April 10th, 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 the unabridged version, is available online at:

Spotlight: April is National Autism Awareness Month
Autism is one of a group of developmental disorders known as autism spectrum disorders (ASDs). Scientists think that both genes and the environment play a role in ASDs. Family studies have been helpful in understanding how genes contribute to autism. Read more.

Autism

“Emerging genetic research may help scientists recognize children with autism at a younger age” (Apr 4) News-Medical.Net reports, “Emerging genetic research may help scientists recognize children with autism at a younger and potentially treatable age, according to an editorial in the April issue of Archives of Pediatrics & Adolescent Medicine, one of the JAMA/Archives journals.”

Heritability of autistic traits in the general population
Hoekstra RA, et al.

Cancer

“Multiple genetic risk factors for prostate cancer found” (Apr 2) News-Medical.Net reports, “A study led by researchers at the Keck School of Medicine of the University of Southern California (USC) and Harvard Medical School has identified seven genetic risk factors DNA sequences carried by some people but not others that predict risk for prostate cancer.”

Pooled Analysis and Meta-analysis of the Glutathione S-Transferase P1 Ile 105Val Polymorphism and Bladder Cancer: A HuGE-GSEC Review
Kellen E, et al.
Am J Epidemiol 2007 Apr

Screening Preferences of Patients at Familial Risk of Colorectal Cancer
Schroy Iii PC, et al.
Dig Dis Sci 2007 Apr

“Philadelphia Inquirer examines efficacy of genetic testing to determine risk of breast cancer relapse” (Apr 3) News-Medical.Net reports, “Oncotype DX is one new tool that examines the
DNA of a woman's tumor cells for mutations in 16 genes linked to breast cancer development.

**Cardiovascular, Diabetes, Hypertension, Stroke, and Related Conditions**

“Mutation in HNF4A associated with an increase in birthweight and macrosomia” (Apr 2) EurekAlert! reports, “A mutation in one gene HNF4A, associated with diabetes in the young, has been shown to be associated with an average increase in birthweight of 790g.”

“New genetic biomarkers could predict coronary heart disease” (Apr 2) Science Daily reports, “New genetic markers may be able to predict whether a person is likely to have coronary heart disease (CAD) in the future.”

“People who are pre-diabetic or who have Type 2 diabetes have much shorter telomeres” (Apr 2) News-Medical.Net reports, “New genetic markers may be able to predict whether a person is likely to have coronary heart disease (CAD) in the future.”

“The Gladstone scientists identify critical gene factor in heart development” (Apr 1) Medical News Today reports, “Researchers at the Gladstone Institute of Cardiovascular Disease (GICD) announced recently that they have identified a critical genetic factor in the control of many aspects of heart form and function.”

**The role of genetic and environmental influences on heart rate variability in middle-aged men**
Uusitalo AL, et al.
Am J Physiol Heart Circ Physiol 2007 Mar

**Genetics of gestational diabetes mellitus**
Shaat N & Groop L
Curr Med Chem 2007;14(5):569-83

**Building a bridge between clinical and basic research: the phenotypic elements of familial predisposition to type 1 diabetes**
Matteucci E & Giampietro O
Curr Med Chem 2007;14(5):555-67

**Family History of Diabetes, Awareness of Risk Factors, and Health Behaviors Among African Americans**

**Psychosocial Impact of Genetic Testing for Hemochromatosis in The HEIRS Study: A Comparison of Participants Recruited in Canada And in The United States**

**Ethical, Legal, and Social Issues**

“**Preparing for genetic testing**”
(Apr 3) United Press International reports, “Before looking into the genetic crystal ball for your future health prospects, the National Society of Genetic Counselors recommends you ask the following questions”

**The future of genomic nursing research**
Conley YP & Tinkle MB

**Establishing the essential nursing competencies for genetics and genomics**
Jenkins J & Calzone KA
J Nurs Scholarsh 2007;39(1):10-6

**Communicating genetic information in families - a review of guidelines and position papers**
Forrest LE, et al.
Eur J Hum Genet 2007 Mar

**Human rights and ethics in genomic research: rethinking the model**
Ashcroft RE
Pharmacogenomics 2007 Apr;8(4):391-5

“**NY hospitals agree to informed consent about genetic testing**”
(Apr 3) North Country Gazette reports, “The state Attorney General's office has reached new agreements with Columbia University Medical Center and New York-Presbyterian Hospital to ensure that patients can make educated decisions about genetic testing.”

