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National Eye Health Education Program

Five-Year Agenda | 2012–2017

National Eye Institute
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National Eye Health Education Program
NEHEP

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I. Introduction

Eye disease, a growing public health problem in the United States, can cause significant suffering, disability, loss of productivity, and diminished quality of life for millions of people. The National Eye Institute (NEI), one of the federal government's National Institutes of Health, addresses this public health problem through programs of biomedical research, disease prevention, and health promotion.

A congressional appropriation for fiscal year 1988 contained a directive to NEI "to increase its commitment to the prevention of blindness through public and professional education programs and the encouragement of regular eye examinations." NEI utilized the appropriated funds to establish the National Eye Health Education Program (NEHEP). Through NEHEP, NEI has embarked on public and professional education programs on glaucoma, diabetic eye disease, low vision, vision and aging, and special population outreach, emphasizing the importance of early detection and timely treatment of eye disease and the benefits of vision rehabilitation. NEHEP aims to increase awareness among health professionals and the public of scientifically based health information that can be applied to preserving sight and preventing blindness, and works in partnership with a variety of public and private organizations that conduct eye health education programs or that represent populations at higher risk for eye disease.

This Five-Year Agenda (hereinafter referred to as "Agenda") provides strategic goals and objectives that will guide NEHEP efforts for raising eye health awareness among people at higher risk for eye diseases and conditions and people living with low vision. This Agenda incorporates input from the NEHEP Planning Committee, which advises NEI on the overall development, implementation, and evaluation of NEHEP activities, with ultimate guidance and approval from the National Advisory Eye Council, the advisory group to NEI. The Agenda is built upon best health education practices, current research, and scientific literature. Its goals and objectives will be accomplished through (a) setting results-oriented program priorities, (b) providing a framework for developing and implementing activities for higher risk audiences, (c) building NEHEP Partnership support, and (d) establishing and implementing a comprehensive evaluation plan to assess activities for each program area and redefine program strategies as necessary. The guiding principles of this Agenda encompass program approaches that address cultural competency and health literacy. In addition to serving as a roadmap to reach those at higher risk for eye diseases and conditions with eye health information over the next five years, this Agenda also outlines efforts to work with a variety of intermediary organizations and engage the support of eye and other health professionals.

A. NEHEP Goal

The goal of NEHEP is to ensure that vision is a public health priority through the translation of eye and vision research into public and professional education programs. All NEHEP programs and activities are designed to reflect this goal. To accomplish this, NEHEP supports collaboration among eye health professionals, healthcare providers, community health professionals, patients, and the public.

B. NEHEP Objectives

Five objectives have been established to help ensure NEHEP reaches its goal of making vision a health priority. The following objectives serve as a framework for guiding all NEHEP program activities:

1. Develop and implement culturally appropriate, health-literate, and evidence-based education programs that address early detection, treatment, and low vision rehabilitation of eye diseases and disorders in all settings and life stages of high-risk populations.
2. Build, strengthen, and sustain a formal partnership network to implement eye health education programs.
3. Expand NEHEP reach and visibility through collaborations with public, private, and nontraditional partners and use of national, state, and local media; traditional and social media tools; and other relevant channels.
4. Provide leadership to federal, state, and local government agencies and public- and private-sector organizations and agencies on eye health-related issues.
5. Establish a research and evaluation base that facilitates the development of effective program interventions and health promotion activities.

II. NEHEP Priority Areas

The seven priority areas, listed below, and their respective action items are outlined on the following pages.

- **Priority Area One:** Leadership in Eye Health Education
- **Priority Area Two:** The NEHEP Partnership
- **Priority Area Three:** Diabetic Eye Disease Education Program
- **Priority Area Four:** Glaucoma Education Program
- **Priority Area Five:** Low Vision Education Program
- **Priority Area Six:** *¡Ojo con su visión!* (Watch out for your Vision) Education Program
- **Priority Area Seven:** Vision and Aging Education Program

A. Priority Area One: Leadership in Eye Health Education

The primary role of NEHEP is to convey sight-saving information to those at higher risk for eye diseases by promoting the importance of early detection, timely treatment, and low vision rehabilitation. NEHEP will continue to build on its role as the eye health education arm of NEI, the lead federal government agency for vision research and eye health education. NEI conducts extensive research in the field of eye health, and NEHEP is positioned to disseminate the most current research findings to the public, including target audiences, health-related organizations, health professionals, and other stakeholders. NEHEP also facilitates information exchange and collaboration among organizations concerned with eye health using focused strategies designed to communicate evidence-based, consistent, and audience-tailored eye health education messages. Recommendations from public and private organizations to strengthen overall program efforts will be reviewed and assessed by NEHEP, and innovative communication and networking opportunities will be utilized across all program areas.

Goal 1: Strengthen NEHEP to be one of the leaders in the eye health field and to be a facilitator in an exchange of information that promotes eye health education, vision rehabilitation, and the prevention of blindness and visual impairment among those at higher risk for eye diseases and conditions.

