THE CSTE WASHINGTON REPORT

Marcia S. Mabee, MPH, PhD
Editor
11479 Waterview
Reston, Virginia 20190
mmabee@ix.netcom.com
703-709-3001

November 4, 2004 Volume 8, Number 22

INSIDE THIS ISSUE

EDITOR'S NOTE: Prehypertension—an elevation in blood pressure that is a risk factor for heart attack, heart failure, stroke, and kidney disease—is estimated to be responsible for 9.1 percent of U.S. deaths, 6.5 percent of nursing home stays, and 3.4 percent of hospital stays each year for people ages 25 to 74, according to new research funded by the Agency for Healthcare Research and Quality (AHRQ). Blood pressure is recorded as two numbers—the systolic pressure (as the heart beats) over the diastolic pressure (as the heart relaxes between beats). Hypertension is defined as a systolic pressure of 140 mmHg or higher over a diastolic pressure of 90 mmHg or higher. Both numbers are important, but in May 2003, the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7), from the National Institutes of Health's National Heart, Lung, and Blood Institute, recommended systolic pressure, or the top number, as the better indicator of risk for other health problems. The JNC 7 identified prehypertension as having a systolic blood pressure between 120 mmHg and 139 mmHg, and defined residual hypertension as continuing to have a systolic pressure of 140 mmHg or higher despite treatment
-- additional details are provided in this Washington Report.

The CSTE Washington Report is provided as an information resource for members of the Council of State and Territorial Epidemiologists on federal legislation and regulation affecting public health and epidemiology in the U.S. Legislation cited in the report can be accessed via http://www.thomas.loc.gov Regulations cited can be accessed via http://www.gpo.gov

AMERICANS SLIGHTLY TALLER, MUCH HEAVIER THAN 40 YEARS AGO -- Adult men and women are roughly an inch taller than they were in 1960, but are nearly 25 pounds heavier on average as well, according to a new report from the Centers for Disease Control and Prevention (CDC). In addition, average BMI (body mass index, a weight-for-height formula used to measure obesity) has increased among adults from approximately 25 in 1960 to 28 in 2002.

The report, Mean Body Weight, Height, and Body Mass Index (BMI) 1960-2002: United States, prepared by CDC's National Center for Health Statistics, shows that the average height of a man aged 20-74 years increased from just over 5'8" in 1960 to 5'9½" in 2002, while the average height of a woman the same age increased from slightly over 5'3" 1960 to 5'4" in 2002.

Meanwhile, the average weight for men aged 20-74 years rose dramatically from 166.3 pounds in 1960 to 191 pounds in 2002, while the average weight for women the same age increased from 140.2 pounds in 1960 to 164.3 pounds in 2002.

Though the average weight for men aged 20-39 years increased by nearly 20 pounds over the last four decades, the increase was greater among older men:

* Men between the ages of 40 and 49 were nearly 27 pounds heavier on average in 2002 compared to 1960.
* Men between the ages of 50 and 59 were nearly 28 pounds heavier on average in 2002 compared to 1960.
* Men between the ages of 60 and 74 were almost 33 pounds heavier on average in 2002 compared to 1960.

For women, the near opposite trend occurred:

* Women aged 20-29 were nearly 29 pounds heavier on average in 2002 compared to 1960.
* Women aged 40-49 were about 25½ pounds heavier on average in 2002 compared to 1960.
* Women aged 60-74 were about 17½ pounds heavier on average in 2002 compared to 1960.

Meanwhile, the report documented that average weights for children are increasing as well:

* The average weight for a 10 year-old-boy in 1963 was 74.2 pounds; by 2002 the average weight was nearly 85 pounds.
* The average weight for a 10-year-old girl in 1963 was 77.4 pounds; by 2002 the average weight was nearly 88 pounds.
* A 15-year-old boy weighed 135.5 pounds on average in 1966; by 2002 the average weight of a boy that age increased to 150.3 pounds.
* A 15-year-old girl weighed 124.2 pounds on average in 1966; by 2002 the average weight for a girl that age was 134.4 pounds.

According to the report, average heights for children increased as well over the past four decades. For example:

* The average height of a 10-year-old boy in 1963 was 55.2 inches; by 2002 the average height of a 10-year-old boy had increased to 55.7 inches.
* The average height of a 10-year-old girl in 1963 was about 55.5 inches; by 2002 the average height of a 10-year-old girl had increased to 56.4 inches.
* In 1966, the average height of a 15-year-old boy was 67.5 inches or almost 5'71⁄2"; by 2002 the average height of a 15-year-old boy was 68.4 or almost 5'81⁄2".
* In 1996, the average height of a 15-year-old girl was 63.9 inches; by 2002 the average height of a 15-year-old girl had not changed significantly (63.8 inches).

