Introduction

This plan includes:

- 1) Attachment 1: HHS Vulnerability Assessment Roles and Responsibilities, by Organization (Submitted to CEQ September 2011)
- 2) Attachment 2: Appendix E: Agency Response to Climate Change Guiding Questions (Submitted to CEQ June 2011)
- 3) Attachment 3: Climate Change Adaptation Priority Actions for FY 2012 (Submitted to CEQ September 2011)
- 4) Attachment 4: Climate Change Adaptation (CCA) Implementation Plan Template

Background

Section 8(i) of Executive Order (E.O.) 13514, "Federal Leadership in Environmental, Energy, and Economic Performance," requires that each Federal agency evaluate agency climate change risks and vulnerabilities to manage both the short and long-term effects of climate change on the agency's mission and operations, and prepare a Climate Change Adaptation Plan (Adaptation Plan). In accordance with the instructions of the Council on Environmental Quality (CEQ), dated February 29, 2012, this Adaptation Plan applies to the agency level, not to agency divisions or offices, which will be examining effects of climate change on the their mission and operations, as appropriate.

Final Climate Change Vulnerability Analyses

As part of this effort, the U.S. Department of Health and Human Services (HHS) has completed a final analysis of agency vulnerability to climate change for internal use. See description in Section 2, below.

Adaptation Plan

This document will outline the challenges posed by climate change to the HHS mission, programs, and operations, and identify specific actions in FY 2013 and beyond to better understand and address those challenges.

Transparency/Public Review and Comment

After the 2012 HHS Strategic Sustainability Performance Plan (SSPP) is approved by OMB, it will be made publically available for public review and comment as required by CEQ.

Cross-cutting Planning Efforts

The Department of Health and Human Services has been contributing to the Government's understanding and response to global climate change, including the cumulative effects of human activities and natural processes on the environment, and promoting discussions toward international protocols in global change research, since establishment of the U.S. Global Change Research Program (USGCRP) under the Global Change Research Act of 1990.

The Department supports a broad portfolio of research related to environmental health and the health effects of global change.

The <u>National Institutes of Health (NIH)</u> supports research as part of the USGCRP on a variety of health effects related to climate change, including those of air pollution and temperature, water quality and quantity, infectious disease transmission, and materials used in new technologies to mitigate or adapt to climate change.

The <u>National Institute of Environmental Health</u>
<u>Sciences (NIEHS)</u> supports research on the health
effects of air pollution and temperature, agricultural
chemicals, and materials used in new technologies to
mitigate or adapt to climate change. They also
sponsor a research program on the human health
impacts of climate change.

The <u>Centers for Disease Control and Prevention (CDC)</u> supports a number of activities related to climate change, including identifying populations most vulnerable to the impacts, anticipating future trends, assuring that systems are in place to detect and respond to emerging health threats, and taking steps to be certain that these health risks can be managed now and in the future.

The <u>Substance Abuse and Mental Health Services</u>
<u>Administration</u> is working with the <u>Assistant</u>
<u>Secretary for Preparedness and Response</u> (ASPR) to ensure effective communication and coordination around efforts to meet the behavioral health needs during disasters and public health emergencies.

This Adaptation Plan has been, or will be aligned with existing Department planning efforts and commitments, including the:

- "HHS Strategic Sustainability Performance Plan"
- "HHS Environmental Justice Strategy"
- Interagency Climate Change Adaptation Task Force "Guiding Principles"
- "National Action Plan: Priorities for Managing Freshwater Resources in a Changing Climate"

Interagency Climate Change
Adaptation Task Force Guiding
Principles for Adaptation

Adopt Integrated Approaches – [Incorporate into core policies, planning, practices, and programs.]

Address the Needs of the Most Vulnerable – [Help the most vulnerable people with meaningful involvement from all].

Use Best-Available Science – [Understand risks, impacts, and vulnerabilities.]

Build Strong Partnerships –[Coordinate with existing public and private stakeholders.]

Apply Risk-Management Methods and Tools – [Prioritize options to reduce environmental, social, and economic vulnerability.]

Apply Ecosystem-based Approaches

- [Increase and protect critical ecosystem services, such as clean water, coastal and flood protection, food production, and recreation to reduce vulnerability of human and natural systems to climate change.]

Maximize Mutual Benefits -

[Support related initiatives, such as disaster preparedness, sustainable resource management, and greenhouse gas reduction.]

Continuously Evaluate Performance

 [Identify goals and metrics and continuously assess progress.]

- "Draft National Fish, Wildlife and Plants Climate Adaptation Strategy"
- "Draft National Ocean Policy Implementation Plan"

Adaptation Plan Elements

1. Policy framework for climate change adaptation

HHS' June 3, 2011 <u>Sustainability and Climate Change Adaptation Policy Statement</u> affirms our vision that:

"At HHS, we understand the importance of sustainable, climate-resilient communities. We know that we must take a lead role in ensuring that our own facilities and operations set an example for sustainability. [HHS] will also set the standard for federal agencies in sustainable development, provide climate-resilient health and human services, and support scientific research focused on environmental and public health, including research on the effects of climate change on human health and well-being."

Goals

In the coming year and beyond, HHS will identify how climate change may impact our Department's ability to carry out its mission, programs, policies, and operations, as well as to determine how we should prepare for and respond to a changing climate.

Strategic Approaches

Currently, the HHS headquarters-level sustainability program focuses on facilities management, information technology and service operations, and there is no central office to address sustainability and health. The actual implementation of the Climate Change Adaptation Plan will need to rely on efforts of the Operating and Staff Divisions (OPDIVs and STAFFDIVs), working regionally with HHS' ten Regional Offices.

The objective of the climate adaptation Plan is to examine existing climate and health assessments, develop science and raise awareness of climate change, as well as to conduct more detailed assessments of health impacts and vulnerability in specific parts of the department.

Climate Change Adaptation:

"Adaptation refers to actions being taken to lessen the impact on health and the environment due to changes that cannot be prevented through mitigation.

Appropriate mitigation and adaptation strategies will positively affect both climate change and the environment, and thereby positively affect human health."