- **Objective 1:** Engage in at least five strategies that will increase the visibility of NEHEP as a leader in public eye health education.
- **Objective 2:** Publish up to three articles on NEHEP-related activities and resources in professional publications.
- **Objective 3:** Present NEHEP-related activities and research at a minimum of three professional meetings.

- **Objective 4:** Collaborate with at least three federal agencies on eye health-related activities.
- **Objective 5:** Establish a strong presence on at least two social media platforms.

B. Priority Area Two: The National Eye Health Education Program Partnership

NEHEP has a formal partnership with more than 60 public and private national-level organizations interested in eye health education. The purpose of the Partnership is to establish ongoing, interactive, mutually beneficial relationships with NEI and other organizations to achieve NEHEP goals and objectives. Organizations belonging to the NEHEP Partnership have a direct interest in eye health and represent populations at higher risk for eye diseases and conditions. These organizations support the development and implementation of NEHEP activities; engage in strategies and activities that will further the aims of NEHEP; and exchange information, views, and materials on eye health education. The Partnership is one of the primary vehicles through which NEHEP is able to promote critical eye health messages and disseminate the latest eye research findings.

Partnership organizations have expressed their views and opinions about the Partnership through a formal assessment via online surveys and in-depth interviews. The vast majority of organizations indicate they benefit from their Partnership status and many believe that their relationship with NEHEP can be improved through increased communication and collaboration with NEHEP.

The following goals and objectives will be measured over the five-year period of the Agenda, unless stated otherwise.

Goal 1: Establish ongoing communication efforts to increase NEHEP Partnership engagement.

- **Objective 1:** Offer and promote at least 15 opportunities for NEHEP Partnership organizations to learn about NEHEP activities and resources.
- **Objective 2:** Conduct an annual assessment of the NEHEP Partnership to gather their opinions and experiences regarding their involvement with NEHEP, available resources, communication, and opportunities for collaboration.

Goal 2: Facilitate communication and collaboration among Partnership organizations.

- **Objective 1:** Provide at least three communication channels for NEHEP Partnership organizations to share information about their eye health education activities and exchange ideas.
- **Objective 2:** Maintain an up-to-date NEHEP Partnership directory on an annual basis.
- **Objective 3:** Assess the need to add new organizations to the Partnership on an annual basis.

C. Priority Area Three: Diabetic Eye Disease Education Program

Diabetes affects 26 million people in the United States. Individuals between the ages of 45 and 64 represent the largest group of newly diagnosed people with diabetes. Compared to non-Hispanic White adults, the risk of diagnosed diabetes is 18 percent higher among Asian Americans, 66 percent higher among Hispanics, and 77 percent higher among non-Hispanic Blacks. American Indian and Alaska Native diabetes prevalence ranges by region, from 5.5 percent among Alaska Natives to 33.5 percent in southern Arizona regions. The longer a person has diabetes, the greater his or her risk is of developing vision complications. All people with diabetes—young, older, and from every background—are at risk for diabetic eye disease, a group of problems people may face that includes cataract, diabetic retinopathy, and glaucoma. Diabetic eye disease is the leading cause of vision loss and blindness in working-age adults 20–74 years of age.[1] NEI estimates that 7.7 million people age 40 and older have diabetic retinopathy and that this number will increase to approximately 11 million people by 2030.[2]

People with diabetes can take a proactive approach to protect their sight. Although diabetic eye disease often has no early warning signs, it can be detected early through a comprehensive dilated eye exam. Research has shown that early diagnosis and timely treatment can prevent vision loss in more than 90 percent of people with diabetes, yet approximately half of all people with diabetic retinopathy are diagnosed at a stage when it is too late for treatment to be effective.[3]

The Diabetic Eye Disease Education Program is designed to increase awareness about diabetic eye disease and the importance of having a comprehensive dilated eye exam at least once a year among people with diabetes.

The following goals and objectives will be measured over the five-year period of the Agenda, unless stated otherwise.

Goal 1: Increase awareness about diabetic eye disease among people with diabetes.

- **Objective 1:** Develop and/or implement at least 10 outreach activities targeted to populations at higher risk for diabetic eye disease, including African Americans, American Indians and Alaska Natives, Hispanics/Latinos, older adults with diabetes, and other populations as dictated by science.
- **Objective 2:** Develop and implement a comprehensive outreach initiative for American Indians and Alaska Natives with diabetes.
- **Objective 3:** Work in conjunction with the *¡Ojo con su visión!* Program to develop and implement a comprehensive outreach initiative for Hispanics/Latinos with diabetes.

Goal 2: Conduct targeted outreach to health professionals, community health workers, and others working with people with diabetes.

- **Objective 1:** Conduct at least five outreach activities for professional organizations serving people with diabetes to disseminate diabetic eye disease information, messages, and materials.
- **Objective 2:** Collaborate with at least five professional and/or community-based organizations to deliver eye health information to those at higher risk for diabetic eye disease.
- **Objective 3:** Develop and submit up to five conference abstracts to professional meetings and conferences.
- **Objective 4:** Submit at least one article for inclusion in professional publications or journals.

