THE CSTE WASHINGTON REPORT

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

November 30, 2007 Volume 11, Number 21

INSIDE THIS ISSUE

EDITOR'S NOTE.. A new report from the nation's leading cancer organizations shows cancer death rates decreased on average 2.1 percent per year from 2002 through 2004, nearly twice the annual decrease of 1.1 percent per year from 1993 through 2002. The findings are in the "Annual Report to the Nation on the Status of Cancer, 1975-2004, Featuring Cancer in American Indians and Alaska Natives" published online October 15, 2007 (www.interscience.wiley.com/cancer/report2007) and appearing in the November 15, 2007, issue of *Cancer.* A featured special section provides the most comprehensive cancer data to date for American Indians and Alaska Natives (AI/AN) across the United States. Cancer incidence rates among AI/AN men and women varied two-fold among six geographic regions of the country. From 1999 through 2004, AI/AN men from the Northern Plains region and AI/AN women from Alaska and the Northern and Southern Plains regions had higher cancer incidence rates than non-Hispanic white (NHW) men and women in the same areas.-- 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.

APPROPRIATIONS NEGOTIATIONS UNDERWAY TO CUT FUNDING IN SOME AREAS AND BOOST IT IN OTHERS – As the first session of the 110th Congress faces a looming adjournment date of December 21st or 22nd, most of the FY 2008 appropriations bills funding the federal government, including the Labor-HHS-Education bill which funds CDC, remain unfinished. In a complex set of maneuvers to overcome a recalcitrant White House, Democrats in Congress are negotiating with their Republican counterparts to woo enough support to override expected continued Presidential vetoes. The sweetners involve both cutting funding to respond to criticism of overspending, including reducing the Labor-HHS-Education Appropriations bills by $3 billion, and increasing funding for broadly popular programs like low-income heating assistance. The increased funding would be called "emergency spending" and so would not count against the budget caps set by Congress earlier in the year under the FY 2008 Budget Resolution. Whether this will work is any one's guess at this point. The final package would be a giant omnibus bill with the popular Military-Construction/Veterans Affairs appropriations bill in the lead. Stakeholder groups in the Labor-HHS-Education Appropriations bill, including CSTE, are currently circulating a thank you letter to the 277 House Members who voted to override the President's recent veto of the Labor-HHS-Education Appropriations bill, and getting ready for the next battle to finish the appropriations process with at least some increase in funding, compared with the President's budget request, intact.

SCIENTISTS IDENTIFY FACTOR KEY TO SEVERITY OF COMMUNITY-ASSOCIATED METHICILLIN-RESISTANT STAPH INFECTIONS -- Newly described proteins in drug-resistant strains of the *Staphylococcus aureus* bacterium attract and then destroy protective human white blood cells — a key process ensuring that *S. aureus* survives and causes severe disease, according to scientists at the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health.

S. aureus disease is a global public health concern because some strains, including community-associated methicillin resistant *S. aureus* (CA-MRSA), have developed resistance to existing antibiotics. The NIAID scientists hope to use this finding to advance development of new therapeutic treatments.

In a study published online in *Nature Medicine*, Michael Otto, Ph.D., and his colleagues at NIAID's Rocky Mountain Laboratories (RML) describe how novel members of the phenol-soluble modulin (PSM) protein family help determine disease severity and eliminate immune defense mechanisms against CA-MRSA.

"This elegant work helps reveal the complex strategy that *S. aureus* has developed to evade our normal immune defenses," says Anthony S. Fauci, M.D., NIAID director. "Understanding what makes the infections caused by these new strains so severe and

developing new drugs to treat them are urgent public health priorities."

Up until a year ago, most scientists studying *S. aureus* believed they had narrowed their search for the cause of severe CA-MRSA infections, focusing on the Panton-Valentine leukocidin (PVL) toxin produced by certain strains. But then last year, Dr. Otto and his RML colleagues published a study indicating that PVL does not play a major role in CA-MRSA infections (http://www3.niaid.nih.gov/news/newsreleases/2006/staphtoxin.htm).

Given the scope of the problem in the United States, Dr. Otto's group continued its search to understand why the CA-MRSA strains cause widespread and often severe infections in otherwise healthy people. Until now, no one had examined what role PSMs have in *Staphylococcus* infection.