From: "A Human Health Perspective on Climate Change" (IWGCCH)

While climate change will affect all of the Department's activities, the greatest impacts by far (in addition to impacts on operational functions) will be on our mission and strategic goals.

The impacts of climate change on health are place-dependent and likely to vary from region to region around the United States. In addition, management of health systems is highly localized.

For these reasons, in-depth health impact assessments and development of climate adaptation strategies needs to be conducted on a local or regional basis, in coordination with state, local, and tribal efforts. Our general approach will therefore have two elements. First, we will conduct and use existing assessments on as local a scale as possible and then aggregate information to the regional and ultimately, national level. Then, the results of these assessments will be used by the HHS regions and divisional program staff for more in-depth assessment of their program's vulnerabilities and appropriate adaptation strategies. For some parts of HHS, only a national or international scale assessment will be appropriate, however.

A summary of HHS Vulnerability Assessment Roles and Responsibilities, by Organization, submitted to CEQ September 2011, is contained in Attachment 1.

Attachment 4: "Climate Change Adaptation (CCA) Implementation Plan Template," will be used by the Regional Offices to develop appropriate health relevant climate scenarios and scoping of the climate impacts of its region.

HHS will develop a plan in FY2013 to effectively integrate climate change and environmental impact considerations into internal management functions and policies by:

- Collecting, analyzing, and utilizing state of the science data,
- Enhancing issue awareness and specialty training for employees,
- · Identifying and prioritizing actions to respond to climate change,
- Establishing mechanisms for evaluating our ongoing capacity to effectively adapt to current and future changes in the climate,
- Leveraging HHS regional and preparedness programs and existing healthy community and climate change initiatives, and
- Enhancing collaboration with other federal agencies, state, local, and tribal governments.

Senior Agency Official:

The HHS Senior Sustainability Officer: E.J. Holland, Jr., the Assistant Secretary for Administration.

2. Agency Vulnerability: Analysis of climate change risks and opportunities

Climate change is likely to adversely affect the ability of HHS to fulfill its mission by altering or increasing the risks of certain diseases, conditions, injuries and other threats to human well-being. In addition, increases in the frequency and severity of heat waves, storms, floods and other extreme weather events, which are associated with climate change, also present challenges to the provision of health care and human services to individuals and communities.

In "Attachment 2: Appendix E: Agency Response to Climate Change Guiding Questions" submitted as part of our 2011 "Strategic Sustainability Performance Plan" update, we discuss how climate change will likely affect HHS's ability to achieve its mission and strategic goals, and

how HHS can coordinate and collaborate with other agencies to better manage the effects of climate change.

HHS's Agency-Level Vulnerability Analysis assesses potential vulnerable populations served by each HHS program, based on program descriptions in the HHS Budget in Brief. This assessment identifies the probable vulnerable populations and factors that make them potentially vulnerable and the programs potentially impacted by climate change.

The first iteration of the Adaptation Plan is to identify aspects of the department that will need to take climate change into consideration and then identify resources, teams and partners in order to conduct a more realistic and detailed vulnerability assessment. This high-level vulnerability assessment uses the budget as a means to identify HHS priority programs and give some indication of program size. Each program listed in the High-Level Vulnerability Assessment has Vulnerable Populations and Vulnerability Factors identified in order to help program staff consider potential interventions and adaptations to increase resilience. This assessment is intended for internal use only.

A supplementary description, scenario, methodology, and user manual are also being prepared.

3. Process of agency adaptation planning and evaluation

HHS will incorporate adaptation strategies into our ongoing mission-related activities as we carry out our mission, to enhance the health and well-being of Americans by providing for effective health and human services and by fostering sound, sustained advances in the sciences underlying medicine, public health, and social services, and our Departmental goals:

- Goal 1: Transform Health Care;
- Goal 2: Advance Scientific Knowledge and Innovation;
- Goal 3: Advance the Health, Safety, and Well-Being of the American People;
- Goal 4: Increase Efficiency, Transparency, and Accountability of HHS Programs; and
- Goal 5: Strengthen the Nation's Health and Human Services Infrastructure and Workforce.

HHS will protect human health by addressing climate change in public health activities through:

- Enhancing the ability of Federal decision makers to incorporate health considerations into adaptation planning;
- Building integrated public health surveillance and early warning systems to improve detection of climate change health risks; and
- Promoting resilience of individuals and communities to climate-related health risks.

HHS will build resilience to climate change in communities by:

 Ensuring that relevant Federal regulations, policies, and guidance include considerations of community adaptation; and

• Integrating adaptation considerations into Federal health and related programs that affect communities.

HHS will support these efforts by:

- Integrating climate change and environmental impact considerations into internal management functions and policies;
- Collecting, analyzing, and utilizing state of the science data;
- Enhancing issue awareness and specialty training for our employees;
- Leveraging HHS regional and preparedness programs and existing healthy community and climate change initiatives;
- Enhancing collaboration with other federal, state and local agencies, and tribal and territorial governments;

HHS has identified potential climate change vulnerabilities through the "HHS Climate Change High Level Vulnerability Analysis," described below.

Using the "HHS Climate Change High Level Vulnerability Analysis," and the Attachment 4 Template, HHS will:

- Identify and prioritize actions to address risks and opportunities, and implement those actions,
- Monitor and evaluate the implementation and success of climate change adaptation actions, including how the agency will adjust activities as new information becomes available,
- Distribute their Adaptation Plans to regional and field personnel, if appropriate, and
- Review and update the Adaptation Plan.

4. Programmatic activities

As HHS develops and implements this Adaptation Plan, we will be assessing and building needed capacity and organizational structures in order to effectively assess agency specific climate change risks and opportunities and implement appropriate adaptation actions to:

- Integrate climate change adaptation into appropriate policies, programs, and operations over time, including strategic and/or sustainability planning initiatives.
- Collaborate and share adaptation science and planning information with other Federal agencies at the national, regional and local scale.
- Coordinate adaptation planning with related efforts among state, local, tribal, and territorial partners.