Average BMI for children and teens has increased as well:

* In 1963, the average BMI for a 7-year-old boy was 15.9; in 2002 it was 17.0. For girls the same age, the average BMI increased from 15.8 to 16.6 over the same period.
* In 1966, the average BMI for a 16-year-old boy was 21.3; in 2002, it was 24.1. For girls the same age, the average BMI increased from 21.9 to 24.0 over the same period.

The BMI is a single number that evaluates an individual's weight status in relation to height. BMI is generally used as the first indicator in assessing body fat and has been the most common method of tracking weight problems and obesity among adults.

The data in the report was based on actual body measurements taken as part of the National Health and Nutrition Examination Survey, which CDC's National Center for Health Statistics (NCHS) has conducted periodically since 1960. The NCHS report, Mean Body Weight, Height, and Body Mass Index (BMI) 1960-2002: United States is available on-line at www.cdc.gov/nchs.

PREHYPERTENSION IS A CONSIDERABLE HEALTH RISK, PARTICULARLY FOR PEOPLE AGE 45 AND OVER -- Prehypertension—an elevation in blood pressure that is a risk factor for heart attack, heart failure, stroke, and kidney disease—is estimated to be responsible for 9.1 percent of U.S. deaths, 6.5 percent of nursing home stays, and 3.4 percent of hospital stays each year for people ages 25 to 74, according to new research funded by the Agency for Healthcare Research and Quality (AHRQ).

Blood pressure is recorded as two numbers—the systolic pressure (as the heart beats) over the diastolic pressure (as the heart relaxes between beats). Hypertension is defined as a systolic pressure of 140 mmHg or higher over a diastolic pressure of 90 mmHg or higher. Both numbers are important, but in May 2003, the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7), from the National Institutes of Health's National Heart, Lung, and Blood Institute, recommended systolic pressure, or the top number, as the better indicator of risk for other health problems. The JNC 7 identified prehypertension as having a systolic blood pressure between 120 mmHg and 139 mmHg, and defined residual hypertension as continuing to have a systolic pressure of 140 mmHg or higher despite treatment.

AHRQ's new study estimated that as many as two-thirds of people between the ages of 45 and 64 and 80 percent of people between the ages of 65 and 74 might have prehypertension or residual hypertension. The researchers found that, per 10,000 adults between the ages of 25 and 74, prehypertension and residual hypertension together account for almost 14 percent of deaths, nearly 10 percent of nursing home admissions, and 4.7 percent of hospital admissions.

"Prehypertension is a significant health problem and requires treatment with diet, exercise and smoking cessation," said Carolyn M. Clancy, M.D., director of AHRQ. "This research clearly shows that we need to continue improving preventive services and encouraging Americans to adopt healthier lifestyles." Dr. Clancy mentioned AHRQ's U.S Preventive Services Task Force and President Bush's HealthierUS initiative as two examples of excellent resources.

The researchers found that women between the ages of 65 and 74 would benefit most if prehypertension and residual hypertension were eliminated. Hospital admission rates among women could drop by almost 150 admissions per 10,000 women in this age group. Men also show substantial reductions in risk. Hospital admission rates could drop by 85 admissions per 10,000 for men ages 45 to 64 and by 62 admissions per 10,000 for men 65 to 74.

Researchers Louise B. Russell, Ph.D., and Elmira Valiyeva, Ph.D., of Rutgers University and Jeffrey L. Carson, M.D., of the University of Medicine and Dentistry of New Jersey Robert Wood Johnson Medical School, used a simulation model based on the National Health and Nutrition Examination Surveys I and III to estimate the impact of prehypertension and residual hypertension on deaths, nursing home admissions, and hospitalizations for adults in the United States between the ages of 25 and 74 on deaths, nursing home admissions, and hospitalizations.

Details are available in "Effects of Prehypertension on Admissions and Deaths: A Simulation," published in the October 25 issue of *Archives of Internal Medicine*. The JNC 7 guidelines and related materials are available at: www.nhlbi.nih.gov/guidelines/hypertension/index.htm. AHRQ's preventive services

programs can be found at www.ahrq.gov/clinic/prevenix.htm. Information about the President's HealthierUS initiative can be found at www.healthierus.gov.