Goal 3: Cultivate sustainable relationships with key intermediaries to expand the reach of NEHEP among people with diabetes.

- **Objective 1:** Disseminate program information, messages, and materials through at least 10 NEHEP Partnership organizations, annually, that serve populations at higher risk for diabetic eye disease.
- **Objective 2:** Facilitate and support the incorporation of diabetic eye disease information, messages, and materials into existing program and outreach efforts of at least 10 intermediary organizations.
- **Objective 3:** Engage in at least five collaborative activities with organizations representing populations at higher risk for diabetic eye disease.

D. Priority Area Four: Glaucoma Education Program

According to NEI, glaucoma is a leading cause of visual impairment and blindness, affecting as many as 2.7 million people over age 40 in the United States. This number is expected to increase to approximately 4 million by the year 2030.[2] Studies show that at least half of all persons with glaucoma are unaware they have the disease. Although vision loss due to glaucoma may be prevented through early detection and treatment, it often goes undetected because there are no warning signs or symptoms in the early stages of primary open-angle glaucoma, which is the most common form of the disease. Some populations are at higher risk for developing glaucoma, including African Americans over age 40; everyone over age 60, especially Mexican Americans; and people with a family history of glaucoma. African Americans are particularly at higher risk for developing glaucoma and developing it at a younger age than other racial/ethnic groups. In fact, NEI estimates that approximately 520,000 African Americans ages 40 and older have glaucoma and by 2030, this number will increase to 865,000.

The Glaucoma Education Program is designed to increase awareness about glaucoma among people at higher risk. This program focuses on increasing awareness among eye care and other health professionals of the need for comprehensive dilated eye examinations for people at higher risk for the disease once every one to two years.

The following goals and objectives will be measured over the five-year period of the Agenda, unless stated otherwise.

Goal 1: Increase awareness about glaucoma among people at higher risk for the disease.

- **Objective 1:** Develop and implement at least 15 outreach activities targeting populations at higher risk for glaucoma, including African Americans over age 40; everyone over age 60, especially Mexican Americans; people with a family history of glaucoma; and other populations as dictated by science.
- **Objective 2:** Develop and implement a comprehensive outreach initiative for African Americans over age 40.
- **Objective 3:** Work in conjunction with the *¡Ojo con su visión!* Program to develop and implement a comprehensive outreach initiative focused on age-related eye diseases and conditions and blindness prevention among Hispanics/Latinos at higher risk for glaucoma.

Goal 2: Conduct targeted outreach to health professionals, community health workers, and others working with people at higher risk for glaucoma.

- **Objective 1:** Engage in at least five outreach activities with professional organizations serving people at higher risk for glaucoma to disseminate information, messages, and materials promoting early detection and treatment.
- **Objective 2:** Collaborate with at least three professional and/or community-based organizations to deliver eye health information, messages, and materials to people at higher risk for glaucoma.
- **Objective 3:** Develop and submit up to three conference abstracts to professional meetings and conferences.
- **Objective 4:** Submit at least one article for inclusion in professional publications or journals.

Goal 3: Cultivate sustainable relationships with key intermediaries to expand the reach of NEHEP among people at higher risk for glaucoma.

- **Objective 1:** Disseminate glaucoma information, messages, and materials through at least five NEHEP Partnership organizations, annually, that serve populations at higher risk for glaucoma.
- **Objective 2:** Facilitate and support the incorporation of glaucoma information, messages, and materials into existing program and outreach efforts of at least five intermediary organizations.
- **Objective 3:** Engage in at least five collaborative activities with organizations serving people at higher risk for glaucoma.

E. Priority Area Five: Low Vision Education Program

Low vision is defined as a visual impairment not correctable by standard eyeglasses, contact lenses, medication, or surgery that interferes with a person's ability to perform everyday activities. NEI *estimates that* low vision affects 3 million Americans ages 40 and older. This figure is projected to reach 4.5 million by the year 2020.[4] Low vision ranks behind only arthritis and heart disease as the reason for impaired daily functioning in Americans over the age of 70.[5]

The degree of low vision varies with each person and may be caused by congenital birth defects, injury, aging, and complications from disease. The most common causes, however, include age-related macular degeneration (AMD), cataract, diabetic retinopathy, and glaucoma.[6]

The Low Vision Education Program is designed to increase awareness about low vision, vision rehabilitation services, and assistive and adaptive devices among people with low vision and their families, friends, and caregivers, and also among health professionals. These services and

devices can enhance the functional abilities of people with vision loss, allowing them to regain or maintain their independence and quality of life.

The following goals and objectives will be measured over the five-year period of the Agenda.

Goal 1: Increase awareness among people with low vision about the benefits of vision rehabilitation services.

- **Objective 1:** Develop and implement a comprehensive outreach initiative targeting people with low vision and their families, friends, and caregivers.
- **Objective 2:** Develop and implement a public service campaign targeting people with low vision about managing medications.
- **Objective 3:** Collaborate with the *¡Ojo con su visión!* program to develop at least five culturally and linguistically appropriate resources for Hispanics/Latinos with low vision.

