CURRICULUM VITAE (updated 9/26/2013)

PERSONAL INFORMATION

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EDUCATIONAL PREPARATION AND DEGREES RECEIVED

University of Wisconsin-Madison B.S. Chemistry 1977
University of Wisconsin-Madison M.D. 1981

AWARDS

ALWIN SCHULTZ AWARD Presented by the University of Wisconsin to the medical student who showed extraordinary concern and caring in dealing with terminally ill patients and their families. 1980

HOUGHTON AWARD Presented by the State Medical Society of Wisconsin to the medical student, "who through scholastic excellence, extracurricular achievement, and interest in medical organization, shows high promise of becoming a complete physician." 1981

Best paper by a postgraduate professional--Northwest Pediatric Society meeting Fall 1992.

CLARITY Challenge (Children's Leadership Award for the Reliable Interpretation and appropriate Transmission of Your genomic information)—Honorable Mention for the Simulconsult/Geisinger team. The Challenge goal is to identify best methods and practices for the analysis, interpretation and reporting of individuals' DNA sequence data, to provide the most meaningful results to clinicians, patients and families.

Bio-IT World Best Practice Award in Genomics Grand Prize Overcoming the clinical interpretation bottleneck using integrated genome-phenome analysis. 2013

POSTGRADUATE EDUCATION

University of Utah Department of Pediatrics. Categorical internship and residency in pediatrics. June 1981-July 1984

Fellowship Medical Genetics University of Wisconsin-Madison 1992-1995.

Diplomate Intermountain Healthcare Institute for Healthcare Delivery Research Advanced Training Program in Quality Improvement 2007.

CERTIFICATION

Diplomate National Boards Parts I, II, and III.
Certified American Board of Pediatrics September 1986
Certified American Board of Medical Genetics-Clinical Genetics September 1996, Recertified 2006. In compliance with ABMG Expanded Maintenance of Certification
Neonatal Advanced Life Support Certified 11/90, 1998, 2001, 2003
Instructor Neonatal Advanced Life Support 11/88
Certified Pediatric Advanced Life Support 1982, 1984, 1986, 1989, 1992, 1998, 2002.
Instructor Pediatric Advanced Life Support since 1987, certified as Instructor 11/6/2002.

LICENSURE

State of Utah 5760101-1205
State of Wisconsin 31830-020
State of California (inactive)
State of Michigan (inactive)

PROFESSIONAL AFFILIATIONS

American Medical Association
Utah State Medical Society
Salt Lake County Medical Society
Fellow-American Academy of Pediatrics
Fellow-American College of Medical Genetics
Member-Section on Genetics and Birth Defects American Academy of Pediatrics
American Society of Human Genetics

PROFESSIONAL ACTIVITIES

August 1984-July 1986 Private pediatric practice 170 S. Howell St. Hillsdale, MI 49242. (National Health Service Corps private practice option)

August 1986-December 1990 General pediatrician Riverside Medical Clinic 3660 Arlington Ave. Riverside, CA 92506.

January 1991-December 2004 Pediatrician/Medical Geneticist Gundersen Lutheran Medical Center

1999-2004 Associate Medical Director Gundersen Lutheran Health Plan.
Primary Responsibilities:

- Technology Assessment and coverage determinations.
- Oversee Quality program including HEDIS, CAHPS, and QAPI (for Medicare + Choice product). Rates are, with very few exceptions, above state and national averages. Gundersen Lutheran Health Plan was ranked the #1 Medicare + Choice health plan in the country based on customer service. Quality scores on Medicare HEDIS exempted the plan from CMS audit in the quality area.
- Direct the Health Plan's disease management programs in diabetes and congestive heart failure. This is being done in conjunction with a disease management initiative of our major provider system.
- Responsible for credentialing the provider network and quality peer review.

January 2005-December 2011 Director, Intermountain Healthcare Clinical Genetics Institute

January 2012-present Director Genomic Medicine Institute, Geisinger Health System

HOSPITAL AFFILIATIONS

Gundersen Lutheran Medical Center LaCrosse, WI Jan. 1991-2004 Full privileges.

Franciscan Skemp Healthcare LaCrosse, WI Nov. 1992-2004 Consulting privileges.

