April 3rd, 2007

This is an abbreviated version of Genomics and Health Weekly Update, published by the National Office of Public Health Genomics at CDC. View using the HTML option in Groupwise. The full unabridged version is available online at:

Spotlight: Mid-West Community Genetics Forum
The Center for Public Health and Community Genomics (CPHCG) at the University of Michigan is launching a new forum to engage and educate Midwest communities on genomics and encourage feedback on issues of genomic research and practice. Read more.

Autism

“Genetics of autism”
(Mar 26) Medical News Today reports, “Wouter Staal, child - and adolescent psychiatrist at the department of Psychiatry, comments: Autism is an impairment which has a very high hereditary contribution, over 90%. Several linkage and association studies have been performed without consistent replication of data.”

Cancer

“Mutation to mismatch repair gene associated with colorectal cancer”
(Mar 26) Medical News Today reports, “Patients with a variant of a DNA repair gene, known as MLH1, may have an increased risk of a subtype of colorectal cancer.”

“Mutation to mismatch repair gene associated with colorectal cancer”
(Mar 22) Science Daily reports, “Patients with a variant of a DNA repair gene, known as MLH1, may have an increased risk of a subtype of colorectal cancer, according to a study in the March 21 issue of the Journal of the National Cancer Institute.”

“Scientists find gene that may regulate colon cancer”
(Mar 22) Reuters Health reports, “Scientists have discovered a genetic mutation linked with colon cancer that may work like a spigot, controlling the number of precancerous growths that develop and determining a person's susceptibility to cancer.”

Cardiovascular, Diabetes, Hypertension, Stroke, and Related Conditions

“Hemochromatosis gene linked to stroke risk”
(Mar 27) Reuters Health reports, “Patients with a specific gene variation for hereditary hemochromatosis, an autosomal recessive disease associated with increased iron accumulation, have more than double the risk of stroke, new research suggests.”

“Who gets heart failure? Race takes back seat to diabetes and high blood pressure”
(Mar 27) EurekAlert! reports, “Diabetes and high blood pressure, two conditions rooted
in genetics and environmental surroundings, play a much greater role than race alone in determining who is mostly likely to develop heart failure, according to the latest study from cardiologists at Johns Hopkins. Each year, nearly 300,000 Americans die from heart failure.”

“Gene linked to increased risk of stroke”
(Mar 26) EurekAlert! reports, “One of the most common genetic defects passed on through families significantly increases a person's chance of having a stroke, according to a study published in the March 27, 2007, issue of Neurology®, the scientific journal of the American Academy of Neurology.”

“Studies explore lifestyle choices and heart risks”
(Mar 24) EurekAlert! reports, “Genetics and family history play a large role in a person’s risk for heart disease, but factors in diet, lifestyle and the environment are also thought to influence susceptibility to the disease.”

Genotypes, obesity and type 2 diabetes - can genetic information motivate weight loss? A review
Gable D, et al.

Family history of hypertension influences left ventricular diastolic function during chronic antihypertensive therapy
Grandi AM, et al.

“Gene test shown to measure heart function after transplant”
(Mar 26) Columbia University Medical Center reports, “New research suggests a genomic test may provide detailed information on how well a transplanted heart is performing.”

Ethical, Legal, and Social Issues

“House Ways and Means committee passes bill to prohibit genetic discrimination”
(Mar 22) News Medical.Net reports, “The House Ways and Means Committee on Wednesday by voice vote unanimously approved a bill (HR 493) that would ban discrimination against U.S. residents based on the results of genetic tests, Congress Daily reports.”

Cancer genetics: consultants' perceptions of their roles, confidence and satisfaction with knowledge
McCann S, et al.

Cancer genetic counseling in public health care hospitals: the experience of three Brazilian services
“Genetic test for disease: blessing and liability”
(Mar 26) SABC News reports, “A genetic test could alert a patient that he is prone to colon cancer, so he can take colonoscopies more often to detect and, if necessary, treat the disease in an early phase.”

“Genetic testing”
(Mar 22) FOX 35 reports, “If a genetic test could tell you whether you'd develop cancer or some other life threatening disease, would you want to know?

Genomic Tools

“Fifth National DNA Day to showcase genomic discoveries and careers”
(Mar 26) NIH News reports, “The National Human Genome Research Institute (NHGRI), part of the National Institutes of Health (NIH), will mark the fifth annual National DNA Day on April 25 with events aimed at building high school students’ awareness of genetics and genomics.”

“Biobank large-scale recruiting underway in Manchester”
(Mar 26) Public Health Genetics Unit reports, “Following a successful pilot study, UK Biobank has begun to roll out its recruitment programme, beginning the greater Manchester area.

“Simulated populations used to probe gene mapping”
(Mar 23) EureKAlert! reports, “More powerful computers are allowing scientists and engineers to conduct simulations that grow more realistic each year.”

“Epigenetic studies will provide a better understanding of disease”
(Mar 22) Medical News Today reports, “From 26-28 March, the Institute for Research in Biomedicine (IRB Barcelona) will bring together 20 internationally recognised scientists from the USA and Europe working in epigenetics to present their latest work. Invited by Ferran Azorin, principal investigator at IRB Barcelona, and Tony Kouzarides, director of the Gurdon Institute in the United Kingdom, these scientists will participate in a new Barcelona BioMed Conference, one of a series organised jointly by IRB Barcelona and the BBVA Foundation.”