Goal 2: Increase awareness among health professionals, community health workers, and others about services available to assist people with low vision.

- **Objective 1:** Develop and implement a comprehensive strategy to educate health professionals about the need for referrals to low vision services.
- **Objective 2:** Conduct at least two outreach activities for professional organizations serving people with low vision to disseminate program information, messages, and materials.
- **Objective 3:** Collaborate with pharmacies and other health organizations as part of a public service campaign on managing medications for people with low vision.
- **Objective 4:** Submit up to three conference abstracts to professional meetings and conferences.
- **Objective 5:** Submit at least one article for inclusion in professional publications or journals.

Goal 3: Cultivate sustainable relationships with key intermediaries to expand the reach of NEHEP among people with low vision.

- **Objective 1:** Disseminate program information, messages, and materials through at least five NEHEP Partnership organizations, annually, that serve people with low vision.
- **Objective 2:** Facilitate and support the incorporation of low vision information, messages, and materials into existing program and outreach efforts of at least five intermediary organizations.

F. Priority Area Six: *¡Ojo con su visión!* Education Program

According to 2010 Census data, Hispanics/Latinos are the largest minority group in the United States.[7] Between 2000 and 2010, the Hispanic/Latino population in the United States grew by 43 percent and accounted for more than half of the total increase in population. At 50.5 million, this group makes up 16 percent of the total population. Hispanics/Latinos are disproportionately affected by certain eye diseases and conditions such as cataract, diabetic retinopathy, and glaucoma. NEI estimates that 1.8 million Hispanics/Latinos over age 40 have cataract; 1.2 million have diabetic retinopathy; and 224,000 have glaucoma. These numbers are expected to increase to 4.7 million; 3 million; and 606,000; respectively, by 2030. AMD affects approximately 76,000 Hispanics/Latinos ages 40 and older and this number is projected to increase to 239,000 by 2030. The number of Hispanics/Latinos living with low vision is also expected to increase dramatically from approximately 251,000 Hispanics/Latinos ages 40 and older to 730,000 by 2030.[2] According to the Los Angeles Latino Eye Study, more than 60 percent of eye disease in Hispanics/Latinos is undiagnosed and untreated.[8] Research has also shown that a significant number of Hispanics/Latinos may be unaware of their eye disease. Additionally, the KAP Survey found that Hispanics/Latinos were the least likely to have their eyes examined and knew the least about eye health.[9]

The *¡Ojo con su visión!* or Watch out for your vision! Program is designed to reach Hispanics/Latinos with eye health information through culturally and linguistically appropriate education and outreach efforts, including working with the health professionals and lay health workers who serve them.

The following goals and objectives will be measured over the five-year period of the Agenda, unless stated otherwise.

Goal 1: Increase awareness of and access to culturally and linguistically appropriate information for Hispanics/Latinos at higher risk for eye diseases and conditions.

- **Objective 1:** Conduct at least 15 activities with the Diabetic Eye Disease Education Program that emphasize the importance of getting a comprehensive dilated eye exam at least once a year among Hispanics/Latinos with diabetes.
- **Objective 2:** Conduct at least 15 activities with the Glaucoma Education Program that emphasize early detection of glaucoma through a comprehensive dilated eye exam every one to two years among Hispanics/Latinos at higher risk.
- **Objective 3:** Work in conjunction with the Vision and Aging Program to develop and implement a comprehensive outreach initiative focused on age-related eye diseases and conditions and blindness prevention among Hispanics/Latinos ages 50 and older.
- **Objective 4:** Work in conjunction with the Low Vision Education Program to develop at least five culturally appropriate resources for Hispanics/Latinos with low vision.

Goal 2: Increase access to culturally and linguistically appropriate eye health information for health professionals and community health workers who serve Hispanics/Latinos.

- **Objective 1:** Disseminate eye health information through the five NEHEP program areas to at least five NEHEP Partnership organizations serving Hispanics/Latinos.
- **Objective 2:** Collaborate with at least five professional organizations to enhance the ability of health professionals to deliver eye health information to Hispanics/Latinos.
- **Objective 3:** Collaborate with at least 10 organizations to increase the capacity of community lay health workers to deliver eye health information, messages, and materials to Hispanics/Latinos at higher risk for eye diseases and conditions.

Goal 3: Cultivate sustainable relationships with key intermediaries to expand the reach of NEHEP among Hispanics/Latinos.

- **Objective 1:** Disseminate NEHEP information, messages, and materials through at least five NEHEP Partnership organizations that serve Hispanics/Latinos.
- **Objective 2:** Facilitate and support the incorporation of NEHEP information, messages, and materials into existing program and outreach efforts of at least 10 intermediary organizations that serve Hispanics/Latinos.
- **Objective 3:** Engage in at least five collaborative activities with organizations serving Hispanics/Latinos.