LDS Hospital Salt Lake City, UT 2005-2011 Consulting privileges

Primary Children's Hospital Salt Lake City, UT 2005-2011 Consulting privileges

Geisinger Medical Center 2012-present full genetics privileges

Geisinger Wyoming Valley 2012-present full genetics privileges

LOCAL AND STATE COMMITTEES

Chair Recruitment Committee Riverside Medical Clinic 7/87- 1990.

Director of Pediatric Educational Programs Riverside Community Hospital 7/89-12/90.

Chair Perinatal Advisory Council of Riverside-West. Moderator and organizer of annual Perinatal Conference. 1989-1990

Medical Director LaCrosse Regional Genetic Services Project Nov. 1992- 2004.

Chair Personnel Committee Gundersen Clinic. 1993-2004.

Member Credentials Committee Lutheran Hospital 1992-2004. Acting Chair 2000.

Member Integrative Medicine Committee Gundersen Lutheran Medical Center 1998-2004.

Chair Credentials Sub-Committee Gundersen Lutheran Health Plan 1996-2004.

Chair Quality Improvement Sub-Committee Gundersen Lutheran Health Plan 2000-2004.

Secretary-Treasurer Northwestern Pediatric Society 1994-1996.

Medical Director's Committee Wisconsin Association of Health Plans 1999-2004.

Member transitional residency review committee, Gundersen Lutheran Medical Center, 2004.

Chair LDS Hospital Credentials Committee 2006-2007.

Chair Intermountain Healthcare Urban Central Region Credentials Committee 2007-present.

Member Intermountain Healthcare Primary Care Clinical Programs Guidance Council

Member Intermountain Healthcare Research Operations Council

Member Intermountain Healthcare Research Guidance Council

Member Intermountain Healthcare Intellectual Property Committee

Intermountain representative to Resource for Genetic Epidemiology Committee (Oversight of Utah Population Database)

Member Utah Department of Health Genetic Advisory Committee 2005-2011

Member Utah Department of Health Newborn Screening Advisory Committee 2005-2011

NATIONAL COMMITTEES

Scientific Advisory Boards: CHARGE Syndrome Foundation (1995-present)
National Marden-Walker Organization (1999-present).

Chair Health Systems Subcommittee Section on Genetics and Birth Defects American Academy of Pediatrics 2000-2008.

RUC advisor Section on Genetics and Birth Defects American Academy of Pediatrics 2003-present.

Participant Strategic Planning workshop American College of Medical Genetics 1/2000.

Director American College of Medical Genetics and Genomics Board (elected 2006. Term began March, 2007) to March 2013.

American College of Medical Genetics and Genomics Vice President for Clinical Genetics 2009-2013.

Member Committee on the Economics of Genetic Services American College of Medical Genetics 3/2000-12/2007.

Chair Committee on the Economics of Genetic Services American College of Medical Genetics 11/2000-2006
Major Accomplishments:

- Publication of Reimbursement Manual for members of the ACMG.
- Sponsor educational workshops at annual ACMG meeting on economic issues
- Participate in CPT and ICD processes to improve coding and reimbursement for genetic services.
    - Obtained CPT code for Genetic Counselors
- Assisted in preparation of a grant proposal to HRSA addressing delivery of genetic services. The purpose of the grant is two-fold: Phase 1 involves collecting data from a variety of practice settings on genetic care delivery, effectiveness of care and cost/benefit. Phase 2 will convene working groups to analyze the data and develop recommendations to the Maternal Child Health Bureau (MCHB) regarding demonstration projects to improve access to, and enhance quality and cost effectiveness of genetic services.
- Develop official ACMG statement on Genetics and Managed Care. (http://www.acmg.net/resources/policy-019.pdf)
- Supported Genetic Counseling licensure efforts in several states
- Consultant to the National Society of Genetic Counselor's Billing and Reimbursement Workgroup

Ex-officio member Intellectual Property Committee American College of Medical Genetics 2000-2006.

Focus of this committee is to address the impact of patents on the availability and cost of genetics tests.

Co-chair American College of Medical Genetics Workgroup to develop Professional Practice Guidelines for the use of Pharmacogenomic testing for Warfarin dosing. 2006

Organizer American College of Medical Genetics Special Interest Group on Quality Improvement in Clinical Genetics (Officially recognized as a SIG in March 2007). Chair 2007-2009.

Chair ACMG Ad Hoc Committee on the Value of a Genetic Diagnosis 2011-present

Member American College of Medical Genetics and Genomics Foundation Development Committee 2013-present.