“US healthcare provider plans large genetics research programme”
(Mar 22) The Public Health Genetic Unit reports, “California-based healthcare provider
Kaiser Permanente hopes to enrol 500,000 of its 2 million adult members in northern California in an ambitious research programme (the Research Program on Genes, Environment and Health) that aims “to identify genetic and environmental factors that affect human health.”

**What genome-wide association studies can do for medicine**
Christensen K & Murray JC

**Incorporating Single-Locus Tests into Haplotype Cladistic Analysis in Case-Control Studies**
Liu J, et al.
PLoS Genet 2007 Mar;3(3):e46

**Immune System (including autoimmunity)**

**“Using saliva to diagnose primary Sjögren's syndrome”**
(Mar 26) Science Daily reports, “Scientists are reporting that, instead of blood tests and biopsy, saliva can be used to detect primary Sjögren's Syndrome (pSS), an autoimmune disease which affects approximately 4 million American, 90% being women.”

**“Researchers discover 'vitiligo gene', paving the way for new treatments”**
(Mar 24) Medical News Today reports, “In a study appearing in the March 22 edition of The New England Journal of Medicine, researchers at St George's, University of London, the University of Colorado at Denver and Health Sciences Center (UCDHSC) and the Barbara Davis Center for Childhood Diabetes have discovered a connection between a gene and the chronic skin condition vitiligo, as well as a possible link to an array of other autoimmune diseases.”

**Effect of genetic polymorphisms on the susceptibility to and course of infectious diseases**
Kimman TG, et al.
Ned Tijdschr Geneeskd 2007 Mar;151(9):519-24

**Mental Health (including Addiction)**

**“Genetic risk for schizophrenia uncovered by Feinstein researchers”**
(Mar 26) Medical News Today reports, “Psychiatric researchers at The Zucker Hillside Hospital campus of The Feinstein Institute for Medical Research have uncovered evidence of a new gene that appears to increase the risk of developing schizophrenia, a disorder characterized by distorted thinking, hallucinations and a reduced ability to feel normal emotions.”

**“Sequence variation in the alpha synuclein gene contributes to alcohol craving”**
(Mar 26) EurekAlert! reports, “The protein alpha synuclein (SNCA) plays an important role in the regulation of dopamine function.”
Nervous System and Movement Disorders

“Scientists study memory, genetic link”
(Mar 25) WRAL.com reports, “Maura Styczynski sat ramrod straight before a computer screen at Duke University and tried hard to memorize where a series of colored squares flashed.”

Knowledge of and attitudes about Alzheimer disease genetics: report of a pilot survey and two focus groups
Moscarillo TJ, et al.
Community Genet 2007;10(2):97-102

Pathogenic mutations in Parkinson disease
Tan EK & Skipper LM
Hum Mutat 2007 Mar

E-Learning Courses in Epilepsy-Concept, Evaluation, and Experience with the E-Learning Course "Genetics of Epilepsies"
Wehrs VH, et al.
Epilepsia 2007 Mar

Nutrigenomics

Nutri-epigenomics: lifelong remodelling of our epigenomes by nutritional and metabolic factors and beyond
Gallou-Kabani C, et al.

Nutrigenomics - 2006 update
Kaput J

Pharmacogenomics

“Ultrathin films deliver DNA as possible gene therapy tool”
(Mar 22) newswire reports, “Gene therapy - the idea of using genetic instructions rather than drugs to treat disease - has tickled scientists' imaginations for decades, but is not yet a viable therapeutic method.”

Steroid hormone receptor gene polymorphisms and osteoporosis: a pharmacogenomic review
Gennari L, et al.
Expert Opin Pharmacother 2007 Apr;8(5):537-53
Current use of pharmacogenetic testing: a national survey of thiopurine methyltransferase testing prior to azathioprine prescription  
Fargher EA, et al.  
J Clin Pharm Ther 2007 Apr;32(2):187-95

Reproductive System

Why do they do it? A pilot study towards understanding participant motivation and experience in a large genetic epidemiological study of endometriosis  
Treloar SA, et al.  
Community Genet 2007;10(2):61-71

Skeletal System

“Japan experts link osteoarthritis to gene variant”  
(Mar 27) Reuters Health reports, “Researchers in Japan have identified a gene variant that may be responsible for osteoarthritis, a painful condition in the joints that affects more than 200 million people worldwide.”

“Problem gene may cause arthritis – study”  
(Mar 26) iol.ca.za reports, “A tiny quirk in one of the human body's approximately 25 000 genes may be the culprit behind one of the world's most common, and painful, forms of arthritis, according to a study released on Sunday.”

Twins

“Study describes new type of "semi-identical" twins”  
(Mar 27) Yahoo News reports, “Doctors said on Monday they have identified a third type of twins -- somewhere between identical and fraternal -- after performing extensive genetic tests on two young children.”

Let’s Go Surfing

The Minnesota Gene Pool Weblog