G. Priority Area Seven: Vision and Aging Education Program

With the aging of the baby boomer generation and the older adult population living longer, vision loss is becoming a major public health concern in the United States. As people age, they are at an increased risk for developing a variety of eye diseases and conditions such as AMD, cataract, diabetic retinopathy, glaucoma, and low vision. According to NEI, approximately 2 million adults ages 40 and older have AMD and this number is expected to grow to 3.6 million by 2030. Approximately 24.4 million adults have cataract, 7.7 million have diabetic retinopathy, and 2.7 have glaucoma. These numbers are projected to increase to 38.7 million, 11 million, and 4.3 million, respectively, by 2030. NEI estimates that low vision affects 3 million Americans ages 40 and older and this figure is expected to reach 4.5 million by 2030.[2] Low vision and blindness increase significantly with age, particularly in people over age 65.[10]

Many age-related eye diseases have no symptoms in their early stages, but can be detected early through a comprehensive dilated eye exam. Early detection and treatment can help prevent vision loss.

The Vision and Aging Program is designed to raise awareness among Americans ages 50 and older about maintaining healthy vision as they age. It is also designed to assist community

and health professionals in educating older adults about age-related eye diseases and conditions, low vision, and the importance of comprehensive dilated eye exams.

The following goals and objectives will be measured over the five-year period of the Agenda, unless stated otherwise.

Goal 1: Increase awareness among adults ages 50 and older about eye health, eye diseases and conditions, and the importance of comprehensive dilated eye examinations.

- **Objective 1:** Develop and implement a comprehensive outreach initiative targeting adults ages 50 and older.
- **Objective 2:** Work in conjunction with the *¡Ojo con su visión!* Program to develop and implement a comprehensive outreach initiative focused on age-related eye diseases and conditions and blindness prevention among Hispanics/Latinos ages 50 and older.

Goal 2: Conduct targeted outreach to health professionals, community health workers, and others working with older adults.

- **Objective 1:** Conduct at least two outreach activities for professional organizations serving adults ages 50 and older to disseminate information, messages, and materials on age-related eye diseases and conditions.
- **Objective 2:** Collaborate with at least five professional and/or community-based organizations to deliver eye health information to adults ages 50 and older.
- **Objective 3:** Develop and submit up to three conference abstracts to professional meetings and conferences.
- **Objective 4:** Submit at least one article for inclusion in professional publications or journals.

Goal 3: Cultivate sustainable relationships with key intermediaries to expand the reach of NEHEP messages and materials among adults ages 50 and older.

- **Objective 1:** Disseminate program information, messages, and materials through at least five NEHEP Partnership organizations annually serving adults ages 50 and older.
- **Objective 2:** Facilitate and support the incorporation of information, messages, and materials targeting adults ages 50 and older into existing program and outreach efforts of at least 10 intermediary organizations.
- **Objective 3:** Engage in at least five collaborative activities with organizations representing adults ages 50 and older.

III. Theoretical Framework for NEHEP

Theoretical models help to inform the development, management, and evaluation of public health education initiatives because they answer the why, what, and how in program planning. Theories guide the search for *why* people do not care for themselves in healthy ways or follow public health or medical advice. Theories help identify *what* needs to be done before developing and implementing interventions and what needs to be measured during and after implementation, and *how* to design program strategies to effectively reach individuals or populations. Public health education interventions, materials, education programs, and resources are most likely to be successful when there is a clear understanding of targeted health behaviors and their environmental contexts, and what factors need to be changed to bring about the desired change in behavior. Increasingly, developers of public health initiatives recognize that health is affected by a myriad of factors, including societal organization, socioeconomic factors, race and ethnicity, gender, and stages of life.[11,12] Because of the multivariate factors affecting health issues, several theoretical models have been and will be used to frame the development of NEHEP education programs and the evaluation of those education programs. Specific theories and frameworks include, but are not limited to, the Social Learning Theory,[13] the Transtheoretical Model and Stages of Change Model,[14,15] Diffusion of Innovation,[16] the PRECEDE-PROCEED Model,[17,18] and Social Marketing.[19]

A. Social Learning Theory

Social Learning Theory is a model of behavior change in which it is assumed that relationships exist among a person's thought processes, behavior, and environment. It also states that people can learn by observing others' actions and the consequences that arise from those actions; thereby, they can formulate behavioral choices for themselves without having to personally perform the same trial-and-error techniques. The emphasis of this approach is on behavior change through direct behavior change techniques; on targeting cognitive variables; and strategic alterations of the environment to stimulate, reinforce, encourage, and maintain desired behavior changes.