Chair Sub-Committee on Professional Recognition American College of Medical Genetics 3/2000-2002

Member Maternal and Child Health Task Force American Association of Health Plans 1999-2003.

Member Emerging Technology Committee American Association of Health Plans 2001-2004.

Member Access Workgroup Secretary's Advisory Committee on Genetic Testing 2001-2002

Member Access and Reimbursement Workgroup Secretary's Advisory Committee on Genetics, Health, and Society (SACGHS) 2003-2010.

Member Secretary's Advisory Committee for Genetics, Health and Society (2007-2010).
Chapter lead and participant Workgroup preparing Oversight of Genetic Testing Report.
Lead Comparative Effectiveness Research and Clinical Utility Workgroup

Reviewer for CDC Collaboration, Education and Test Translation (CETT) program. 2006-2010.

Member Personalized Health Care workgroup of the American Health Information Community (2006-2008) Participating in Family History, Genetic/Genomic Testing and Clinical Decision Support workgroups.

Member National Center for Biomedical Informatics Medical Genetics Working Group (2010-present)

Member eMERGE External Scientific Panel (2011)

Member EGAPP Working Group (2012-present)

Member Clinical Pharmacogenetic Implementation Consortium (2012-present)

Board of Directors representing Geisinger Health System HMO Research Network (2013-present)

NIH activities
Member of National Human Genome Research Institute (NHGRI) Genomic Medicine Working Group Planning committee (2011-present)

Member NHGRI Intersociety Coordinating Committee (2013-present)
Chair of Use Case Workgroup (2013-present)

Chair NHGRI Clinician Education Workgroup (2012-present)

ACADEMIC APPOINTMENTS/EDUCATIONAL RESPONSIBILITIES

Clinical Assistant Professor of Pediatrics University of Wisconsin-Madison 7/1/94-6/30/98.

Clinical Associate Professor of Pediatrics University of Wisconsin-Madison 7/1/98-2004.

Small group facilitator Genetics 721 (Med-1 course at UW-Madison)

Lecturer and attending in Pediatrics Med-3 UW-Madison Pediatrics rotation at Gundersen Lutheran Medical Center (Western Clinical Campus of the University of Wisconsin Medical School.

Clinical Associate Professor, Department of Clinical Science, University of Wisconsin-LaCrosse 12/19/01-2004.

Co-director and lecturer of advanced biology seminar class "Drugs and Disease".

Lecturer on genetics for Pathophysiology course for Physician's Assistant program

Full Professor LDS Hospital Clinical Academic Faculty. Joint appointment Departments of Internal Medicine and Pediatrics.

Genetics lectures to Internal Medicine Residents at Intermountain Healthcare, University of Utah and Veteran's Administration Hospital.

Clinical Professor of Pediatrics-Division of Medical Genetics University of Utah School of Medicine (2005-2011)

Lead seminars for 1st and 2nd year genetic counseling students at University of Utah
Clinical site for 2nd year genetic counseling students at University of Utah

Adjunct Associate Professor of Biomedical Informatics University School of Medicine (February 2008-2011)

RESEARCH FUNDING

Current Research Support

Geisinger E-Genomic Medicine Program (GEM) NHGRI 1U01HG006382-01 Co-PI Geisinger Health System 20% effort. 7/1/2011 - 6/30/2015

EMERGE PGX - SUPPLEMENT 1 3U01HG006382-02S1 NIH
8/1/2012 7/31/2013 Co-PI Geisinger Health System - 0 cal. mos. 8/1/2012 7/31/2014

ENHANCING GENOMIC LABORATORY REPORTS TO ENHANCE COMMUNICATION AND EMPOWER PATIENTS PCORI no assignment number PI Geisinger Health System 20% effort 9/1/2013 8/31/2016

INTEROPERABLE DECISION SUPPORT TO IMPROVE DIAGNOSTIC WORKFLOW ACROSS MULTIPLE EHRS R44LM011585 Co-I 5% effort 4/1/2013 3/31/2015

CLINICALLY RELEVANT GENETIC VARIANTS RESOURCE: A UNIFIED APPROACH FOR IDENTIFYING GENETIC VARIANTS FOR CLINICAL USE NHGRI No Assignment # Co-I 5% effort year 1 10% effort years 2-4 6/1/2013 5/31/2017

