Spotlight: February is American Heart Month
Heart disease is the leading cause of death in the United States and a major cause of disability. Family medical history offers important information for identifying risk in individuals.

Click here for more information.

Autism

"Results of largest ever genome study of autism released" (Feb 19) News-Medical.net reports, "The genomes of the largest collection of families with multiple cases of autism ever assembled have been scanned and the preliminary results published in Nature Genetics."

"International study finds new autism genetic links" (Feb 19) Reuters Health reports, "Scientists revealed the most extensive findings to date on the genetics of autism on Sunday, pinpointing two new genetic links that may predispose children to develop the complex brain disorder."

Cancer

"Cancer cells 100 times more likely to genetically mutate" (Feb 20) News-Medical.net reports, "When cells become cancerous, they also become 100 times more likely to genetically mutate than regular cells, researchers have found."

"Cell pathway identified which plays critical role in colon cancer" (Feb 20) News-Medical.net reports, "For the one in 18 men and women who will be diagnosed with cancer of the colon and rectum during their lifetime and over 150,000 people diagnosed on a yearly basis, today's genetic research news offers some optimism."

"Gene Profiling Predicts Resistance To Breast Cancer Drug Herceptin" (Feb 20) Medical News Today reports, "Using gene chips to profile tumors before treatment, researchers at Harvard and Yale Universities found markers that identified breast cancer subtypes resistant to Herceptin, the primary treatment for HER2-positive breast cancer."

"Liver An Excellent Target For Cancer Gene Therapy" (Feb 19) Medical News Today reports, "A featured paper in the February 14 issue of Nature Cancer Gene Therapy demonstrates that cancer cells in the liver are excellent
targets for gene therapy using adenoviral vectors, based upon a fundamental new understanding of the differences between cancerous and normal liver cells."

Myeloperoxidase G-463A polymorphism and lung cancer: A HuGE Genetic Susceptibility to Environmental Carcinogens pooled analysis
Taioli E, et al.

"Cancer is a stem cell issue" 😡
(Feb 19) News-Medical.net reports, "There is an urgent reason to study stem cells: stem cells are at the heart of some, if not all, cancers."

Cancer genetics
Chapman DD
Semin Oncol Nurs 2007 Feb;23(1):2-9

Genetic polymorphisms of the epidermal growth factor and related receptor in non-small cell lung cancer--a review of the literature
Araujo A, et al.
Oncologist 2007 Feb;12(2):201-10

"Shortening Chromosomes Cause For Earlier Cancer Onset In Families With Rare Syndrome" 😡
(Feb 16) Science Daily reports, "In families with a high incidence of Li-Fraumeni syndrome, the ends of individuals' chromosomes act somewhat like a lit fuse, according to researchers at The Hospital for Sick Children in Toronto."

Aggregation of cancer among relatives of never-smoking lung cancer patients
Gorlova OY, et al.
Int J Cancer 2007 Feb

Non-Hodgkin's lymphoma and family history of hematologic malignancy
Mensah FK, et al.
Am J Epidemiol 2007 Jan;165(2):126-33

"New test identifies suitable lymphoma patients likely to respond to new therapy" 😡
(Feb 20) News-Medical.Net reports, "Researchers at the Albert Einstein College of Medicine of Yeshiva University have discovered a genetic signature identifying cases of lymphoma that are uniquely susceptible to a newly developed molecular targeted therapy."

"Researchers Progress Toward Genetically Guided Treatment For Cancer" 😡
(Feb 20) Medical News Today reports, "Two critical characteristics of breast cancer that are important to treatment can be identified by measuring gene expression in the tumor, a research team led by scientists at The University of Texas M. D. Anderson Cancer Center reports in Lancet Oncology online."
Cardiovascular, Diabetes, Hypertension, Stroke, and Related Conditions

"Four genes identified that increase risk of developing type 2 diabetes"
(Feb 19) News-Medical.net reports, "A new study led by researchers at the McGill University Health Centre (MUHC) has identified four genes that increase the risk of developing type 2 diabetes."

"Novartis, The Broad Institute, And Lund University Announce Release Of Genome-wide Analysis Of Genes Associated With Type 2 Diabetes"
(Feb 18) Medical News Today reports, "Novartis, The Broad Institute, and Lund University today announced the completion of a genome-wide map of genetic differences in humans and their relationship to type 2 diabetes and other metabolic disorders."