B. Transtheoretical Model and Stages of Change Model

Prochaska and DiClemente's Stages of Change Model has been vigorously applied to smoking cessation programs, as well as other addictive behaviors, acquisition, and psychological distress programs. This model states that there are various stages in the process of change. They are precontemplation, contemplation, preparation, action, maintenance, and relapse. People can progress from one stage to the next or they can relapse to a previous stage, either to work themselves ultimately to maintenance or relapse again. The amount of progress made is a result of the stage the person was in when beginning the program; thus, someone in the action or maintenance stage would likely be highly successful, while someone in the contemplation stage would be much less likely to be successful.[15,20] This model should, however, take into account people's misperceptions regarding their own behavior. Many think of themselves as complying with health behavior recommendations, but their actual

behavior is not in compliance. Therefore, distinguishment should be made between aware precontemplators (people who know they are not in compliance and do not intend to change) and unaware precontemplators (people who do not know that they are not in compliance and experience no need to change).[21]

Social support, which is defined as the comfort, assistance, and/or information one receives through formal or informal contacts with individuals or groups, becomes particularly important during certain stages in the Stages of Change.[18] Other theories or constructs complement or are related to social support and also have an effect on Stages of Change. Social networks, for example, provide a great deal of information about the flow of resources. Social networks have been found to influence a number of health behaviors, such as the influence of social groups on the decision to seek medical care.

C. Diffusion of Innovation

Diffusion of Innovation helps to achieve broad-based changes in a person's health status and in community structures to support and encourage such changes. Rogers defines an innovation as "an idea, practice or object that is perceived as new by an individual or other unit of adoption." Diffusion is then defined as "the process by which an innovation is communicated through certain channels over time among the members of a social system."[16] For effective diffusion of innovations to occur, programs cannot be disseminated only on an individual level. Effective diffusion involves the implementation of strategies through a variety of settings and systems, using a variety of formal or informal media and communication channels.[22] The constructs described by this theory provide a set of generalizations that lead to changes in organizational and community structures, as well as to changes within populations.

The characterization of adopters uses the criterion of innovativeness, or the degree to which an individual or other unit of adoption is predisposed to adopting new ideas or practices.[16] Innovativeness is conceived of as a continuous variable that is divided into various categories. An accepted group of categories that helps define this concept is 1) innovators, 2) early adopters, 3) early majority, 4) later majority, and 5) laggards. Innovators are eager to try new ideas and are interested in taking risks, early adopters are willing to take calculated risks and serve as role models for other members in the social system, the early majority adopt new ideas just before the average member of a social system, the later majority adopt the ideas after the average member of a social system and are often reacting to economic or social pressures, and finally, laggards are the last to accept an innovation.

To enhance the probability of a person's adoption of a new health practice, programs need to attend to characteristics of the adoption process as they relate to complexity of the behavior, offer opportunities for the person to observe others engaging in the practice, and provide situations in which the person may try the new behavior. The relative benefits of the new behavior versus the status quo must be strongly presented. Programs must ensure that the new behavior is compatible with people's lifestyle, and that they have opportunities to

confirm the value of adopting new behaviors as opposed to reverting to the previous behaviors.

D. PRECEDE-PROCEED Model

The PRECEDE-PROCEED Model is not an actual model used to explain or predict relationships and outcomes. Rather, it is a framework used to enhance the quality of health education programs by providing guidance on a systematic planning process. The acronym of the PRECEDE model, primarily a model used for program planning, stands for Predisposing, Reinforcing, Enabling Constructs in Educational Diagnosis and Evaluation. The PRECEDE is a strong model that speaks to the acknowledged problem of disjointed planning in health education and it can be applied to health education in a variety of situations. Initial attention is directed to outcomes rather than to inputs, thus forcing program planners to begin the planning process from the outcome end; it encourages asking "why" before asking "how." This directed deductive thinking helps the planner consider the real conditions rather than to develop program ideas and choose methodologies in a subjective manner.

The second part of this model, PROCEED, stands for Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development. This construct was added to the PRECEDE framework in recognition of the need for health promotion interventions that go beyond traditional educational approaches to change unhealthy behaviors.[18] It highlights the importance of environmental factors as determinants of health and health outcomes. The framework for this model is a nine-phase process that begins with the proposition that health behaviors are complex, multidimensional, and influenced by a variety of factors: 1) social diagnosis, 2) epidemiological diagnosis, 3) behavioral and environmental diagnosis, 4) educational and organizational diagnosis, 5) administrative and policy diagnosis, 6) implementation, 7) process evaluation, 8) impact evaluation, and 9) outcome evaluation.[18]

E. Social Marketing

The above theoretical tenets are translated into effective health programs through the application of social marketing principles. Social marketing is a term that was created by a combination of marketing and social theories. It is an innovative approach to communication that uses the planning elements of marketing—product, price, promotion, and place—within the various behavioral theories such as Diffusion of Innovation and Social Learning Theory, as described above, to reach broad audiences to direct behavior change. The seven steps of the social marketing approach, as defined by Kotler, are 1) problem definition, 2) goal setting, 3) audience segmentation, 4) analysis of audience approach, 5) influencing channel analysis, 6) strategies and tactics, and 7) implementation and evaluation.[19]

The social marketing process was used to guide the development of the procedures and materials thus far created by NEHEP, and will continue to be used to do so. For example,

NEHEP will draw from the research in, and direction from, social marketing and other theories and models to develop an exchange process between program providers and the various audiences. The development of the work with various partnership organizations will be guided by discussions and the expressed needs, desires, and objectives of those organizations and NEHEP target audience needs.