Completed Research Support

DHHS Health Resources and Services Administration Congressionally-Mandated Health Information Technology Grants. PI for Intermountain Healthcare Award date 9/1/2010 10% effort. 18 month grant. (My role terminated on Dec. 22, 2011 upon leaving Intermountain Healthcare)

National Library of Medicine SimulConsult An Evidence-Based, Open Database Approach to Diagnostic Decision Support. Role Senior Expert

Washington State Department of Health Grant # N14531 Intermountain Healthcare Genetic Use Case. Total award $5000 Due date 5/31/2007 Completed 2008
Goal: Develop a case study for clinical genetic services in a private not for profit integrated health care delivery system
Role: Coordinate data acquisition and serve a key informant for site visit team.

University of Washington Subcontract No. 343192 (from CDC contract) entitled "Should Genetic Testing be used to Guide Warfarin Therapy? An Evidence Based Cost-Utility Analysis." Total Award $17,492. Ended 2007
Goal: Evaluate cost of implementing genetic testing to assist Warfarin dosing in clinical practice. Done in parallel with the CoumaGen prospective randomize controlled-trial, but funded independently.
Role: Institutional PI. Clinical consultant to economic modeling team.

Genetic Alliance Project ID No. 1002481 (HRSA funded) entitled Genetic Alliance Grant: "Utilizing Family Traditions and Oral History for Health Promotion." Total award $183,148.42. 3 year grant ending May 9, 2009.
Goal: Development and implementation of community based family history tools.
Role: Institutional PI. Lead qualitative research effort on how primary care physicians use family history information they collect. Clinical consultant for development of family history collection tools. Evaluation of provider response to information.

Microsoft HealthVault award to develop Family History collection tool in the electronic patient portal. $150,000 1 year award for 2009

Goal: Develop and implement an electronic family history collection tool in the Intermountain Healthcare MyHealth Patient Portal. Develop ability to upload information from this tool to a Microsoft HealthVault Personal Health Record.
Role: Clinical consultant for development of family history collection tools.

RESEARCH COORDINATION

Supervisor Genetics Summer Fellowship Gundersen Lutheran Medical Foundation 1996-2004.

EDITORIAL POSITIONS

Editorial Board Wisconsin Medical Journal 1998-2004.

Peer Reviewer for American Journal of Medical Genetics, Genetics in Medicine, Mayo Clinic Proceedings, European Journal of Pediatrics, Clinical Dysmorphology, Clinical Genetics, Medical Decision Making, Personalized Medicine, Journal of Medical Genetics, Effective Health Care, Journal of Pediatrics, Journal of the American Medical Association (JAMA), American Journal of Medical Quality, Science Translational Medicine.

PUBLICATIONS

Kivlin JD, Fineman RM, **Williams MS**. Phenotypic Variation in the del(12p) Syndrome. Am J Med Genet 22:769-779(1985).

Williams MS, Josephson KD, Wargowski DS. Marden-Walker Syndrome: a case report and a critical review of the literature. Clin Dysmorphol 2:211-219(1993).

Williams MS, Rooney BL, Williams JL, Josephson KD, Pauli RM. Investigation of Thermoregulatory Characteristics in Patients with Prader-Willi Syndrome. Am J Med Genet 49:302- 307(1994).

Williams MS, Josephson KD, Pauli RM. Patterson-Lowry Rhizomelic Dysplasia: a Possible Second Example. Clin Dysmorphol 4:216-221, (1995).

Richards ML, Gundersen AE, **Williams MS**. Cystic Neuroblastoma of Infancy. J Pediatr Surg 30:1354-1357, 1995.

Pauli RM, **Williams MS**, Josephson KD, Tint GS. Smith-Lemli-Opitz Syndrome: Thirty Year Follow-up of "S" of the "RSH" Syndrome. Am J Med Genet, 68:260-262, 1997.

Aswegan AL, Josephson KD, Mowbray R, Pauli RM Spritz RA, **Williams MS**. Autosomal Dominant Hypohidrotic Ectodermal Dysplasia in a large family. Am J Med Genet 72:462-467, 1997.

Williams MS, Josephson KD. Unusual autosomal recessive lymphatic anomalies in two unrelated Amish families. Am J Med Genet 73:286-289, 1997.