HHS AWARDS 21 GRANTS TOTALING $230 MILLION FOR STRATEGIC PREVENTION FRAMEWORK STATE INCENTIVE GRANTS -- HHS Secretary Tommy G. Thompson October 26 announced 21 grants totaling $230 million over five years to implement the Strategic Prevention Framework State Incentive Grants to advance community-based programs for substance abuse prevention, mental health promotion and mental illness prevention. HHS' Substance Abuse and Mental Health Services Administration (SAMHSA) will administer the grants.

The funds will be used to implement a five-step process known to promote youth development, reduce risk-taking behaviors, build on assets, and prevent problem behaviors. The five steps are: (1) conduct needs assessments; (2) build state and local capacity; (3) develop a comprehensive strategic plan; (4) implement evidence-based prevention policies, programs and practices; and (5) monitor and evaluate program effectiveness, sustaining what has worked well.

"Our goal at HHS is to help all Americans improve the quality of their own life by making choices that lead to healthier, longer lives," Secretary Thompson said. "That means making the right choices about what to eat, to exercise, to not smoke or use drugs, which is really about reducing those risks over which people have a choice. These grants are designed to help communities create programs to help people as they face these issues."

SAMHSA Administrator Charles Curie said, "These new grants are built on a community-based risk and protective factors approach to prevention. For example, family conflict, low school readiness, and poor social skills increase the risk for conduct disorders and depression, which in turn increase the risk for adolescent substance abuse, delinquency, and violence. Protective factors such as strong family bonds, social skills, opportunities for school success, and involvement in community activities can foster resilience and mitigate the influence of risk factors. The grant will bring together multiple funding streams from multiple sources to implement a comprehensive approach to prevention that cuts across existing programs and systems."

These grants will allow the programs to provide leadership, technical support and monitoring to ensure that participating communities are successful. The success of the grants will be measured by specific measurable outcomes, among them: abstinence from drug use and alcohol abuse, reduction in substance abuse-related crime, attainment of employment or enrollment in school, increased stability in family and living conditions, increased access to services, and increased social connectedness.

Each state grantee will receive $2.35 million per year for five years. Guam will receive $996,000 per year for all five years and Palau will receive $420,000 per year for all five years.

Strategic Prevention Framework State Incentive grants awarded this year are:

Arizona -- The Arizona Governor's Office for Children, Youth and Families, in partnership with other state agencies, including the Department of Health Services, will develop a comprehensive, integrated statewide substance abuse Arizona Strategic Prevention Framework resulting in data-driven, community-based prevention activities for Arizona's highest risk youth and families.

Colorado -- The Colorado Prevention Partners for Sustainable Change project will implement the grant to further state interagency efforts; develop and deploy needed prevention systems; address identified service gaps and policy needs; and build infrastructure at the state and community levels that, together, lead to more efficient and effective resource utilization for substance abuse problems and related issues.

Connecticut -- Connecticut's Strategic Prevention Framework Initiative will develop a comprehensive prevention strategy for delivering and implementing effective substance abuse prevention and mental health promotion services that will serve as a blueprint for state and community partners.

Florida -- The Florida Strategic Prevention Alliance will complete the development of integrated state and community-level strategic processes. Both levels will be supported with the assistance of epidemiology, community readiness, resource assessment, strategic planning and organizational development resources for evidence-based programming, and a Web-based performance data system that tracks both coalition and program activities.

Guam -- Guam will utilize the grant to develop a substance abuse prevention network that links a state-level advisory committee with community-based prevention mentors. Science-based programs will be adapted and evaluated for local application following the Strategic Prevention Framework process, and will cover the entire Territory of Guam.

Illinois -- The Illinois Strategic Prevention Framework State Incentive Grant will provide an opportunity for state leaders to stand with community leaders and members to remove barriers and build capacity for effective, efficient and relevant substance abuse prevention efforts.

Kentucky -- Kentucky's Strategic Prevention Framework Incentive Grant project will build a data-driven, comprehensive, interagency prevention service system to reduce substance abuse and its related problems. The state will make extensive use of geographic information system (GIS) technology to focus community goal setting and enable targeted resource allocation.

Louisiana -- The Strategic Prevention Framework State Incentive Grant will result in the development of a system that coordinates planning, funding, and evaluation for substance abuse prevention at all levels, from service providers to state agency heads, in order to

support the implementation of evidence-based, culturally- appropriate and cost-effective prevention services in all Louisiana parishes.

