Genomics Weekly News Digest

October 5, 2006

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GENERAL INTEREST

“Chemist's Nobel prize for gene-reading breakthrough”
(Oct 4) NewScientist.com reports, “A chemist who has spent 20 years unravelling the process by which genes are “read” was today awarded the Nobel prize for chemistry.”

“Gene Silencing' Discoverers Win Nobel Prize”
(Oct 2) ScienceDaily reports, “The Nobel Assembly at Karolinska Institutet has awarded The Nobel Prize in Physiology or Medicine for 2006 jointly to Andrew Z. Fire and Craig C. Mello for their discovery of ‘RNA interference -- gene silencing by double-stranded RNA.’”

ETHICAL, LEGAL AND SOCIAL ISSUES (ELSI)

The genetics of health

‘Genetics home reference’

The Code of Ethics of The National Society of Genetic Counselors
J Genet Couns 2006 Sep

Code of Ethics of the National Society of Genetic Counselors: Explication of Revisions
Bennett RL, et al. J Genet Couns 2006 Sep

Genetic education for non-geneticist health professionals

Genetics in health research and public health
Brand A & Brand H Bundesgesundheitsblatt Gesundheitsforschung 2006 Oct

Genetic testing oversight
Hudson KL Science 2006 Sep;313(5795):1853

“The Genetic Signature Of Diseases: The Future Of Diagnostics”
(Oct 2)Medical News Today reports, “Most of the DNA genomic sequences of organisms are now known, however those of some organisms continue to be the focus of ongoing scientific research throughout the world.”
**CHRONIC DISEASE**

**Cancer**

“Cigarette Chemical Alters Genes, May Cause Cancer, Study Says”  
(Oct. 3) Bloomberg.com reports, “A highly concentrated chemical in cigarette smoke, acrolein, alters genes and may be an important cause of lung cancer, according to a study to appear in the Proceedings of the National Academy of Sciences.”

“Cancer Gene Activity Inhibited By Antibiotic”  
(Oct 3) Medical News Today reports, “A little-known antibiotic shows early promise as an anti-cancer agent, inhibiting a gene found at higher-than-normal levels in most human tumors, according to researchers at the University of Illinois at Chicago College of Medicine.”

ASCO/SSO review of current role of risk-reducing surgery in common hereditary cancer syndromes  

“Molecular & Genetic Alterations May Explain Racial Disparity In Breast Cancer”  
(Oct 5) Medical News Today, “Molecular and genetic alterations that cause tumors and drive the course of disease may someday explain the differences in incidence and mortality between African American and European American breast cancer patients.”

**Spiritual Coping, Family History, and Perceived Risk for Breast Cancer-Can We Make Sense of it?**  
Quillin JM, et al. J Genet Couns 2006 Sep

Evaluation of models to predict BRCA germline mutations  

“Molecular atlas provides new tool for understanding estrogen-fueled breast cancer”  
(Oct 2) EurekAlert reports, “Lurking in unexplored regions of the human genome are thousands of previously unknown on/off switches that may influence how the growth of breast cancer is driven by estrogen, new research by Dana-Farber Cancer Institute researchers has revealed.”

“UVA studies potential target for skin cancer treatment”  
(Oct 3) EurekAlert reports, “When normal skin cells become a melanoma tumor, they sometimes turn on genes not usually found in the skin.”

“Computer Model Predicts Colon Cancer Inheritable Genetic Defects”  
(Sep 28) Science Daily reports, “Researchers from the Johns Hopkins University and other institutions have developed a new prediction model for genetic defects known as Lynch syndrome, which predisposes families to develop colorectal cancer.”

Economic evaluation of the familial cancer programme in Western Australia: predictive genetic testing for familial adenomatous polyposis and hereditary non-polyposis colorectal carcinoma  

Population screening for colorectal cancer  
Drug Ther Bull 2006 Sep;44(9):65-8

Prediction of MLH1 and MSH2 mutations in Lynch syndrome  
Balmana J, et al. JAMA 2006 Sep;296(12):1469-78
Prediction of germline mutations and cancer risk in the Lynch syndrome
Chen S, et al. JAMA 2006 Sep;296(12):1479-87

Association of a positive family history with histopathology and clinical course in early-onset prostate cancer
Herkommer K, et al. Urologe A 2006 Sep

Impact of familial and hereditary prostate cancer on cancer specific survival after radical retropubic prostatectomy

“Prognosis on prostate is in the gene”
(Oct 4) Courier Mail reports, “A GENE that gives men with prostate cancer a life-saving clue about whether their disease will spread has been uncovered by Australian scientists.”

Family history and risk of lung cancer: age-at-diagnosis in cases and first-degree relatives

Cardiovascular Disease (including Hypertension and Stroke)

Influence of family history and lifestyle on blood pressure and heart rate in young adults in Jordan

Expanding the definition of a positive family history for early-onset coronary heart disease

Phospholamban r14 deletion results in late-onset, mild, hereditary dilated cardiomyopathy

Gastroenterological Disorders

Identification of CFTR, PRSS1, and SPINK1 mutations in 381 patients with pancreatitis
Kelles S & Kammesheidt A Pancreas 2006 Oct;33(3):221-7

INFECTIOUS DISEASE

Genetic susceptibility to infectious diseases: big is beautiful, but will bigger be even better?