Blake KD, Davenport SLH, Hall BD, Hefner MA, Pagon RA, **Williams MS**, Lin AE, Graham JM. CHARGE Association: An update and review for the primary pediatrician. Clin Pediatr 37:159-173, 1998

Williams MS, Josephson KD, Wargowski DS, Dewald GW. An Unusual Chromosome rearrangement in a patient with features of Wolf-Hirschhorn Syndrome. WMJ April:42-45, 1998.

Ho L, **Williams MS**, Spritz RA. A Gene for Autosomal Dominant Hypohidrotic Ectodermal Dysplasia (EDA3) Maps to Chromosome 2q11-13. Am J Hum Genet 62:1102-06, 1998.

Wittine LM, Josephson KD, **Williams MS**. Aortic Root Dilation in Apparent Lujan-Fryns Syndrome. Am J Med Genet 86:405-409, 1999.

Williams MS, Williams JL, Wargowski DS, Pauli RM, Pletcher BA. Filippi Syndrome: Report of Three Additional Cases. Am J Med Genet 87:128-133, 1999.

Williams MS. Advocating for genetics at the local level: The Medicare Part B Carrier Advisory Committee. Genet Med 3:321-323, 2001.

Larson ARU, Josephson KD, Pauli RM, Opitz J, **Williams MS**. Klippel-Feil Anomaly with Sprengel Anomaly, Omovertebral Bone, Thumb Abnormalities, and Flexion-Crease Changes: a Novel Association or Syndrome? Am J Med Genet 101:158-162, 2001.

Williams MS, Josephson KD, Gursoy N, Jackson-Cook C. Suspected gonadal mosaicism for isochromosomes 18p and 18q unsubstantiated by FISH analysis of sperm. Genet Med 3:318-320, 2001.

Rosenberg MJ, Killoran C, Dziadzio L, Chang S, Stone DL, Meck J, Aughton D, Bird LM, Bodurtha J, Cassidy SB, Graham JM Jr., Grix A, Guttmacher AE, Hudgins L, Kozma C, Michaelis R, Pauli R, Peters KF, Rosenbaum KN, Tifft CJ, Wargowski D, **Williams MS**, Biesecker LG. Scanning for telomeric deletions and duplications and uniparental disomy using genetic markers in 120 children with malformations. Hum Genet, 109:311-18, 2001.

Williams MS. Genetics and managed care: policy statement of the American College of Medical Genetics. Genet Med 3:430-5, 2001.

Williams MS. The role of genetics in Managed care: Seeking ways to better incorporate genetics into regular practice. Healthplan 42:31-35, 2001.

Williams MS. Developmental anomalies of the scapula--the “omo”st forgotten bone. Am J Med Genet 120A:583-7, 2003.

Williams MS, Josephson KD. Macrocephaly, Distinct Craniofacial Appearance and Spastic Paraplegia: A New Case and Expansion of the Phenotype. Am J Med Genet 121A:281-2, 2003.

Williams MS. The Genetic Future: Can Genomics Deliver on the Promise of Improved Outcomes and Reduced Costs? Background and Recommedations for Health Insurers. Disease Manage Health Outcomes (invited review article) 11:277-290, 2003.

Brock KE, Mathiason MA, Rooney BL, **Williams MS**. A quantitative assessment of limb anomalies in CHARGE syndrome: Correlation with diagnosis and characteristic CHARGE anomalies. Am J Med Genet 123A:111-21,2003.

Helga V. Toriello, John C. Carey, Marie-Claude Addor, William Allen, Leah Burke, Nicole Chun, William Dobyns, Ellen Elias, Renata Gallagher, Roel Hordijk, Gene Hoyme, Mira Irons, Tamison Jewett, Martine LeMerrer, Mark Lubinsky, Rick Martin, Donna McDonald-McGinn, Luitgard Neumann, William Newman, Richard Pauli, Laurie Seaver, Anna Tsai, David Wargowski, **Marc Williams**, Elaine Zackai. Toriello-Carey Syndrome: Delineation and review. Am J Med Genet 123A:84-90, 2003.

Armstrong L, El Moneim AA, Aleck K, Aughton DJ, Baumann C, Braddock SR, Gillessen-Kaesbach G, Graham JM, Grebe TA, Gripp KW, Hall BD, Hennekam R, Hunter A, Keppler-Norcuil K, Lacombe D, Lin AE, Ming JE, Kokitsu-Nakata NM, Nikkel SM, Philip N, Raas-Rothschild A, Sommer A, Verloes A, Walter C, Wieczorek D, **Williams MS**, Zackai E, Allanson JE. Further delineation of Kabuki syndrome in 48 well-defined new individuals. Am J Med Genet 132A:265-272, 2004.