The plan also leverages existing resources such as the HHS Office of Intergovernmental and External Affairs (IEA) to facilitate communication between the Department and state, local and tribal governments and non-governmental organizations through its ten Regional Offices.

The Centers for Disease Control and Prevention (CDC) will support the HHS Climate Change Adaptation Plan by providing technical support and assistance to the Department, as they currently do to states or local organizations.

The mission of CDC's Climate and Health Program is to:

- Lead efforts to identify vulnerable populations to climate change,
- Prevent and adapt to current and anticipated health impacts, and
- Assure that systems are in place to detect and respond to current and emerging health threats.

The program has three core functions:

- To translate climate change science to inform states, local health departments and communities;
- To create decision support tools to build capacity to prepare for climate change; and
- To serve as a credible leader in planning for the public health impacts of climate change.

The CDC "Building Resilience Against Climate Effects" (BRACE) Framework, with which health departments develop a climate adaptive plan, will also be a major tool in the HHS plan. Along with resources and information provided by grantees, the BRACE Framework outlines five steps to provide guidance and methodological approaches to developing a climate adaptive plan. The five steps are:

- 1. Forecasting Climate Impacts and Assessing Vulnerabilities;
- 2. Projecting the Disease Burden;
- 3. Assessing Public Health Interventions;
- 4. Developing and Implementing a Climate and Health Adaptation Plan; and,
- 5. Evaluating Impact and Improving Quality of Activities.

5. Actions to better understand climate change risks and opportunities

The Climate Change Adaptation Plan Template (Attachment 4) will be used to develop HHS CCA Plans, which will identify the actions to be continued or initiated in FY 2013 and beyond to better understand climate change risks and opportunities to its mission, programs, and operations.

Completed HHS actions to better understand climate change risks and opportunities include:

- HHS inventory: "Climate Change And Human Health: Toward An HHS Perspective," November 5, 2009.
- "U.S. Department of Health and Human Services (HHS) Sustainability and Climate Change Adaptation Policy Statement," June 3, 2011.

- Appendix E of the 2011 HHS Strategic Sustainability Performance Plan, "Agency Response to Climate Change Guiding Questions," June 3, 2011
- "Preliminary High-Level Analysis of HHS Vulnerability to Climate Change," September 30, 2011.
- "Priority Actions for FY 2012," September 30, 2011.
- "HHS Climate Change High-Level Vulnerability Assessment," March 30, 2012. This
 analysis is identifies a basic framework and categories of vulnerable populations and the
 applicable HHS program.
- "A Human Health Perspective on Climate Change," a 2010, NIH-led interdepartmental work group white paper that identifies knowledge gaps related to the effects of climate change on health.
- <u>CDC's Climate and Health Program</u> is facilitating the efforts of federal, tribal and territorial, state, and local public health agencies to prepare for the impact of climate change on public health. Their BRACE (Building Resilience Against Climate Effects)
 Framework, a five-step series of actions for Health Departments to take that will lead to a formal Climate Change Adaptation Plan.
- The <u>National Institute of Environmental Health Sciences (NIEHS) Climate Change and Human Health Programs & Initiatives</u>, researches human health impacts related to climate change and adaptation, raises awareness at the Departmental, federal government, and international levels.
- The Assistant Secretary for Preparedness and Response (ASPR) and Substance Abuse and Mental Health Services Administration's (SAMHSA) <u>Suicide Prevention Lifeline and</u> <u>Treatment Locator</u> (2010) was developed in response to the 2010 BP Gulf Coast Oil Spill, to ensure effective communication and coordination around efforts to meet the behavioral health needs of affected residents and workers in the Gulf region and to establish surveillance.

Data and Information Needs (See the 2012 Strategic Sustainability Performance Plan)

6. Actions to address climate change risks and opportunities

HHS will:

General:

 Under the direction of the HHS Sustainability Steering Committee, led by the Senior Sustainability Officer and comprised of Operating Division (OPDIV) and Staff Division (STAFFDIV) heads, establish a new HHS leadership forum or identify an existing forum(s) with which to integrate Climate Change Adaptation. This forum will periodically meet to provide feedback on the Climate Change Adaptation Plan implementation and will include representation of the Office of the Assistant Secretary for Health (OASH), CDC, NIH/NIEHS, ASPR, ASA, and others.

- Identify both facility and mission-related program representatives participate in the HHS-wide, Climate Change Adaptation Workgroup.
- Develop Division-level Climate Change Adaptation Plans
- Commit, as a future action, to conducting a Regional Climate Change Adaptation Pilot Initiative, in a region where state and local government climate adaptation activities are underway.
- Identify to the Assistant Secretary for Financial Resources (ASFR), through the annual budget process, areas where budget adjustments are necessary to carry out the actions identified under this Policy.
- Identify for the Office of the General Counsel (OGC), areas where legal analysis is needed to carry out Agency actions identified under this Policy.
- Develop climate change adaptation training for HHS employees using existing NIH and CDC educational materials as the basis for training modules. Resources developed by other Federal agencies will also be considered.

Facilities:

HHS facilities will be assessed as follows:

- Facilities Leased from or through GSA:
 - HHS has 217 <u>mission critical</u> sites/facilities leased from or through GSA. HHS
 intends to partner directly with GSA to address the vulnerabilities of these sites
 and facilities to incremental climate change and variability.
 - HHS has 519 <u>mission dependant</u> sites/facilities leased from or through GSA. HHS
 intends to partner directly with GSA to address the vulnerabilities of these sites
 and facilities to incremental climate change and variability.
- Facilities Leased from or through Agencies other than GSA:
 - HHS has 2 mission critical sites/facilities leased from or through GSA. HHS
 intends to partner directly with GSA to address the vulnerabilities of these sites
 and facilities to incremental climate change and variability.
 - HHS has 11 mission dependant sites/facilities leased from or through GSA. HHS
 intends to partner directly with GSA to address the vulnerabilities of these sites
 and facilities to incremental climate change and variability.
- Facilities directly owned or leased:

- HHS has 2,579 <u>mission critical</u> directly owned or leased sites/facilities. HHS intends to partner directly with regional authorities and GSA offices to address the vulnerabilities of these sites and facilities to incremental climate change and variability.
- HHS has 633 <u>mission dependant</u> directly owned or leased sites/facilities. HHS
 intends to partner directly with regional authorities and GSA offices to address
 the vulnerabilities of these sites and facilities to incremental climate change and
 variability.