Detecting genetic predisposition for complicated clinical outcomes after burn injury

“A Genetic Tendency Towards Brain Infection”
(Oct 2) Medical News Today reports, “Might some infectious diseases run in families because one inherits susceptibility to them?”

MATERNAL AND CHILD HEALTH / CHILDREN WITH SPECIAL HEALTH NEEDS
Congenital Conditions

“Gene May Offer New Lead In Cleft Lip, Palate Research”
(Oct 4) Smile-on.com reports, “The identification of a gene that, when under expressed, can cause cleft lip and palate may offer a new lead in research to prevent one of the most common birth defects worldwide.”

“Genetic Cause Of Craniofacial Birth Defect Pinpointed By UC Davis Children's Hospital Researcher”
(Oct 2) Medical News Today reports, “A research team led by a UC Davis Children's Hospital scientist has identified a genetic mutation as the cause of a congenital craniofacial birth defect called cranio-lenticulo-sutural dysplasia.”

“Williams Syndrome, the brain and music”
(Oct 3) EurekAlert reports, “Children with Williams syndrome, a rare genetic disorder, just love music and will spend hours listening to or making music.”

Risk of iron overload in carriers of genetic mutations associated with hereditary haemochromatosis: UK Food Standards Agency workshop

Maternal and Child Health

“Breakthrough by MUHC researcher has major implications”
(Oct 4) EurekAlert reports, “Eye Health Month is off to an exciting start, with the recent announcement by MUHC researcher Dr. Robert Koenekoop and his colleagues of a breakthrough discovery in the genetics of childhood blindness.”

Primary care physicians' knowledge, attitudes, and practices related to newborn hearing screening

Neonatal screening for cystic fibrosis does not affect time to first infection with Pseudomonas aeruginosa

Simultaneous multigene mutation detection in patients with sensorineural hearing loss through a novel diagnostic microarray: a new approach for newborn screening follow-up

Screening for sickle cell disease on dried blood: a new approach evaluated on 27,000 Belgian newborns

Immunoreactive Trypsin/DNA Newborn Screening for Cystic Fibrosis: Should the R117H Variant Be Included in CFTR Mutation Panels?
MENTAL and NEUROLOGICAL CONDITIONS

Mental Health and Behavioral Conditions

“Genetic links to schizophrenia focus of international study”
(Sep 28) EurekAlert reports, “The National Institute of Mental Health has awarded Roel A. Ophoff, Ph.D., assistant professor of human genetics at the David Geffen School of Medicine at UCLA, a $3.8 million grant to lead a four-year genetic study of schizophrenia in collaboration with scientists from the University Medical Center (UMC) Utrecht in the Netherlands.”

“Mom-to-Daughter Gene May Help Spur Schizophrenia”
(Sep 29) Medline Plus reports, “Daughters with a specific immune gene that too closely resembles their mother's version of the gene are more likely to develop schizophrenia later in life, new research shows.”

Warriors Versus Worriers: The Role of COMT Gene Variants

“New Gene Linked To Bipolar Disorder”
(Oct 3) eMaxHealth reports, “A new gene linked to both depression and bipolar disorder has been identified by UCL (University College London) and Danish researchers.”

Neurological Disorders

“Genetic Variation In Parkinson's Disease Study Yields Results”
(Sep 29) Science Daily reports, “Researchers at the National Institutes of Health (NIH) have completed one of the first large-scale studies of the role of common genetic variation in Parkinson's disease (PD).”

PHARMACOGENOMICS

“Patient's Genes May Guide Antidepressant Use”
(Oct 3) Medline Plus reports, “New insights into how genes affect an individual's response to particular drugs could someday speed the effective treatment of depression, researchers say.”

“Scientists Use Gene Signatures To Find Treatments For Cancer, Obesity And Alzheimer's Disease”
(Oct 2) Medical News Today reports, “In one of the most ambitious spinoffs of the human genome project, researchers at Dana-Farber Cancer Institute, Children's Hospital Boston, the Broad Institute of Harvard and MIT, and other collaborating centers have unveiled a new, systematic approach to drug discovery that matches diseases with potential treatments using a universal language based on cells' distinctive gene activity profiles, or "signatures."”

GENOMIC EPIDEMIOLOGY AND TOOLS FOR POPULATION HEALTH

“NHGRI funds assessment of public attitudes about population-based studies on genes and environment”
(Sep 28) News-Medical.Net reports, “The National Human Genome Research Institute
(NHGRI) has announced it has awarded $2 million to the Genetics and Public Policy Center of the Berman Bioethics Institute at Johns Hopkins University to conduct a public discussion about future potential large U.S. population-based studies examining the roles of genes and environment in human health."

Constraints for genetic association studies imposed by attributable fraction and familial risk
Hemminki K & Lorenzo Bermejo J Carcinogenesis 2006 Sep

Integration of genetic factors into epidemiological studies
Bammann K & Wawro N Bundesgesundheitsblatt Gesundheitsforschung 2006 Oct

Genetic diagnosis in medicine. An overview of basic concepts and applications
Schmidtke J Bundesgesundheitsblatt Gesundheitsforschung 2006 Oct