Gene-environment interaction and its impact on coronary heart disease risk
Talmud PJ
Nutr Metab Cardiovasc Dis 2007 Feb;17(2):148-52

Ethical, Legal and Social Issues

"House Committee Approves Bill To Prevent Genetic Discrimination"
(Feb 19) Medical News Today reports, "The House Committee on Education and Labor on Wednesday approved a bill (HR 493) under which employers and health insurers could not discriminate against U.S. residents based on the results of genetic tests, the Wall Street Journal reports (Zhang, Wall Street Journal, 2/15)."

Eye Disorders

"Genetic Testing Sheds Light On Degenerative Eye Disease"
(Feb 19) Medical News Today reports, "Genetic testing for eye disease is providing vital information about complex retinal diseases, especially when used to confirm a clinician's diagnosis."

Molecular testing for hereditary retinal disease as part of clinical care
Downs K, et al.
Arch Ophthalmol 2007 Feb;125(2):252-8

Genetic Counseling and Testing

Genetics and genetic counseling: Practices and opinions of primary care physicians in Turkey
Tomatir AG, et al.
Genetic service providers’ practices and attitudes regarding adolescent genetic testing for carrier status
Multhaupt-Buell TJ, et al.
Genet Med 2007 Feb;9(2):101-

Improving Service Evaluation in Clinical Genetics: Identifying Effects of Genetic Diseases on Individuals and Families
McAllister M, et al.
J Genet Couns 2007 Feb

Cancer Genetic Counseling: Communication and Counselees’ Post-Visit Satisfaction, Cognitions, Anxiety, and Needs Fulfillment
Pieterse AH, et al.
J Genet Couns 2007 Feb

"Sequencing Human History -- The Genetics And Commerce Of Personal Ancestry"
(Feb 21) Medical News Today reports, "As citizens of a vibrant melting pot, Americans increasingly turn to genetic testing companies to discover their roots."

"Genetic Tests Offer Promise, but Raise Questions, Too"  (Feb 18) New York Times reports, "A GROWING industry is hoping to spin gold from DNA’s double helixes by using ultrasensitive genetic tests to personalize medical treatment for cancer, lupus and other diseases."

Patient preferences regarding recontact by cancer genetics clinicians
Griffin CA, et al.
Fam Cancer 2007 Feb

Attitudes Toward Fragile X Mutation Carrier Testing from Women Identified in a General Population Survey
Anido A, et al.
J Genet Couns 2007 Feb

Genetics and Genomics Tools

"Interactive Supercomputing Helps National Cancer Institute Accelerate Genetic Research With Star-P"
(Feb 21) Medical News Today reports, "Interactive Supercomputing Inc.'s (ISC's) Star-P(TM) software is being used by scientists at the National Cancer Institute's (NCI's) Pediatric Oncology Branch to mine vast public databases of genomic information for potential new medical discoveries."
"RNAi shows promise in gene therapy"  (Feb 19) News-Medical.net reports, "Three years ago Mark Kay, MD, PhD, published the first results showing that a biological phenomenon called RNA interference could be an effective gene therapy technique."

"Elucidation Of The Genome For Diabetics With DNA Chips"  (Feb 19) Medical News Today reports, "The genome of patients with type 2 diabetes (DT2) has been elucidated, for the first time, thanks to the use of new DNA chip technologies allowing 400,000 DNA mutations to be studied simultaneously."

"Researchers determine a critical factor in workings of proteins"  (Feb 18) News-Medical.net reports, "Scientists know that a better understanding of how proteins bond could lead to more effective treatments for genetic disorders and other life-threatening conditions."

Addressing the issue of e-learning and online genetics for health professionals
Gresty K, et al.

Applying genomics to the study of complex disease
Juran BD & Lazaridis KN
Semin Liver Dis 2007 Feb;27(1):3-12

Adaptive Two-Stage Analysis of Genetic Association in Case-Control Designs
Hum Hered 2007 Feb;63(3-4):175-86

"Researching The Genetic And Environmental Causes Behind Deadly And Disabling Diseases"  (Feb 20) Medical News Today reports, "The Kaiser Permanente Northern California Division of Research is launching one of the largest research projects in the United States to examine the genetic and environmental factors that influence common diseases such as heart disease, cancer, diabetes, high blood pressure, Alzheimer's disease, asthma and many others."

"Computer tool helps pinpoint risky gene mutations"  (Feb 15) EurekAlert! reports,"Certain cancer risks can be passed down through families, the result of tiny changes in a family’s genetic code. But not all genetic changes are deadly."