Mission-Related Activities:

In conjunction with the development of facilities plans, mission-related activities will be addressed as follows:

- Perform Assessments to identify:
 - o What programs will be most affected?
 - o What regions will be most affected?
- Develop Plan Near Term And Long Term
 - o Identify Leads in HHS Regions & DIVs Intergovernmental Affairs
 - Establish Communities of Practice
 - Health
 - Facilities
 - HHS to develop methodology based on CDC BRACE approach
 - 20 assessments done to-date
 - HHS Regional Offices to apply methodology and develop and approach with local data sources and run scenarios
 - o Identify pilots and apply lessons incrementally
 - Build partnerships with existing regional, State and local initiatives, commissions and advisory groups:ⁱ
 - EPA states with climate change action plans: AK, AZ, AR, CA, CO, CT, FL, IA, IL, ME, MD, MA, MI, MN, MT, NC, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SC, UT, VA, VT, WA, WI. ii
 - CDC Partners Assessment and Planning to Develop Climate Change Programs
 - Arizona Department of Health Services
 Health Impacts: Health effects due to extreme heat
 - Massachusetts Department of Health
 Health Impacts: Water, food, and vector borne diseases, heat stress, hazardous weather events, respiratory diseases
 - New York State Department of Health
 Health Impacts: Extreme weather, waterborne, food-borne, and
 vector disease

- North Carolina Department of Public Health
 Health Impacts: Temperature related morbidity and mortality;
 extreme weather; air pollution; water, food, and vector borne
 diseases
- San Francisco Department of Public Health
 Health Impacts: Heat stress morbidity and mortality associated with air quality impacts
- Building Capacity to Implement Climate Change Programs and Adaptations
 - Michigan Department of Community Health
 Health Impacts: Heat related disease, respiratory disease
 - <u>Minnesota Department of Health</u> Health Impacts: Extreme heat events, vector borne disease
 - New York City Department of Health and Mental Hygiene
 Health Impacts: Heat-related morbidity and mortality, respiratory illness, water-borne and vector-borne disease
 - Oregon Department of Health
 Health Impacts: Water and food borne diseases, extreme
 weather, ecosystems
 - <u>State of Maine Department of Health and Human Services</u> Health Impacts: Heat related outcomes, vector-borne disease
- Public Health Partners
 - National Association of County and City Officials (NACCHO)
 - America Public Health Association (APHA)
 - Association of State and Territorial Public Health Officials (ASTHO)
- Develop training
- Identify technology needs, which include the research, development, and deployment of technologies and processes to reduce greenhouse gas emissions or increase energy efficiency, including renewable, low-carbon fossil, and nuclear technologies.
- Identify science needs, which includes research, modeling, and monitoring to better understand climate change; efforts to assess vulnerability to climate impacts; and programs to provide climate information to policymakers and the public. USGCRP also reports annually on funding for climate change science.
- Work with the <u>U.S. Global Change Research Program</u> (USGCRP) and the <u>Climate Change Technology Program</u> (CCTP), which coordinate federal climate change programs and activities at the agency level.

Collaboration and Communication Needs (See the 2012 HHS SSPP)

Other Climate Change Science/Information Needs (See the 2012 HHS SSPP)

Planned Actions

Consistent with the Council for Environmental Quality's "<u>Instructions for Implementing Climate Change Adaptation Planning In Accordance With Executive Order 13514</u>," of March 4, 2011, and this "HHS Climate Change Adaptation Plan," HHS will:

A) Establish a climate change adaptation policy.

Issue and make publicly available a division-wide climate change adaptation policy statement, signed by the head of the division that commits the division to adaptation planning to address challenges posed by climate change to the division's mission, programs, and operations.

B) Increase division understanding of how the climate is changing.

Collect and share across HHS, information relevant to impacts of climate change on division mission, programs, and operations and pursue opportunities for sharing and coordination across the department and Federal community.

C) Apply understanding of climate change to agency mission and operations.

Develop division-specific responses to the guiding questions provided in Attachment 2, Appendix E of this document and a final high-level analysis of division vulnerability to climate change.

D) Develop, prioritize, and implement actions.

Develop three to five division-specific priority climate change adaptation actions, including actions to improve agency capacity to assess and build resilience to climate change risks. (2)As part of the Department Strategic Sustainability Performance Plan, develop climate adaptation strategies for implementation in the next SSPP year.

(3) When the HHS Strategic Sustainability Performance Plan is approved for public release by the Office of Management and Budget, HHS will ensure that the climate adaptation portion of the plan is made publically available for review and comment. HHS will update the plan as appropriate in accordance with Council on Environmental Quality guidance for submission of agency Strategic Sustainability Performance Plans.

HHS Climate Change Adaptation Plan

Attachment 1: HHS Vulnerability Assessment Roles and Responsibilities, by Organization

(Previously submitted to CEQ September 2011)

(OD) Office on Disability will incorporate climate change considerations as they provide oversight and coordination on emergency preparedness and response plans that accommodate persons with disability in weather and climate vulnerable communities.

(ACF) Administration for Children and Families will incorporate possible increases in climate and weather related disasters and their potential impact on vulnerable populations including children, Native American Tribes, Alaska Natives, Hawaiians, migrants, and refugees, as they carry out their mission.

(AHRQ) Agency for Healthcare Research and Quality will assist research and planning efforts to link available climate data by geographic area to enable analyses of the relationship between health use and climate change through their two datasets: the Medical Expenditure Panel Survey-Household Component (MEPS-HC) and the Healthcare Cost and Utilization Project [HCUP]. Data in the National Healthcare Quality and Disparities Report (NHQR) might possibly be used in assessing vulnerability to climate change of at-risk populations.