New Mexico -- The New Mexico Strategic Prevention Framework State Incentive grant will reduce substance abuse among youth, families, and adults by reducing risk and increasing protective factors in individuals, schools, families, neighborhoods, and communities throughout New Mexico through an extensive statewide needs assessment, the creation of a New Mexico Comprehensive Strategic Plan for Prevention, and implementation of substance abuse prevention activities.

Maine -- Maine's Strategic Prevention Framework State Incentive Grant will build a statewide data-driven prevention infrastructure that provides common tools and supports for prevention and health promotion programs.

Michigan -- The Michigan Strategic Prevention Framework State Incentive Grant will support and enhance efforts to identify, coordinate and leverage resources to address prevention challenges. A crosscutting theme in this effort will be enhancing the effectiveness of prevention services through the increased use of evidence-based strategic planning models and intervention strategies.

Missouri -- The Missouri Strategic Prevention Framework State Incentive Grant will build on the efforts initiated under the Governor's Prevention Initiative to establish a sustainable, data-driven, culturally competent, evidence-based substance abuse prevention infrastructure supported through state policies and reflective of local needs and priorities.

Nevada -- Nevada's Strategic Prevention Framework State Incentive Grant is designed to prevent the onset and reduce the progression of substance abuse, including childhood and underage drinking; reduce substance abuse-related problems in communities; and build prevention capacity and infrastructure at the state and community levels.

New Hampshire -- The New Hampshire Strategic Prevention Framework Program will reduce substance abuse-related problems in communities by transforming the state system to one that continuously uses the five steps of the Strategic Prevention Framework to deliver appropriate and effective prevention services to prevent abuse of alcohol, tobacco and illegal drugs.

Palau -- Palau's Strategic Prevention Framework State Incentive Grant program will reach out to communities to enlist their support for the shared development of a strategic prevention framework based on sound prevention principles and Palauan culture and strengths. Palau plans to provide and facilitate training for targeted communities on strategic incentive grant principles, all steps of the framework --including community readiness, data resources, evaluation, strategic planning, risk/protective factors and model programs.

Rhode Island -- Rhode Island's program is a broad public/private initiative designed to enhanced infrastructure and will be aimed at preventing the onset and reducing the progression of substance abuse, including childhood and underage drinking. Particular attention will be directed toward eighth graders, underage drinking and ethnic minorities.

Tennessee -- Tennessee's Strategic Prevention Framework State Incentive Grant will use a data-based problem-solving within a systems change model and provide the framework and resources for state government and communities to partner effectively to target scarce resources and build capacity, making each more effective in their efforts to prevent substance use across the lifespan.

Texas -- The Texas Strategic Prevention Framework will strengthen the prevention infrastructure to develop and coordinate a statewide strategy to prevent substance abuse and related problem behaviors by building on the existing infrastructure of the Drug Demand Reduction Advisory Committee.

Washington -- Washington State's Strategic Prevention Framework will provide the resources necessary to enhance existing assessment processes, implement and evaluate evidence-based strategies to address critical needs based on epidemiological data, and establish reporting procedures that track progress toward preventing substance abuse and related problems, including mental illness, delinquency and violence.

West Virginia -- West Virginia will use the grant to complete and implement a comprehensive system that will allow the state to: 1) better coordinate alcohol, tobacco and other drug prevention funding; 2) improve the overall quality of prevention programs and the state's prevention workforce; and 3) increase the availability of prevention services to communities statewide.

Wyoming -- Wyoming will establish a State Epidemiological Workgroup and a Regional Community Coordinator System; implement evidence-based prevention programs in communities; modify programs, policies, practices, and strategic plans based on the annual collection of data; and develop a data-driven decision making framework to address program sustainability, effectiveness and funding issues.

LIMITING MEDICAL INTERNS' WORK TO 16 CONSECUTIVE HOURS CAN SUBSTANTIALLY REDUCE SERIOUS MEDICAL ERRORS IN INTENSIVE CARE UNITS -- The rate of serious medical errors committed by first-year doctors in training (interns) in two intensive care units (ICUs) at a Boston hospital fell significantly when traditional 30-hour-in-a-row extended work shifts were eliminated and when interns' continuous work schedule was limited to 16 hours, according to two complementary studies published in the October 28, 2004, issue of the *New England Journal of Medicine*. Both studies were funded by HHS' Agency for Healthcare Research (AHRQ) and Quality and the National Institute for Occupational Safety and Health (NIOSH) within the Centers for Disease Control and Prevention (CDC).