DeScipio C, Schneider L, Young TL, Wasserman N, Yaeger D, Lu F, Wheeler PG, **Williams MS**, Bason L, Jukofsky L, Menon A, Geschwindt R, Chudley AE, Saraiva J, Schinzel AAGI, Guichey A, Dobyns WE, Toutain A, Spinner NB, Krantz ID. Subtelomeric deletions of Chromosome 6p: Molecular and cytogenetic characterization of three new cases with phenotypic overlap with Ritscher-Schinzel (3C) syndrome. Am J Med Genet 134A:3-11, 2005.

Williams MS. Speculations on the pathogenesis of CHARGE syndrome. Am J Med Genet 133A:318-325, 2005.

Hammes BJ, Klevan J, Kempf M, **Williams MS**. Pediatric Advance Care Planning. J Palliative Med 8:766-73, 2005.

Williams MS, Ettinger RE, Hermanns P, Lee B, Carlsson G, Taskinen M, Mäkitie O. The Natural History of Severe Anemia in Cartilage-Hair Hypoplasia. Am J Med Genet 138A:35-40, 2005.

Hermanns P, **Williams MS.** Analysis of *RPS19* in patients with cartilage-hair hypoplasia and severe anemia:preliminary results. Am J Med Genet 138A:66-67, 2005.

Williams MS. Neuropsychological Evaluation in Lujan-Fryns Syndrome:Commentary and Clinical Report. Am J Med Genet 140A:2812-2815, 2006.

Alsultan A, **Williams MS**, Lubner S, Goldman FD. Chronic Granulomatous Disease presenting with disseminated intracranial Aspergillosis. Pediatr Blood Cancer 47:107-10, 2006.

Williams MS, Elliott CG, Bamshad MJ. Pulmonary Disease is a Component of Distal Arthrogryposis Type 5. Am J Med Genet 143A:752-756, 2007.

Williams MS. Health Insurance and chronic illness: Is anything helping? Am J Med Genet 143A:718-720, 2007.

Williams MS. Adult dysmorphology: Perspectives on approach to diagnosis and care. Am J Med Genet Part C Semin Med Genet 145C:227-2292007.

Maves SN, **Williams MS,** Williams JL, Levonian PJ, Josephson KD. Analysis of 88 adult patients referred for genetics evaluation. Am J Med Genet Part C Semin Med Genet 145C:232-240, 2007.

Gudgeon JM, McClain MR, Palomaki GE, **Williams MS**. Rapid-ACCE:
Experience with a rapid and structured approach for evaluating gene-based testing. Genet Med 9:473-478, 2007.

Williams MS. Insurance coverage for pharmacogenomic testing. Personalized Med 4:479-487, 2007.

Flockhart DA, O'Kane D, **Williams MS**, Watson MS. Pharmacogenetic testing of CYP2C9 and VKORC1 alleles for warfarin. Genet Med 10:139-150, 2008.

Ferreira-Gonzalez A, Teutsch S, **Williams MS**, FitzGerald KT, Miller PS, Famous C. US system of oversight for genetic testing: A report from the Secretary's Advisory Committee for Genetics, Health and Society. Personalized Med 5:521-528, 2008.

Swensen JJ, Keyser J, Coffin CM, Biegel JA, Viskochil DH**, Williams MS**. Familial occurrence of schwannomas and malignant rhabdoid tumor associated with a duplication in SMARCB1. J Med Genet 46:68-72, 2009.

Lubin IM, McGovern MM, Gibson Z, Gross SJ, Lyon E, Pagon RA, Pratt VM, Rashid J, Shaw C, Stoddard L, Trotter TL, **Williams MS**, Wilson JA, Pass K. Clinician Perspectives about Molecular Genetic Testing for Heritable Conditions and Developing a Clinician-Friendly Laboratory Report. J Mol Diagn 11:162-171, 2009.

Zellerino BC, Milligan SA, Gray JR, **Williams MS**, Brooks R. Identification and prioritization of quality indicators in clinical genetics: an international survey. Am J Med Genet C 151C:179-90, 2009.