(AoA) Administration on Aging will incorporate climate change considerations as they provide services to elderly, especially in poor urban areas, that provide access to cooling centers and social networks.

(ATSDR) Agency for Toxic Substances and Disease Registry will incorporate climate change considerations as they track waste sites, especially in coastal areas, that may experience altered exposure pathways resulting from storms, flooding, increased temperatures, and changes in biota, etc., related to climate change. Communities affected by environmental exposures to pollutants may also have added stressors from increased temperatures and other weather changes associated with climate change.

(CDC) Centers for Disease Control and Prevention has a major role in assessing, anticipating and addressing health vulnerability to climate change. Through their Climate and Health Program, CDC is leading efforts to prevent and adapt to the anticipated health impacts associated with climate change. The Program seeks to identify populations most vulnerable to these impacts, anticipate future trends, assures that systems are in place to detect and respond to emerging health threats, and takes steps to be certain that these health risks can be managed now and in the future.

(CMS) Centers for Medicare and Medicaid Services will incorporate climate change considerations as they assure adequate provision of preventive and clinical health care services to those most vulnerable, particularly the elderly population, especially those with cardiovascular, pulmonary, and renal diseases.

(FDA) Food and Drug Administration has a major role in responding to possible alterations in disease patterns, especially infectious diseases, requiring new medications or changes in medication use patterns. Climate change may also alter food production, nutritional content and/or contamination with natural toxins, requiring heightened monitoring of food supplies and/or novel food additives for public health protection.

Draft HHS Climate Change Adaptation Plan

(HRSA) Health Resources and Services Administration will incorporate climate change considerations as they address needs of the health care workforce regarding climate change impacts that contribute to health disparities through additional heat stress in communities already experiencing higher burdens of chronic diseases and lacking equitable access to health care services.

(IEA) Office of Intergovernmental External Affairs and Regional Directors will coordinate climate change adaptation principles, tools and resources, and represent HHS in domestic forums.

(IHS) Indian Health Service will incorporate climate change considerations as they deliver care to service areas and assure adequate health care services, including mental health. Native Americans, including Alaska Natives, are among the population groups most vulnerable to the health impacts of climate change because of the high frequency of subsistence lifestyles and their close spiritual ties to specific landscapes.

(NIH) National Institutes of Health has a major role in conducting research on the health implications of climate change. NIEHS provides leadership and technical expertise for this effort, including development of training materials.

(SAMHSA) Substance Abuse and Mental Health Services Administration will incorporate climate change considerations as they respond to population vulnerabilities and needs for provision of mental health services resulting from climate change related psychological stress and anxiety, especially in areas affected either by severe weather events or long-term loss of habitability, such as in Alaska and along the Gulf Coast.

(ASA) Assistant Secretary for Administration will incorporate climate change considerations as they provide guidance concerning locating and developing new facilities and the continuity of operation of Department facilities.

(ASPE) Assistant Secretary for Planning and Evaluation is the principal advisor to the Secretary on policy development, and will continue to play an important role in strategic planning, policy development, and evaluation and have played key roles on climate change and sustainability.

(ASPR) Assistant Secretary for Preparedness and Response has a major role in identifying communities and at-risk individuals most vulnerable to disasters as climate change progresses, and will assure public health, well-being, and resilience, by promoting preparedness programs, public health and medical critical infrastructure protection, and in identifying communities and populations most vulnerable to these disasters as climate change progresses.

(OASH) The Office of the Assistant Secretary for Health will have a leading role in coordinating activities related to climate change and health across HHS.

(OCR) Office for Civil Rights will have a role at the nexus of environmental justice and health implications of climate change to assure equal participation in decision making and equal access to health and human services.

Draft HHS Climate Change Adaptation Plan

(OGA) HHS Office of Global Affairs will coordinate climate change adaptation principles, tools and resources, and represent HHS in international forums, including WHO/WHA, in partnership with HHS scientific agencies such as NIH and CDC.

Attachment 2: Appendix E: Agency Response to Climate Change Guiding Questions

(Submitted to CEQ with the 2011 Strategic Sustainability Performance Plan, June 2011)

Guiding Questions for Understanding How Climate Change Will Impact Agency Mission and Operations

U.S. Department of Health and Human Services (HHS)

1) How is climate change likely to affect the ability of your agency to achieve its mission and strategic goals?

The mission of the U.S. Department of Health and Human Services (HHS) is to enhance the health and well-being of Americans by providing for effective health and human services and by fostering sound, sustained advances in the sciences underlying medicine, public health, and social services. HHS accomplishes its mission through several hundred programs and initiatives that cover a wide spectrum of activities, serving the American public at every stage of life.

Climate change is likely to adversely affect the ability of HHS to achieve its mission by altering and in many cases increasing disease and injury risks and other threats to human well-being, as well as by posing increasing threats from extreme temperatures, storms, and flooding to the physical infrastructure that HHS supports to provide health care and other services to individuals and communities.

Secretary Sebelius has established five overarching goals for the Department:

- Goal 1: Transform Health Care
- Goal 2: Advance Scientific Knowledge and Innovation
- Goal 3: Advance the Health, Safety, and Well-Being of the American People
- Goal 4: Increase Efficiency, Transparency, and Accountability of HHS Programs
- Goal 5: Strengthen the Nation's Health and Human Services Infrastructure and Workforce

Because climate change poses multiple threats to the health, safety, and well-being of the American people, Goal 3 and its sub-objectives will be most affected. These impacts are discussed in more detail below and additional goal area impacts will be reviewed over the next few months.

Climate change and societal responses to the diverse challenges of climate change will interact with all of the goals within the HHS strategic plan, including improving the adequacy of the nation's health and human services infrastructure and workforce, advancement of scientific knowledge and innovation, and improving the energy and resource efficiency of HHS programs. This answer will focus on interactions between climate change and the specific objectives of

Goal 3, as well as the fourth objective of Goal 1, which is "Ensure access to quality, culturally competent care for vulnerable populations".

Goal 3 has six objectives. The affect of climate change on each of them is summarized below the objective.