Interns made 36 percent more serious medical errors, including five times as many serious diagnostic errors, on the traditional schedule than on an intervention schedule that limited scheduled work shifts to 16 hours and reduced scheduled weekly work from approximately 80 hours to 63. The rate of serious medication errors was 21 percent greater on the traditional schedule than on the new schedule.

In the first research of its kind on the impact of lack of sleep on the safety of hospital care, researchers at Brigham and Women's Hospital in Boston eliminated the traditional schedule that required interns—doctors who have completed medical school and are finishing their medical training by working in the hospital—to work "extended duration work shifts" of approximately 30 consecutive hours every other shift. Under the traditional schedule, interns in hospital ICUs were scheduled to work approximately 80 hours per week. Under the intervention schedule that was tested in the studies, the "extended duration work shift" was eliminated, and weekly scheduled work hours were decreased by approximately 20 hours. Interns also were encouraged to sleep on their time off and to take naps before night shifts.

"The impact of sleep deprivation on performance has been well documented in other industries, but studies like these are providing evidence of its impact in health care," said Carolyn M. Clancy, M.D., AHRQ's director. "This research clearly demonstrates that changing the design and structure of the systems in which clinicians practice is essential to improving patient safety."

In this study, "Effect of Reducing Interns' Work Hours on Serious Medical Errors in Intensive Care Units," Christopher P. Landrigan, M.D., M.P.H., Director of the Sleep and Patient Safety Program at Brigham and Women's Hospital, and his colleagues randomly assigned 24 interns to work either the traditional schedule in the cardiac care unit and the intervention schedule in the medical intensive care unit or the converse from July 2002 to June 2003. The study covered 624 ICU admissions totaling 2,203 patient days. Interns were directly observed by six physicians while they worked, and their charts were reviewed by two nurse chart reviewers.

The change in work schedule did not diminish interns' role in ICUs or shift the burden of work to more senior staff, according to the study authors. The number of medications ordered and tests interpreted by interns did not differ significantly. In addition, the error rates for more senior residents and other staff did not increase during the study.

According to Dr. Landrigan, lead author of the study, "The data from this study suggest that limiting interns' scheduled shifts to 16 consecutive hours in intensive care settings could substantially improve patient safety. Most of the 100,000 doctors-in-training in the United States regularly work 30-hour-in-a row shifts, which continue to be allowed under the scheduling reforms instituted last year by the Accreditation Council for Graduate Medical Education. Further limitation of consecutive work hours may be an important means of preventing medical errors."

The other study, "Effect of Reducing Interns' Weekly Work Hours on Sleep and Attentional Failures," examined the impact of the new work schedule on interns' sleep patterns and "attentional failures," characterized by nodding off while on duty, even while providing care to patients. Steven W. Lockley, Ph.D., and his colleagues studied 20 interns each in two 3-week ICU rotations under both the traditional and intervention work schedules. Interns worked an average of 84.9 hours per week on the traditional schedule and 65.4 hours per week on the new schedule. They completed daily sleep and work logs that were validated through observation by study staff. In addition, interns were monitored using polysomnography, a device that can objectively document sleep and attentional failures.

The study found that under the new schedule interns worked 19.5 hours per week less, slept 5.8 hours per week more, and had typically slept more in the previous 24 hours when working. The percentage of work hours preceded by more than 8 hours of sleep in the traditional schedule was 17 percent as compared with 33 percent for the new schedule. Overall, the rate of attentional failures was twice as high at night on the traditional schedule than on the intervention schedule.

The study concludes that interns who worked the intervention schedule were less sleep deprived at work and were able to sleep longer at home, which led to them having less cumulative and acute sleep deprivation. Interns on the new schedule were encouraged to take naps in the afternoon before overnight shifts to mitigate the effects of sleep deprivation on their ability to provide care. Researchers note that the findings of this study may apply beyond the ICU to those on other rotations and specialties as well as to more senior residents, attending physicians, nurses, and other hospital staff.

"This evidence reveals that the long-standing medical tradition of scheduling physicians to work 24 or more hours in a row adversely impacts their ability to remain awake and sustain attention while caring for patients," said Dr. Lockley.

Charles A. Czeisler, Ph.D., M.D., the senior author of both papers and Professor of Sleep Medicine at Harvard Medical School says, "While sleep experts advocate 8 hours of sleep per 24-hour period, it has historically been difficult to achieve in medicine as patient care is an around-the-clock effort. These are the first studies to demonstrate clinically that reducing work shifts and tackling sleep deprivation will help increase attentiveness and reduce medical errors."