7-10	Increase the proportion of tribal and local health service areas that have established a community health program that addresses multiple Healthy People 2010 focus areas.	24-7	Increase the proportion of persons with asthma who receive appropriate asthma care according to the National Asthma Education and Prevention Program guidelines.
11-2	Improve the health literacy of persons with inadequate or marginal literacy skills.	24-9	Reduce the proportion of adults whose activity is limited due to chronic lung and breathing problems.
11-6	Increase the proportion of persons who report their health care provider has satisfactory communication skills.	24-10	Reduce deaths from chronic obstructive pulmonary disease among adults.
12-6	Decrease the hospitalization of older adults with congestive heart failure as their principal diagnosis.	26-4	Reduce drug-related hospital emergency department visits.
12-10	Increase the population of adults with high blood pressure whose blood pressure is under control.	27-5	Increase smoking cessation attempts by adult smokers.
		27-7	Increase smoking cessation attempts by adolescent smokers.

Source: Reference 3.

and older with a total cholesterol level of 240 mg/dL or more. Identifying such patients may require that your pharmacy conduct a cholesterol screening program. Of particular interest are those members of population subgroups with inordinate risks for the disease or condition. In the case of elevated cholesterol levels, a group that deserves such attention is African Americans. While all patients who meet the objective's criteria should be considered, particular attention should be focused on members of populations at higher risk for negative outcomes.

- Choose outcomes related to the objective that can be measured (e.g., adults with controlled blood pressure, those who have stopped smoking, patients who have entered a weight reduction and exercise program, drug use evaluations, and total blood cholesterol levels).
- Measure these outcomes on an ongoing basis. Remember that the goals in *Healthy People 2010* have a 10-year timeline. This is not simply a 6-month project, but, rather, a long-term commitment to improving the health of your patients, your community, and, ultimately, your nation.

Roles in Diabetes Management

Several of the objectives in *Healthy People 2010* are related to issues to which pharmacists are particularly attuned. Seventeen objectives are directly related to diabetes, a disease that has a huge impact on the nation's health care spending and overall health. Pharmacists can certainly help in achieving many of the diabetes-related objectives.

The direct and indirect costs of diabetes total nearly \$100 billion a year. The average health care cost for a person with diabetes in 1997 was \$10,071, compared with \$2,699 for a person without diabetes. Because death records often fail to reflect the role of diabetes, the full burden of the disease is hard to measure, and the costs related to undiagnosed diabetes are unknown.¹⁰

The following examples illustrate how pharmacists can help achieve diabetes-related Healthy People 2010 objectives by providing screening, education, monitoring, and medication management services to patients.

Objective 5-4—Increase the proportion of adults with diabetes whose condition has been diagnosed. The baseline used by the Healthy People 2010 study is that 68% of Americans aged 20 years and older with diabetes had been diagnosed in 1994. The target is to increase the number diagnosed to 80%.¹¹ Many pharmacists have participated in diabetes screening activities in the past; still, nearly one-third of patients with diabetes in the United States remain undiagnosed. Of particular interest should be Mexican Americans with diabetes, as only 53% are diagnosed.¹¹ Pharmacy-based screening programs should be marketed to these patients in particular.

Objective 5-11—Increase the proportion of persons with diabetes who obtain an annual urinary microalbumin measurement. Firm evidence exists that microvascular and metabolic complica-

tions of both type 1 and type 2 diabetes are prevented through reductions in microalbuminuria.¹² Urinary microalbumin measurement detects small quantities of protein in the urine, which is an early indicator of kidney damage.¹³

Pharmacists can take an active role in achieving this objective by ensuring that patients with diabetes receive annual urinary microalbumin tests and, if found to be at risk for developing kidney problems, take angiotensin-converting enzyme inhibitors, which will reduce progression to renal failure. Each year, 33,000 Americans are diagnosed with end-stage renal disease.^{13,14} Pharmacists whose efforts help in reducing this number will have significantly improved public health and reduced health care expenditures.