Objective A: Promote the safety, well-being, resilience, and healthy development of children and youth

Because children are both physiologically and behaviorally more vulnerable to heat waves, extreme weather events, asthma, and many infectious diseases, they are a population at special risk from climate change, which is likely to exacerbate those health threats. Ensuring the health and well-being of children and youth will require additional resources and attention to climate-exacerbated threats.

Objective B: Promote economic and social well-being for individuals, families, and communities

Climate change is anticipated to have adverse impacts on human livelihoods in some areas, resulting from changes in ecosystems and natural resources that people depend on for work and recreation. These include impaired fisheries and coastal ecosystems, loss of water resources, and changes in forests and agriculture. Assuring economic and social well-being for individuals, families and communities will require assuring specific resilience to climate impacts on a local and regional basis.

Objective C: Improve the accessibility and quality of supportive services for people with disabilities and older adults

Extreme heat waves and weather events are particularly challenging for people with disabilities and the elderly, who may have underlying diseases that increase health risks as well as impaired mobility which prevents them from escaping weather threats effectively. Supportive services for people with disabilities and older adults will have to be adjusted to address the added challenges of climate change.

Objective D: Promote prevention and wellness

While climate change will pose challenges to communities and health care services and may impair efforts to promote prevention and wellness, the significant changes in energy production, transportation, land use, and agriculture that are likely to result from policies and programs to reduce the impacts and severity of climate change afford critical opportunities to assist efforts at prevention and wellness.* For example, programs to improve pedestrian and bicycling convenience in cities can result in significant increases in physical activity, with an array of potential health benefits, ranging from reduced obesity and diabetes to improvement in mental health and reduced risk of certain cancers. Reduced use of fossil fuels is expected to result in improved air quality, leading to reduced risks from cardiovascular disease, respiratory disease, and other health problems.

Objective E: Reduce the occurrence of infectious diseases

Warmer soil, water, and air temperatures as well as more frequent extreme precipitation events are anticipated to increase the risks of waterborne and food borne infectious diseases. In addition, climate change may alter the distribution of vector borne and zoonotic diseases, resulting in the potential introduction of infectious diseases into vulnerable populations. Efforts to control infectious diseases and reduce their occurrence will require additional scientific understanding of the complex interactions between climate, climate change, and specific infectious diseases and will have to respond to changes in infectious disease transmission and occurrence related to climate change.

Objective F: Protect Americans' health and safety during emergencies, and foster resilience in response to emergencies

As part of this objective, HHS developed the first *National Health Security Strategy* (NHSS) (http://www.phe.gov/Preparedness/planning/authority/nhss/Pages/default.aspx), a comprehensive framework for how the entire Nation must work together to protect people's health in the case of an emergency. The strategy lays out current challenges and gaps, and articulates a systems approach for preparedness and response, including identifying responsibilities for all levels of government, communities, families, and individuals.

Climate change is anticipated to increase the incidence of severe flooding and is likely to increase the severity of hurricanes and tropical storms. Sea level rise will increase the vulnerability of low-lying coastal communities to these threats. In addition, higher temperatures and more severe droughts in some areas are anticipated to lead to more frequent and extensive wildfires. These emergencies will occur in the absence of climate change, but their potential increases in frequency and severity as a result of climate change will necessitate additional resources and preparedness planning.

It will be especially critical for health care facilities and other critical emergency response infrastructure to incorporate future climate change into their planning for continuous operations (COOP). The potential for unprecedented extremes of weather, as has been witnessed in several parts of the world in the past decade, will have to be addressed in order to maintain the ability of our existing health facilities and infrastructure to protect the health and safety of Americans adequately during emergencies.

The fourth objective under Goal 1 is: Ensure access to quality, culturally competent care for vulnerable populations.

Climate change is anticipated to have its greatest impact on people whose health status is already at risk and who have the fewest resources to address or adapt to climate change risks. Lower income and minority communities often experience higher rates of asthma, diabetes, and other chronic diseases that place them at higher risk of complications from extreme heat and other extreme weather. In addition, these communities often experience disproportional environmental contamination and may be geographically vulnerable to climate change from being at a low elevation near coastal areas and rivers or being situated within urban "heat islands". Social and economic factors (e.g., economic status, race, ethnicity, age, gender, and education) can significantly affect people's exposure and sensitivity to climate change, as well

as their ability to recover. For these reasons, climate change and resulting exacerbation of health risks may disproportionately affect vulnerable populations and impair their ability to access sufficient quality, culturally competent care.

2) How can your agency coordinate and collaborate with other agencies to better manage the effects of climate change?

Current Collaborations

- a) HHS is currently participating in and providing leadership to several interagency efforts to manage the effects of climate change. NIEHS and CDC currently co-chair the Interagency Climate Change and Human Health Group (CCHHG) under the US Global Change Research Program. The CCHHG coordinates research, data collection, outreach and communication, assessment, and adaptation activities within the federal government. HHS is also represented on the President's Climate Adaptation Task Force, the National Climate Assessment Development and Advisory Committee, the US Global Change Research Program, and the CENRS Roundtable on Climate Information and Services.
- b) HHS is leading a collaborative partnership with other federal departments and agencies to develop the *National Health Security Strategy* (NHSS), a national framework to prevent, protect against, respond to, and recover from incidents with health consequences. Our national health security requires collective efforts across governments, sectors, and communities. Co-collaborators include DHS and DOD.
- c) HHS is a member of the National Ocean Council co-chaired by the White House Council on Environmental Quality and the Office of Science and Technology Policy. The Council is addressing nine priority objectives in the National Ocean Policy, including resiliency and adaptation to climate change and ocean acidification.
- d) HHS is a member of the America's Great Outdoors Initiative co-chaired by DOI, EPA, USDA, and CEQ, with the vision of promoting a 21st century conservation and recreation agenda. The initiative aims to reconnect Americans with the great outdoors and protect our natural resources which are under intense pressure from development and fragmentation, unsustainable use, pollution, and impacts from climate change.
- e) HHS is a member of the federal Interagency Working Group on Environmental Justice (EJ IWG), which was created by E.O. 12898 in 1994. The E.O. requires federal agencies, including HHS, to develop agency-wide strategies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. The EJ IWG is coordinating an effort to update agency EJ strategies. The impact of climate change on EJ communities is likely to be addressed by the updated agency plans.