**Information seeking and intentions to have genetic testing for hereditary cancers in rural and appalachian kentuckians**
Kelly KM, et al.
J Rural Health 2007 Spring;23(2):166-72

**Genomic Tools**

“**Penn State scientists reveal structure of gateways to gene control**”
(Mar 31) News-Medical.Net reports, “Scientists at Penn State University will reveal in
the journal Nature the first complete high-resolution map of important structures that control how genes are packaged and regulated throughout an entire genome.”

Gene-environment studies: any advantage over environmental studies?
Bermejo JL & Hemminki K
Carcinogenesis 2007 Mar

“Knowledge of relatives' health histories is helpful”
(Mar 28) Our Midland.com reports, “Genealogists collect names and facts about ancestors, linking families together.”

Newborn screening: a literature review
Kayton A

The Cost-Effectiveness of Expanding Newborn Screening for up to 21 Inherited Metabolic Disorders Using Tandem Mass Spectrometry: Results from a Decision-Analytic Model
Cipriano LE, et al.

Genetic testing in colorectal cancer: who, when, how and why
Davidson NO
Keio J Med 2007 Mar;56(1):14-20

Population screening and cascade testing for carriers of SMA
Smith M, et al.
Eur J Hum Genet 2007 Mar

Testing And Reporting ACMG Cystic Fibrosis Mutation Panel Results
Lebo RV & Grody WW
Genet Test 2007 Spring;11(1):11-31

Immune System (including Autoimmunity)

“Gene behind autoimmune diseases identified by researchers”
(Apr 2) Medical News Today reports, “A report in the March 22 issue of the New England Journal of Medicine reveals that a pinpointed region of chromosome 17, a gene named NALP1, could be a new target of treatment for autoimmune diseases.”

Mental Health (including Addiction)

“NIDA study identifies genes that might help some people abstain from smoking”
(Apr 2) EurekAlert! reports, “Scientists supported by the National Institute on Drug
Abuse (NIDA), part of the National Institutes of Health, have for the first time identified genes that might increase a person’s ability to abstain from smoking.”

“Brain tissue reveals possible genetic trigger for schizophrenia” (Apr 1) Medical News Today reports, “A study led by scientists from the University of North Carolina at Chapel Hill may have identified a molecular mechanism involved in the development of schizophrenia.”

Endocannabinoid system and CNR1 gene polymorphisms in schizophrenia and addictive disorders
Martinez-Gras I, et al.

Nutrigenomics

Nutrigenomics: concepts and applications to pharmacogenomics and clinical medicine
Kaput J, et al.
Pharmacogenomics 2007 Apr;8(4):369-90

Pharmacogenomics

Impact of pharmacogenomics on clinical practice in oncology
Marsh S
Mol Diagn Ther 2007;11(2):79-82

Genomic health, inc
Baker J
Pharmacogenomics 2007 Apr;8(4):397-9

Reproductive System

The FMR1 premutation and reproduction
Wittenberger MD, et al.
Fertil Steril 2007 Mar;87(3):456-65

Respiratory System

“New clues to gene expression in cystic fibrosis” (Mar 30) Science Daily reports, “Genetics tests could help provide cystic fibrosis (CF) patients with targeted treatment in future, pilot study authors suggest.”
“Gene mutations linked to hereditary lung disease” (Mar 29) Science Daily reports, “Scientists at Johns Hopkins have identified the genetic culprits that trigger a hereditary form of a fatal lung disease.”

Local genetic and environmental factors in asthma disease pathogenesis: chronicity and persistence mechanisms
Holgate ST, et al.
Eur Respir J 2007 Apr;29(4):793-803

Skeletal System

Polymorphisms in the CYP19 gene that influence bone mineral density
Riancho JA
Pharmacogenomics 2007 Apr;8(4):339-52

Let’s Go Surfing

The Minnesota Gene Pool Weblog