The RML group identified previously unknown PSMs secreted by *S. aureus* and identified the genes that encode those PSM proteins. They then compared PSM production between CA-MRSA and the most prominent hospital-associated MRSA strains. The research team found PSM genes in all MRSA strains, but production of the proteins was typically higher in CA-MRSA strains known for severe virulence, according to Dr. Otto.

To determine whether PSMs contribute to virulence, the scientists developed test strains using the most widespread isolates of CA-MRSA, called USA300 and USA400. Each test strain had a certain combination of PSM-encoding genes removed so the researchers could ascertain whether those genes affected virulence. The scientists then observed how laboratory mice responded to the test strains. By doing so, they pinpointed the psm-alpha gene cluster (which makes *PSM-alpha* protein) as playing an essential role in determining CA-MRSA virulence and, ultimately, disease severity.

To understand how PSMs contribute to virulence, Dr. Otto and colleagues next examined the role of the molecules in *S. aureus* evasion of human immune defenses. They observed that the *psm-alpha* genes generated the most resistance activity and the PSM-alpha proteins were best at destroying most immune cells that help protect against infection and disease. In all instances, the PSM-alpha molecules caused the greatest destruction of white blood cells, an effect that occurred rapidly.

What was remarkable, says Dr. Otto, is that a specific sensing mechanism likely enabled *S. aureus* to secrete PSMs at the ideal time when host immune cells were weakest and most vulnerable to destruction. Likewise, PSM production slowed when the bacterial survival was most jeopardized.

"We're not saying the *psm-alpha* gene cluster is the only element contributing to the virulence and survival of CA-MRSA, but it is a major factor," says Dr. Otto.

Next, he and his RML colleagues will examine whether the simple presence of the *psm-alpha* genes create havoc with the immune system, or whether some unknown trigger

causes these genes to be expressed in a harmful way. Dr. Otto's group also is continuing to study the molecular details of how PSMs function. Ultimately they hope to identify new candidate therapeutics for CA-MRSA by studying the roles of the different PSM genes.

ANNUAL REPORT TO THE NATION FINDS CANCER DEATH RATE DECLINE DOUBLING -- A new report from the nation's leading cancer organizations shows cancer death rates decreased on average 2.1 percent per year from 2002 through 2004, nearly twice the annual decrease of 1.1 percent per year from 1993 through 2002. The findings are in the "Annual Report to the Nation on the Status of Cancer, 1975-2004, Featuring Cancer in American Indians and Alaska Natives" published online October 15, 2007 (www.interscience.wiley.com/cancer/report2007) and appearing in the November 15, 2007, issue of *Cancer.*

A featured special section provides the most comprehensive cancer data to date for American Indians and Alaska Natives (AI/AN) across the United States. Cancer incidence rates among AI/AN men and women varied two-fold among six geographic regions of the country. From 1999 through 2004, AI/AN men from the Northern Plains region and AI/AN women from Alaska and the Northern and Southern Plains regions had higher cancer incidence rates than non-Hispanic white (NHW) men and women in the same areas.

Among the general population, the report shows that long-term declines in cancer death rates continued through 2004 for both sexes and, despite overall higher death rates for men, the declines from 2002 through 2004 were 2.6 percent per year among men and 1.8 percent per year among women. Death rates decreased for the majority of the top 15 cancers in men and women. Important declines were noted for the three leading causes of cancer deaths in men: lung, prostate and colorectal cancers. In women, deaths rates from colorectal cancer and breast cancer decreased, while the rate of increase for lung cancer deaths slowed substantially.

"The significant decline in cancer death rates demonstrates important progress in the fight against cancer that has been achieved through effective tobacco control, screening, early detection, and appropriate treatment," said Centers for Disease Control and Prevention (CDC) Director, Julie L. Gerberding, M.D. "As a nation, we must commit to continuing and enhancing these important public health efforts."

"The evidence is unmistakable: we are truly turning the tide in the cancer battle," said John R. Seffrin, Ph.D., chief executive officer of the American Cancer Society (ACS). "The gains could be even greater if everyone in the U.S. had access to essential healthcare, including primary care and prevention services."