Objective 5-12—Increase the proportion of adults with diabetes who have a glycosylated hemoglobin measurement at least annually. The baseline measurement in 1998 was that only 24% of Americans who were over 20 years old and had diabetes received this test annually. The goal in *Healthy People 2010* is to increase this proportion to 50% by 2010.¹⁵ Given that glycosylated hemoglobin (A1c) is accepted as the community standard to assess blood glucose control and that poor glycemic control is linked to end-organ damage, this objective represents a perfect scenario for pharmacist involvement.¹⁶ The baseline figures for this objective also represent significant disparities that must be addressed. While 48% of Asian or Pacific Islanders received annual A1c testing in 1998, only 21% of African Americans, 22% of Hispanic Americans, 25% of whites, and 29% of American Indians/Alaska Natives were tested annually, leaving a huge margin for improvement.¹⁵

Objective 5-17—Increase the proportion of adults with diabetes who perform self blood glucose monitoring at least once daily. The current baseline is that only 42% of patients with diabetes aged 18 years and older are self-monitoring their glucose levels daily. The target is 60%. Again, significant disparities exist among population groups. Only 30% of Asian or Pacific Islanders and 36% of Hispanic or Latinos monitor glucose daily, compared with 53% of American Indians or Alaska Natives.¹⁵

Objective 5-5—Reduce the diabetes death rate from 75 deaths per 100,000 population in 1997, to 45 diabetes-related deaths per 100,000 in 2010. Compared with people without the disease, mortality rates are 2 to 4 times higher for patients with diabetes when deaths from cardiovascular disease, renal failure, diabetic acidosis, and infection are considered.^{17,18} Racial and ethnic disparities in mortality rates highlight the higher risk of some populations. While the death rate related to diabetes is 62 deaths per 100,000 population for Asian or Pacific Islanders and 70 deaths per 100,000 population for whites, American Indians or Alaska Natives have a rate of 107 deaths per 100,000 population, Mexican Americans are at 115 deaths per 100,000, and African Americans are at 130 deaths per 100,000. Knowing the mortality risk of diabetes in these populations, interested pharmacists can devote resources of time and energy on their behalf.

Roles in Asthma Management

Asthma provides similar opportunities for pharmacists to provide valuable screening, education, monitoring, and medication management services.

Objective 24-7—Increase the proportion of persons with asthma who receive appropriate asthma care according to the National Asthma Education and Prevention Program guidelines. The goals of asthma therapy are to prevent chronic and troublesome symptoms; maintain near-normal pulmonary function, maintain normal activity levels, prevent recurrent exacerbations and minimize the need for emergency room visits or hospitalizations, provide optimal pharmacotherapy with minimal or no adverse effects, and meet patient and family expectations of and satisfaction with asthma care.¹⁹ Despite the availability of published treatment guidelines, the number of those with asthma who are limited in their day-to-day activities because of the disease actually rose from 1986 to 1996, and now stands at 19.6% of patients.²⁰

Proposals to measure outcomes related to objective 24-7 include number of patients who receive written asthma management information, patients who are instructed on using their inhalers, those who receive medication regimens that prevent the need for more than one canister of short-acting, inhaled β_2 -agonists per month to relieve symptoms, those who receive follow-up care after any hospitalization related to asthma, and patients who receive assistance in assessing their exposure to environmental risk factors at home, school, and work.²¹

Conclusion

More than 50 of the 467 objectives listed in *Healthy People 2010* deserve special attention from pharmacists. Table 3 lists the objectives we identified as presenting opportunities for pharmacists to intervene. However, pharmacists can certainly target other objectives in their own practices and communities. For a review of the entire text and a list of all 467 objectives, look for a copy of *Healthy People 2010* at a local library or online at www.healthypeople.gov.

The message of *Healthy People 2010* is that the health of the individual is closely linked to the health of the community and, hence, the health of the nation. Although encouraging improvements have been made on many fronts since the publication of *Healthy People 2000*, there is still a long way to go. *Healthy People 2010* provides a guiding instrument for addressing health issues, reversing unfavorable trends, and building upon recent achievements. Pharmacists, who are uniquely positioned as the most accessible health care providers in the community, can use *Healthy People 2010* as a tool to organize their own efforts and motivate their patients in the service of these goals.

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