One model of social marketing, known as Consumer-Based Health Communication (CHC), underlines the importance of starting from the consumer's reality to successfully market healthier lifestyles. To change behavior patterns, it is important to know what motivates and reinforces the consumer's current behavior, what barriers impede the adoption of a new behavior, and what rewards the consumer perceives for making the change. CHC poses a series of strategic questions whose answers—developed from solid consumer research and disciplined creativity—ensure communications that are relevant and meaningful to the consumer audience. These questions focus on the target, purpose, promise, support, openings, and image of the intended message. The immediate result of the CHC process is a strategy statement—a few pages that outline the realities of the consumer in relation to the proposed health behavior to be marketed (e.g., going for a regular eye exam). The statement then guides all aspects of program implementation (public relations, direct marketing, media advocacy, and skills-building), creating environments supportive of the health behavior, policy development, or interpersonal influence. Over time, as consumers change, answers to the questions are continually reviewed and updated as necessary.

IV. Cross-Cutting Issues

Cross-cutting issues require active performance in multiple fields and should be integrated into all appropriate program areas. The following information highlights two cross-cutting issues that will guide the development of all NEHEP activities: health literacy/low literacy and cultural competency. The audiences at highest risk for eye diseases and conditions include the following: 1) older adults, 2) people with diabetes, 3) Hispanics/Latinos, 4) African Americans, and 5) American Indians and Alaska Natives. Each of these populations has also been reported to have issues concerning health literacy/low literacy. These populations have been the subject of focus groups and other types of in-house research over the past few years to examine the most effective ways to communicate eye health messages to them. Each population is unique in terms of risk for eye disease, knowledge and understanding of eye disease and eye health, and effectiveness of eye health education programs. Although NEHEP activities over the next five years will focus on these high-risk populations, others may be added as new science emerges and specific eye health messages are developed.

A. Health Literacy/Low Literacy

Health Literacy

Health literacy is defined as the degree to which people have the ability to obtain, process, and understand basic health information and services needed to make appropriate health decisions.[23] As a whole, health literacy includes the ability to read, comprehend, and analyze information; decode instructions, symbols, charts, and diagrams; weigh risks and benefits; and ultimately, make decisions and take action.[24] Often, limited health literacy skills are equated with low literacy and education levels. However, educated people may have low health literacy when they have to make health decisions about topics with which they are unfamiliar.

Low Literacy

People with low literacy have a limited ability to use printed and written information. They have some common characteristics in how they interpret and process information:

- Tend to think in concrete/immediate rather than abstract/futuristic terms.
- Interpret information in a literal manner.
- Possess insufficient language fluency to comprehend and apply information from written materials.
- Have difficulty with information processing, such as reading a menu, interpreting a bus schedule, following medical instructions, or reading a prescription label.[25]

Populations most likely to experience low literacy levels are older adults, racial and ethnic minorities, people with low education levels, people with low income levels, non-native speakers of English, and people with compromised health status.[26] In the elderly, low literacy

can affect mortality rates by up to 50 percent.[27] However, using multilingual, plain language health education materials has been shown to increase health outcomes.[28]

To increase knowledge and influence behaviors around healthy vision, NEHEP will work to ensure all public education programs and materials, particularly those targeted to higher risk populations, use plain language and encompass health literacy.

B. Cultural Competency

According to the 2010 U.S. Census, nearly 40 million, or 13 percent of the total population, were foreign born. Of those, close to 85 percent spoke a language other than English at home.[29] In order to effectively address the health education needs of an increasingly diverse U.S. population, cultural competence must be recognized as a fundamental aspect of quality in health care and education.

Culture is often described as the combination of a body of knowledge, a body of belief, and a body of behavior. It involves a number of elements, including personal identification, language, thoughts, communications, actions, customs, beliefs, values, and institutions that are often specific to ethnic, racial, religious, geographic, or social groups. For the provider of health information or health care, these elements influence beliefs and belief systems surrounding health, healing, wellness, illness, disease, and delivery of health services. The concept of cultural competency has a positive effect on patient care delivery by enabling providers to deliver services that are respectful of and responsive to the health beliefs, practices, and cultural and linguistic needs of diverse patients.[30]

NEHEP recognizes the challenges that arise when conveying eye health messages to diverse racial and ethnic populations, each with its own cultural traits and health challenges. However, effectively employing cultural competence benefits consumers, stakeholders, and communities, and supports positive health outcomes.

NEHEP will ensure that its materials, education programs, and resources will present information in a way that will stretch beyond the translation of text into a native language or the use of photographs or drawings of a specific population. NEHEP-approved culturally appropriate materials, resources, and education programs will consider the values, lifestyles, and needs of a specific population in the design, development, implementation, and evaluation of any resource or education program. NEHEP will work to ensure that cultural competency is addressed in all of its education programs to effectively reach its target populations.