Potential Future Collaborations

a) HHS is considering convening the federal agencies with primary responsibility for managing health care facilities, including the VA, DOD, and FEMA, to collaborate on forming climate adaptation strategies. It is critical that all federal agencies share the

Draft HHS Climate Change Adaptation Plan

same body of knowledge of likely and potential risks posed to health care facilities by climate change and have access to expert resources for developing adaptation strategies.

- b) Similar collaboration is possible with DOL, DHS and HUD to share information on managing human service systems to help respond to and recover from climate and weather disasters.
- c) HHS is considering expansion of existing collaborations on healthy communities, healthy schools, healthy housing, and healthy transportation to take into account climate change impacts on these other areas and sectors. Collaboration would be with EPA, USDA, DOT, HUD, and other agencies.

While HHS understands the importance to collaborate more effectively across government, key collaborations will also be developed at the community level as many of the strategies outlined in the strategic goals build upon federal, tribal and territorial, state, and local collaborations that will help create social and physical environments that promote good health for all, and work to adapt and mitigate the effects of climate change.

*Anthony J McMichael, Rosalie E Woodruff, Simon Hales, Climate change and human health: present and future risks, The Lancet, Volume 367, Issue 9513, 11 March 2006-17 March 2006, Pages 859-869.

Department of Health & Human Services Climate Change Adaptation Planning

Attachment 3:

Priority Actions for FY 2012

(Submitted to CEQ September 2011)

Source:

"Federal Agency Climate Change Adaptation Planning Ensuring a resilient, healthy, and prosperous Nation in the face of a changing climate: Support Document. Implementing Climate Change Adaptation Planning," in Accordance with Executive Order 13514 "Federal Leadership in Environmental, Energy, and Economic Performance," Interagency Climate Change Adaptation Agency Working Group Recommendations to the Council on Environmental Quality, January 21, 2011.

Priority Actions for FY 2012

Four priority climate change adaptation actions that HHS will implement in FY 2012, including actions to build agency capacity to assess and build resilience to climate change risks, and steps to coordinate with other agency adaptation planning and efforts to develop national adaptation plans.

Action	Scale (National, Regional, Local)	Completio n Date	Collaborating Agencies
Establish baseline climate scenarios for Department-wide use in vulnerability assessments and adaptation development. Conduct Division-level assessments of vulnerability, based on the climate scenarios. Identify and prioritize Division-level program and operational changes in response to identified vulnerabilities to optimize mission effectiveness.	National	TBD	HHS-Wide, ASPE, ASPR, NOAA, EPA, NASA
Develop and provide HHS division-specific, climate change training to raise awareness throughout the workforce and leadership on impacts on mission and operations and the steps to be taken through integration with internal management functions and policies, including the HHS Environmental Justice Plan.	National	Incorporat e into HHS EJ Plan: 12/ 2011 Complete	NIEHS, CDC, FEMA, OASH, ASA
Enhance Federal decision-makers' ability to incorporate health considerations into adaptation planning and promote resilience of individuals and communities by collaborating with other federal agencies, State, Local, and Tribal governments, and leveraging HHS divisional, regional, and preparedness programs and existing healthy community, environmental justice and climate change initiatives. Collaborate with OSTP to train leaders.	National	OSTP Workshop: 10/2011 Complete	ASPR, OSTP, CDC, NIEHS

Attachment 4: Climate Change Adaptation (CCA) Implementation Plan Template

ACTION ITEM	RESPONSIBLE ORGANIZATION	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE	Evidence of Completion	
GENERAL ACTION ITEMS - From "IMPLEMENTING CLIMATE CHANGE ADAPTATION PLANNING IN ACCORDANCE WITH EXECUTIVE ORDER 13514 "Federal Leadership in Environmental, Energy, and Economic Performance" Support Document, 3/4/11					
Establish an Division climate change adaptation notice and mandate				Point of Contact:	
 Identify a CCA planning point of contact Issue and make public a Division-wide policy statement, consistent with the Secretary's June 3, 2011, HHS "Sustainability and Climate Change Adaptation Policy Statement" 				And Policy Statement on Division Website	
Increase understanding of how the climate is changing Participate in CEQ-sponsored climate change adaptation planning workshops, share information within HHS about climate change impacts					
3. Apply understanding of climate change to					

	ACTION ITEM	RESPONSIBLE ORGANIZATION	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE	Evidence of Completion
	mission and operations				
	 Respond to "Attachment 2: Appendix E: Agency Response to Climate Change Guiding Questions" (Part of 2011 SSPP) 				
	 Complete high-level vulnerability analysis 				
	Complete high-level CCA Plan				
4.	Develop, prioritize, and implement actions				
	 Respond to Attachment 3 "Priority Actions for FY 2012." 				
5.	Evaluate and Learn				
	 Participate in CEQ-sponsored climate change adaptation planning workshops, share lessons learned with Department 				
1.	Adopt integrated approaches				
	 Integrate climate change adaptation strategies into core policies, planning, practices, and programs 				
2.	Prioritize the most vulnerable				
	 Prioritize helping people, places, and 				

	RESPONSIBLE	TARGET	ACTUAL COMPLETION	Evidence of
ACTION ITEM	ACTION ITEM ORGANIZATION COMPLETION DATE		DATE	Completion
infrastructure most vulnerable to climate impacts.				
 Design and implement policies with meaningful involvement from all parts of society. 				
 Address issues of inequality and environmental justice associated with climate change impacts and adaptation 				
3. Use best-available science				
 Ground adaptation in best-available scientific understanding of climate change risks, impacts, and vulnerabilities. 				
 Adjust plans and actions as our understanding of climate impacts increases 				
4. Build strong partnerships				
 Coordinate across multiple sectors, geographical scales, and levels of government 				
 Build on the existing efforts and knowledge of a wide range of stakeholders. 				
Consider local or regional risks and needs				