Zellerino B, Milligan SA, Brooks R, Freedenberg DL, Collingridge DS, **Williams MS**. Development, Testing and Validation of a Patient Satisfaction Questionnaire for use in the Clinical Genetics Setting. Am J Med Genet C 151C:191-199, 2009.

Williams MS. Quality in Clinical Genetics. Am J Med Genet C 151C:175-8, 2009.

Heras YZ, Mitchell JA, **Williams MS**, Brothman AR, Huff SM. Evaluation of LOINC for Representing Constitutional Cytogenetic Test Result Reports. AMIA Annu Symp Proc. 2009:239-43, 2009.

Meckley LM, Gudgeon JM, Anderson JL, **Williams MS,** Veenstra DL. A Policy model to evaluate the benefits, risks and costs of Warfarin pharmacogenomic testing. Pharmacoeconomics 28(1):61-74, 2010.

Hulse NC, Wood GM, Haug PJ, **Williams MS.** Deriving consumer-facing disease concepts for family health histories using multi-source sampling. J Biomed Inform. 2010 Apr 9. [Epub ahead of print]

Taylor DP, Burt RW, **Williams MS**, Haug PJ, Cannon-Albright LA. Population-based family-history-specific risks for colorectal cancer: a constellation approach. Gastroenterology. 138:877-85, 2010 Epub 2009 Dec 21.

Guthery SL, Mineau G, Pimental R, **Williams MS**, Kerber RA. Inflammatory Bowel Disease Aggregation in Utah kindreds. Inflamm Bowel Dis. 17:823-30, 2011.

Williams JL, Collingridge DS, **Williams MS.** Primary Care Physician's Experience with Family History: An Exploratory Qualitative Study. Genet Med 13:21-25, 2011.

Taylor DP, Stoddard GJ, Burt RW, **Williams MS**, Mitchell JA, Haug PJ, Cannon-Albright LA. How well does family history predict who will get colorectal cancer? Implications for cancer screening and counseling. Genet Med 13:385-391, 2011.

Taylor DP, Cannon-Albright LA, Sweeney C, **Williams MS**, Haug PJ, Mitchell JA, Burt RW. Comparison of compliance for colorectal cancer screening and surveillance by colonoscopy based on risk. Genet Med. 13:737-743, 2011.

Crockett DK, Piccolo SR, Ridge PG, Margraf RL, Lyon E, **Williams MS**, Mitchell JA. Predicting phenotypic severity of uncertain gene variants in the *RET* proto-oncogene. PLoS ONE 6(3): e18380. doi:10.1371/journal.pone.0018380.

O'Leary J, Edelson V, Gardner N, Gepp A, Kyler P, Moore P, Petruccio C, **Williams M**, Terry S, Bowen D. Community Centered Family Health History: A Customized Approach to Increased Health Communication and Awareness. Progress In Community Health Partnerships 5:113-122, 2011.

Grimmer JF, Williams MS, Pimental R, Mineau G, Wood GM, Bayrak-Toydemir P, Stevenson DA. Familial Clustering of Hemangiomas. Arch Otolaryngol Head Neck Surg. 137:757-60, 2011.

Hoffman MA, **Williams MS**. Electronic Medical Records and Personalized Medicine. Hum Genet. 130:33-9, 2011.

Gudgeon JM, Williams JL, Burt RW, Samowitz WS, Snow GL, **Williams MS.** Lynch Syndrome Screening Implementation: Business Analysis by a Healthcare System. Am J Manag Care 17:e288-300, 2011.

Coates RJ, Melillo S, **Williams M**, Gudgeon J. Genetic testing for Lynch syndrome in individuals newly diagnosed with colorectal cancer to reduce morbidity and mortality from colorectal cancer in their relatives. PLOS Currents Evidence on Genomic Tests [Internet]. July, 2010. Available from: http://knol.google.com/k/ralph-coates/genetic-testing-for-lynch-syndrome-in/1alqttjpq2sd5/11#/

Hulse NC, Ranade-Kharkar P, Post H, Wood GM, **Williams MS**, Haug PJ. Development and early usage patterns of a consumer-facing family health history tool. AMIA Annu Symp Proc. 2011;2011:578-87.