Bayesian Risk Assessment in Genetic Testing for Autosomal Dominant Disorders with Age-Dependent Penetrance
Ogino S, et al.
J Genet Couns 2007 Feb

Infectious Disease
"Entire genetic blueprints of more than 2,000 human and avian influenza viruses completed and made public"  
(Feb 21) News-Medical.Net reports, "The Influenza Genome Sequencing Project, funded by the National Institute of Allergy and Infectious Diseases (NIAID), announced today that it has achieved a major milestone."

"SeqWright Selected By USDA For Sequencing Of Influenza Genomes"  
(Feb 21) Medical News Today reports, "SeqWright, Inc., an international leader in the field of contract genomics services, announced today its agreement with the United States Department of Agriculture's (USDA) Exotic and Emerging Avian Viral Diseases Research Unit to perform full length sequencing of 1000 influenza (flu) genomes."

Genetics, genomics, and proteomics: implications for the diagnosis and the treatment of chronic hepatitis C  
Asselah T, et al.  

Mental Health (including Addiction)

"Genetic mutations make people susceptible to schizophrenia"  
(Feb 20) News-Medical.net reports, "Gene mutations governing a key brain enzyme make people susceptible to schizophrenia and may be targeted in future treatments for the psychiatric illness, according to MIT and Japanese researchers."

"Anorexia nervosa may be genetic"  
(Feb 21) News-Medical.Net reports, "A researcher in the United States says a ten year study into the eating disorder anorexia nervosa suggests that sufferers may have a genetic predisposition for it."

"Reduced brain growth in alcoholics with family drinking history"  
(Feb 21) News-Medical.Net reports, "The brains of alcohol-dependent individuals are affected not only by their own heavy drinking, but also by genetic or environmental factors associated with their parents-drinking, according to a new study by researchers at the National Institute on Alcohol Abuse and Alcoholism (NIAAA)."

"Genetic tendency toward suicide linked to genome on chromosome 2"  
(Feb 20) News-Medical.net reports, "A Johns Hopkins-led study has found evidence that a genetic tendency toward suicide has been linked to a particular area of the genome on chromosome 2 that has been implicated in two additional recent studies of attempted suicide."

Current applications of clinical genetic testing for psychiatric practice  
Mrazek DA  
Minn Med 2007 Jan;90(1):42-3
Nervous System

"Columbia University Medical Center Awarded $3 Million To Drive Alzheimer's Genetics Research" (Feb 18) Medical News Today reports, "Researchers at Columbia University Medical Center (CUMC) will receive a $3 million grant from the Merrill Lynch Foundation to support research into the genetic influences involved in Alzheimer's disease and other neurodegenerative diseases of aging."

"Low-cost Parkinson's disease diagnostic test a world first" (Feb 21) News-Medical.Net reports, "Scientists at Melbourne's Howard Florey Institute have developed a cost-effective diagnostic test for Parkinson's disease (PD), which will also assist researchers to understand the genetic basis of PD and to undertake large-scale studies to identify the genes that cause this debilitating condition."

"Scientists find new genes linked to Lou Gehrig's disease" (Feb 21) News-Medical.Net reports, "In the first genome-wide search for the genetic roots of the most common form of amyotrophic lateral sclerosis (ALS), Johns Hopkins scientists have newly identified 34 unique variations in the human genetic code among 276 unrelated subjects with ALS."

Nutriogenomics

Methodological aspects of the assessment of gene-nutrient interactions at the population level
Cocozza S
Nutr Metab Cardiovasc Dis 2007 Feb;17(2):82-8

Reproductive Health & Maternal and Child Health

Genetics of Polycystic Ovarian Syndrome
Nam Menke M & Strauss JF 3rd

Genetic epidemiologic studies of preterm birth: guidelines for research
Pennell CE, et al.

"Newborns with respiratory distress potentially have rare genetic disease" (Feb 20) EurekAlert reports, "Newborns with respiratory distress should be evaluated for primary ciliary dyskinesia, a rare genetic disease that has features similar to cystic fibrosis, says Thomas Ferkol, M.D., from Washington University School of Medicine in St. Louis."
Stem cells

"Epigenetics to shape stem cell future"
(Feb 19) News-Medical.net reports, "Everyone hopes that one day stem cell-based regenerative medicine will help repair diseased tissue."

Lets Go Surfing

The Minnesota Gene Pool Weblog: New posting on: Genetics and Insurance, Protein/BMI association and American Indians, Autism