	ACTION ITEM	RESPONSIBLE ORGANIZATION	TARGET COMPLETION	ACTUAL COMPLETION DATE	Evidence of Completion
_			DATE	57112	
5.	Apply risk-management methods and tools.				
	 Assess and respond to climate change with a risk management approach 				
	• Consider the potential consequences of inaction as well as options for risk reduction.				
6.	Apply ecosystem-based approaches				
	 Build resilience and reduce the vulnerability of people and their livelihoods to climate change impacts by Integrating the protection of biodiversity and ecosystem services into adaptation strategies 				
7.	Maximize mutual benefits				
	 Use strategies that complement or directly support other related climate or environmental initiatives, such as efforts to improve disaster preparedness, promote sustainable resource management, and reduce greenhouse gas emissions including the development of cost-effective technologies. 				
8.	Continuously evaluate performance				
	Include measurable goals and performance				

	RESPONSIBLE	TARGET	ACTUAL	Evidence of
ACTION ITEM	ORGANIZATION	COMPLETION DATE	COMPLETION DATE	Completion
metrics to continuously assess whether adaptive actions are achieving desired outcomes.				
From CEQ Support Document, 3/4/11				
Create an adaptation planning team with representatives from the agency's strategic planning, policy, operations, regional, and programmatic offices.				
Analyze how climate change may impact HHS, its OPDIVs' and STAFFDIVs' ability to achieve its mission, policy, program, and operation objectives.				
 Review existing programs, operations, policies, and authorities to: 				
 Identify potential impacts of climate change on the division's areas of responsibility; 				
 Prioritize and implement response actions; and 				
 Continuously assess and improve capacity to adapt to current and future 				

	RESPONSIBLE	TARGET	ACTUAL	Evidence of
ACTION ITEM	ORGANIZATION	COMPLETION DATE	COMPLETION DATE	Completion
changes in the climate.				
 Identify to ASFR through HHS' annual budget process areas where adjustments are necessary to carry out the actions identified under this Policy. 				
 Identify for the OGC areas where legal analysis is needed to carry out Agency actions identified under this Policy. 				
Improve Integration of Science into Decision Making				
 Create a "roadmap" of existing Federal science efforts that inform and support adaptation 				
 Prioritize activities that address science gaps important to adaptation decisions and policies 				
Build science translation capacity to improve the communication and application of science to meet the needs of decision makers				
 Explore approaches to develop an online clearinghouse for adaptation 				

	RESPONSIBLE	TARGET	ACTUAL	Evidence of
ACTION ITEM	ORGANIZATION	COMPLETION DATE	COMPLETION DATE	Completion
Address Key Cross-Cutting Issues with coordination and partnerships at the local, state, Tribal, and regional levels, including:				
Improve water resource management				
 Strengthen data and information 				
Improve water-use efficiency				
 Develop a national action plan to strengthen climate change adaptation for freshwater resources 				
 Protect human health by addressing climate change in public health activities 				
 Enhance the ability of Federal decision makers to incorporate health considerations into adaptation planning 				
 Build integrated public health surveillance and early warning systems to improve detection of climate change health risks 				
 Promote and build resilience of individuals and communities to climate-related health risks 				
 Ensure relevant Federal regulations, 				

ACTION ITEM	RESPONSIBLE ORGANIZATION	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE	Evidence of Completion
policies, and guidance demonstrate leadership on community adaptation				
 Integrate adaptation considerations into Federal programs that affect communities 				
 Facilitate the incorporation of climate change risks into insurance mechanisms 				
 Explore a public/private partnership to produce an open-source risk assessment model 				
 Develop a strategic action plan focused on strengthening the resilience of coastal, ocean, and Great Lakes communities and ecosystems 				
 Develop a Plan for reducing the impacts of climate change on the Nation's fish, wildlife, and plant resources and their habitats 				
Enhance Efforts to Lead and Support International Adaptation by making it a core consideration in the design and implementation of U.S. foreign assistance activities.				
Develop a Government-wide Plan to support				

ACTION ITEM	RESPONSIBLE ORGANIZATION	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE	Evidence of Completion
multilateral and bilateral adaptation activities and integrate adaptation into relevant U.S. foreign assistance programs				
 Enhance collaboration on adaptation among international development, national security and technical support agencies 				
 Engage global development partners and the private sector to promote knowledge sharing and coordinate investments 				
Coordinate Capabilities of the Federal Government to Support Adaptation by improving coordination of its science, services, and assessments to better				
support stakeholders.				
 Build and maintain strong partnerships to increase responsiveness of Federal government activities to support local, state, and Tribal needs 				
Develop regional climate change adaptation consortia among Federal agencies				
Establish performance metrics for evaluating Federal adaptation efforts				

	RESPONSIBLE	TARGET	ACTUAL	Evidence of
ACTION ITEM	ORGANIZATION	COMPLETION DATE	COMPLETION DATE	Completion
From HHS Sustainability and Climate Change Adaptation Policy Statement				
 Identify how climate change may impact HHS' ability to carry out its mission, programs, policies, and operations 				
Determine how HHS should prepare for and respond to a changing climate				
 Integrate climate change and environmental impact considerations into internal management functions and policies 				
 Collect, analyze, and utilize state of the science data 				
 Enhance issue awareness and specialty training for HHS employees 				
 Identify and prioritize actions to respond to climate change 				
 Establish mechanisms for evaluating our ongoing capacity to effectively adapt to current and future changes in the climate 				
 Leverage HHS regional and preparedness programs and existing healthy community and climate change initiatives to 				

ACTION ITEM	RESPONSIBLE ORGANIZATION	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE	Evidence of Completion
complement and build upon our Strategic Sustainability Performance Plan and enhance collaboration with other federal agencies, State, Local, and Tribal governments.				

i http://www.c2es.org/what s being done/in the states/state action maps.cfm http://www.epa.gov/statelocalclimate/state/state-examples/action-plans.html