Khoury MJ, Coates RJ, Fennell M, Glasgow RE, Scheuner MT, Schully SD, **Williams MS**, Clauser SB. Multilevel research and the challenges of implementing genomic medicine. J Natl Cancer Inst 44:112–120, 2012

Grimmer JF, **Williams MS,** Pimental R, Mineau G, Wood GM, Bayrak-Toydemir P, Stevenson DA. Hemangioma is associated with atopic disease. Otolaryngol Head Neck Surg (in press)

Crockett DK, Lyon E**, Williams MS**, Narus SP, Facelli JC, Mitchell JA. Utility of gene-specific algorithms for predicting pathogenicity of uncertain gene variants. Journal of the American Medical Informatics Association (JAMIA) 19:207-11, 2012

Williams MS. The public health genomics translation gap: What we don't have and why it matters. Public Health Genomics. 15:132-138, 2012.

Crockett DK, Ridge PG, Wilson AR, Lyon E, **Williams MS**, Narus SP, Facelli JC, Mitchell JA. Consensus: A framework for evaluation of uncertain gene variants in laboratory test reporting. Genome Med 4:48, 2012.

Ellison JW, Ravnan JB, Rosenfeld JA, Morton A, Neill NJ, **Williams MS**, Lewis J, Torchia BS, Walker C, Traylor RN, Moles K, Miller E, Lantz J, Valentin C, Minier SL, Leiser K, Powell BR, Wilks TM, Shaffer LG. Clinical Utility of Chromosomal Microarray Analysis. Pediatrics 130: e1085-95, 2012.

Gudgeon JM, Belnap TW, Williams JL, **Williams MS.** Impact of Age Cut-offs on a Lynch Syndrome Screening Program. J Oncol Pract. 2013 Jul 1;9(4):175-9.

Kullo IJ, Jarvik GP, Manolio TA, **Williams MS**, Roden DM. Leveraging the electronic health record to implement genomic medicine. Genet Med 2012 Sep 27. doi: 10.1038/gim.2012.131. [Epub ahead of print]

Manolio TA, Chisolm RL, Ozenberger B, Roden DM, **Williams MS**, Wilson R, Bick D, Bottinger E, Brilliant MH, Eng C, Frazer KA, Korf B, Ledbetter DH, Lupski JR, Marsh C,

Mrazek D, Murray MF, O'Donnell PH, Rader D, Relling MV, Shuldiner AR, Valle D, Weinshilboum R, Green ED, Ginsburg GS. Implementing Genomic Medicine in the Clinic: The Future is Here. Genet Med. 2013 Apr;15(4):258-67. doi: 10.1038/gim.2012.157. Epub 2013 Jan 10.

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EDITORIAL

Manual on Reimbursement for Medical Genetic Services, 1st edition Kendall/Hunt Publishing Company. **Marc S. Williams**, MD editor-in-chief (This is the official publication of the American College of Medical Genetics and represents a compendium of the economic issues that affect payment for genetic services).

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WORKSHOPS

2001 Annual meeting of the American College of Medical Genetics. Presentation to membership of the draft version of the Reimbursement Manual. Co-Moderator with Dr. Robert Greenstein.

2002 Annual meeting of the American College of Medical Genetics. Advocacy at the National, State and Local levels. Co-Moderator with Dr. Cathy Greene and Dr. Maimon Cohen.

2003 Annual meeting of the American College of Medical Genetics. Working within the Health Insurance Industry to effect change. Organizer and Moderator. Presented Advocating for your patient.

2004 Annual meeting of the American College of Medical Genetics. Update on coding initiatives of the American College of Medical Genetics. Organizer and Moderator.

2006 Annual meeting of the American College of Medical Genetics. Measuring what we do in Clinical Genetics. Organizer, presenter and moderator. Presented on Application of Quality Improvement in Clinical Genetics.

PRESENTATIONS

In addition to the above, I have presented lectures and workshops on genetics, genomics, quality improvement, informatics and the economics of genetic services at a variety of national and international meetings including the American Association of Health Plans, the Alliance of Community Health Plans, the HMO Alliance, the International Society of Employee Benefits, the national meeting of the Blue Cross/Blue Shield Medical Directors, the International Federation of Pharmacists, the American College of Medical Genetics, the American Society of Human Genetics, the National Coalition for Health Professional Education in Genetics, the Mountain States Genetics Network, National Society of Genetic Counselors-Region IV, Institute of Medicine Genomic Roundtable, American Academy for the Advancement of Science, American Society for Clinical Pharmacy and Therapeutics. I participated in numerous meetings sponsored by CDC, NIH, NHGRI, AHRQ and HRSA. (Specific details can be provided if requested)