V. Evaluation

Evaluation will be an active and ongoing component of all NEHEP program activities. Evaluation is the systematic investigation of the merit, worth, or significance of an object.[31] Hence, assigning "value" to programmatic efforts means addressing those three interrelated domains: Merit (or quality), worth (or value, i.e., cost-effectiveness), and significance (or importance). A strong evaluation approach ensures that the following questions will be addressed as part of the evaluation so that the value of program efforts can be determined and judgments about value can be made on the basis of evidence:[32]

- What will be evaluated? (i.e., what is "the program" and in what context does it exist?)
- What aspects of the program will be considered when judging program performance?
- What standards (i.e., type or level of performance) must be reached for the program to be considered successful?
- What evidence will be used to indicate how the program has performed?
- What conclusions regarding program performance are justified by comparing the available evidence to the selected standards?
- How will the lessons learned from the inquiry be used to improve public health effectiveness?

Each evaluative effort must have standards. Evaluation standards assess the quality of evaluation activities and determine whether a set of evaluative activities are well designed and work to their potential. Recommended standards for evaluating public health efforts fall into four groups:

1. **Utility standards** ensure that an evaluation will serve the information needs of intended users.
2. **Feasibility standards** ensure that an evaluation will be realistic, prudent, diplomatic, and frugal.
3. **Propriety standards** ensure that an evaluation will be conducted legally, ethically, and with due regard for the welfare of those involved in the evaluation, as well as those affected by its results.
4. **Accuracy standards** ensure that an evaluation will reveal and convey technically adequate information about the features that determine worth or merit of the program being evaluated.[33,34]

The types of evaluation methodology proposed will depend on the priority area and its objectives. Two methods that will be employed are process and outcome evaluation. As programs can experience the characteristics of several stages of development at once, so, too, a single evaluation plan can and often does include both process and outcome evaluation questions. Excluding process evaluation questions in favor of outcome evaluation questions often eliminates the understanding of the foundation that supports outcomes.

A. Process Evaluation

Process evaluation is used to assess the elements of program development and delivery, including the quality, appropriateness, and reach of the program or activity. Increasingly, social and behavioral interventions have become more complex, making it vital for researchers to ascertain the extent to which intervention components have been implemented.[35] Process evaluation is a type of formative evaluation that can be used during the entire life cycle of the program, from planning through implementation.

During the planning stages, process evaluation focuses on the quality and appropriateness of the materials and approaches being developed. For example, process evaluation approaches are used when messages and materials are pretested with intended target audiences, content experts, members of the NEHEP Partnership, and health education/communication specialists. Focus groups with target populations used to gather information about specific topics is another potential application of formative evaluation approaches such as process evaluation.

Once the program has been implemented, process evaluation will be used to assess the elements of program development and delivery. Data can be obtained by tracking materials distribution; media coverage of NEHEP priority areas; media placements in professional/trade journals, magazines, and newsletters; hits, visits, and views on specific NEHEP Websites; comments, "likes," "follows," and "retweets" on NEHEP social media sites; the number of presentations at professional conferences and feedback from conference attendees regarding those presentations; and consumer feedback obtained from bounce-back cards placed in publications and through other means.

B. Outcome Evaluation

Outcome evaluation is used to measure some targeted or expected effect of programs and is related to judgments about whether, or to what extent, the program goals and objectives have been met. It can be used to justify priority areas; document changes in the target audiences' knowledge, attitudes, and behaviors; provide evidence of success or the need for additional resources; and assess the value of ongoing cooperation and collaboration with NEHEP representatives. NEHEP will conduct short-term outcome studies focused on more proximal (i.e., immediate) results of programmatic efforts. For example, the annual NEHEP Partnership Survey will produce results regarding what NEHEP Partnership organizations believe are new areas of focus, whether existing resources and services are effective, and how the NEHEP Partnership can be improved. Another example is short-term outcome studies of NEHEP messages and materials, such as transportation ads (e.g., bus and metrorail). These studies in the past have yielded important information regarding message awareness and reach. In addition to outcome studies involving original data collected by NEHEP and/or members of the NEHEP Partnership, NEHEP will also monitor and analyze outcome data from extant sources, including the following:

- Focus groups conducted by NEI in 2010 and 2011 designed to measure the public's knowledge on eye health and disease. The groups were conducted in Atlanta, GA; Chicago, IL; Cleveland, OH; Denver, CO; Houston, TX; Jackson, MS; Kansas City, MO; Miami, FL; New York, NY; San Francisco, CA; and Washington, DC.
- National Health Interview Survey (NHIS). Available data from the NHIS will be analyzed to assess progress toward meeting the vision goals and objectives set forth in *Healthy People 2020*. As appropriate, other relevant federal surveys such as the Behavioral Risk Factor Surveillance System and the National Health and Nutrition Examination Survey will be analyzed.

Trends in the public's knowledge, attitudes, and practices will be examined through updates of the Knowledge, Attitudes, and Practices (KAP) Survey Regarding Eye Health and Disease, which is designed to measure the public's knowledge, attitudes, and practices about eye health and disease. Results will be used to guide the development of messages and education programs for NEHEP target audiences, and to guide future planning and research.

VI. References

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