Overall cancer incidence rates (the rates at which new cancers are diagnosed) for both sexes and all races combined declined slightly from 1992 through 2004. Incidence rates for female breast cancer dropped substantially from 2001 through 2004. This drop is possibly related to declining use of hormone replacement therapy as well as the recently

reported decline in use of screening mammography. Also, lung cancer incidence rates in women stabilized from 1998 through 2004 after long term increases, and in men the rate declined 1.8 percent per year from the period 1991 through 2004. Colorectal cancer incidence rates decreased by more than 2.0 percent per year for men and women, likely due to prevention through the removal of precancerous polyps.
In the Special Feature section of the Report, the authors found that while the top three cancers for men and for women are the same for AI/AN and NHW populations, there are important differences by region and type of cancer, including:

• For all cancers combined, AI/AN incidence rates were lower in the Southwest and higher in the Plains and Alaska
• Lung and colorectal cancer incidence rates were highest in the Northern Plains and Alaska and were significantly elevated in comparison with NHW rates
• The incidence rates for cancers of the kidney, stomach, liver, cervix and gallbladder were higher in AI/AN than in NHW populations in all regions combined
• With the exception of Alaska, AI/AN persons were less likely than NHW persons to be diagnosed with early stages of colorectal cancer, with the difference being larger in the Southwest, Northern Plains, and Southern Plains than other regions
• AI/AN women in all regions of the U.S. were less likely than NHW women to be diagnosed with localized breast cancer**.**

"We are firmly committed to addressing cancer health disparities so that the benefits of decades of research can reach all Americans," said National Cancer Institute (NCI) Director John E. Niederhuber, M.D. "The fact that lung and colorectal cancers rates were higher in some American Indian and Alaska Native populations points to the work we still have to do."

AI/AN populations were more likely to live in poverty and less likely to have a high school education and health coverage when compared to NHW persons, all indicators of less access to cancer prevention and control services. Also, current smoking rates were high among AI/AN overall, with the highest prevalence among AI/AN in Alaska and in the Northern Plains; in all regions, more AI/AN than NHW persons reported being obese; and screening rates for breast, colorectal, prostate and cervical cancers were lower among AI/AN than NHW persons.

"We now have an infrastructure in this country for obtaining high-quality information about new cases of cancer and we can now describe the successes in cancer interventions and treatment as well as uncover populations with varying risks and outcomes," said Holly L. Howe, Ph.D., executive director of North American Association of Central Cancer Registries (NAACCR). "Without this surveillance, we would be ill-equipped to address the challenges we face in further reducing the cancer burden."

The authors report that earlier detection of disease through screening, improved prognosis through more effective treatment, tobacco control, and reduction in inequalities in cancer care all point to the success of the nation's dedication and focus on reducing the

burden of cancer in the U.S.

The study was conducted by scientists at the CDC, ACS, NCI, which is part of the National Institutes of Health, and NAACCR, in collaboration with scientists from the Indian Health Service and Mayo Clinic College of Medicine.

DEPUTY NATIONAL COORDINATOR FOR HEALTH INFORMATION TECHNOLOGY NAMED -- HHS' Office of the National Coordinator for Health Information Technology (IT) November 15 announced the appointment of Charles P. Friedman, Ph.D., as deputy national coordinator for Health IT in the Office of the National Coordinator for Health IT (ONC). Dr. Friedman had recently been serving as senior advisor to the National Coordinator for Health IT Robert M. Kolodner, M.D.

"Chuck's recent experience in assisting me in matters related to program planning, development, and evaluation has prepared him well to assume the deputy role," said Dr. Kolodner. "As he carries out his new role, Dr. Friedman will continue to contribute scientific and managerial expertise and leadership to initiatives under way in the office's four directorates."

Prior to joining ONC, Dr. Friedman was institute associate director for research informatics and information technology at the National Heart, Lung, and Blood Institute of the National Institutes of Health (NIH). Friedman joined NIH in 2003 as a senior scholar at the National Library of Medicine. Previously, Dr. Friedman was professor and associate vice chancellor for biomedical informatics at the University of Pittsburgh, where he established a health sciences-wide Center for Biomedical Informatics.

Over a 26-year academic career, Dr. Friedman's research focused on how to build information technology resources to support health care, research, and education and how to evaluate the impact of these resources. He is the author of several textbooks and has authored or co-authored over 150 articles in scientific journals. He is an elected fellow and past president of the American College of Medical Informatics.

As deputy national coordinator, Dr. Friedman will serve as operations officer for ONC's health IT initiatives to develop, maintain, and direct the implementation of the strategic plan to guide nationwide adoption of interoperable health IT to reduce medical errors, improve quality, and produce greater value in health care.

Dr. Friedman's appointment was effective Nov. 11, 2007.