Walter Sujansky, MD PhD

1161 Cherry St., Suite B   San Carlos, CA 94070
(650) 802-8731   walter@sujansky.com

Summary

- A seasoned health I.T. professional with a medical degree, medical informatics training, and 30 years of industry experience designing, building, and operating healthcare sofware applications.
- A track record of driving product development at start-up companies, as well as consulting to large H.I.T. vendors, provider organizations, venture funds, and government agencies.
- Interests include product management, software engineering, data analysis, health care policy, and expert witness services for intellectual property and medical malpractice cases.

Skills

- Product management, including all facets of product conceptualization, business modeling, requirements analysis, implementation, support, and life-cycle management.
- Medical informatics, including the modeling and analysis of clinical data in information systems.
- Clinical data standards, including HL7 v2 messages, C/CDA documents, Direct Secure Messaging, IHE frameworks for interoperability, and various terminology systems (ICD-10, SNOMED-CT, LOINC, RxNorm, NDC, etc.).
- Machine Learning, including linear regression, logistic regression, and neural networks.
- Modern technical environments and tools, including database management systems (MySql, Oracle, SqlServer), programming languages (Java, C++, Perl, VBA), frameworks (Spring, AngularJS, Bootstrap), and web service interfaces (SOAP, REST, SAML, OAuth, etc.).
- Broad-based knowledge of the healthcare and health I.T. industries, including landscape of provider organizations, payers, ancillary service providers, I.T. vendors, and trade associations.
- Extensive knowledge of government policies that impact healthcare and health I.T., including HIPAA, Meaningful Use, CMS alternative payment models, electronic prescribing regulations, and CLIA laboratory requirements.

Work History

President and Senior Consultant   **Sujansky & Associates, LLC**   **2003 – Present**

- Leads a healthcare I.T. consulting practice that addresses the technical, business, and policy aspects of developing novel clinical software applications.
- Expertise in electronic health records, personal health records (mobile and cloud-based), disease registries, clinical data warehouses, clinical data interoperability and health information exchange.
- Services include requirements analysis, product management, data-architecture design, software development, technology and vendor evaluation, strategic planning, and expert witness testimony.

Adjunct Professor   **Stanford University School of Medicine**   **2020 – Present**

- Adjunct Faculty Member, Center for Biomedical Informatics Research.
- Faculty instructor teaching graduate and undergraduate students taking courses offered by the BMIR, including BIOMEDIN 210: Modeling Biomedical Systems and BIOMEDIN 226: Digital Health Practicum in a Health Care Delivery System.
- Lecture topics include probabilistic reasoning, EHRs, clinical data modeling, and health data interoperability.

Chief Technology Officer   **California Joint Replacement Registry**   **2010 – 2016**

- Designed the functional specifications for the first regional level-3 joint replacement registry in the United States.
- Oversaw the technical implementation, data collection, and provider operation of this statewide resource, which was used by over 30 academic medical centers and community hospitals for quality improvement and research, including Stanford, UCSF, and UC Davis. In 2016, the CJRR merged with the National Joint Replacement Registry.
- Evaluated the results and lessons learned from the early operations of the registry, including an assessment of data quality, and incorporated those learning into ongoing enhancements.

Director, Product Development   **ePocrates, Inc.**   **2000 – 2003**

- Directed a team of product managers in the conceptualization, requirements analysis, and implementation oversight of products for managing drug-prescribing information on handheld devices.
- During tenure, the team successfully delivered a new formulary-publishing application, an updated version of the ePocrates drug-reference guide, a redesigned PDA-based messaging system, and a pilot implementation of an electronic prescribing tool.
- Responsibilities included product design (including UI design, data modeling, and terminology coding), competitive research, personnel management, and support for sales and business development activities.

Director, Commercial Products   **Apelon, Inc.**   **1999 – 2000**

- Managed all facets of product development for the company's non-government (commercial) market. Apelon's products include terminology-management tools based on the Unified Medical Language System, as well as terminology-development tools based on description logic.
- Responsibilities included requirements analysis, product design, user-interface design, management of engineering staff, quality assurance, user documentation, and sales support.
- Also consulted to major customers (including the AMA and Kaiser Permanente). Engagements included the design of an enhanced model for the CPT-4 coding system.

Education

M.D., Ph.D.   **Stanford University, Stanford, CA**

- Earned M.D. and Ph.D. in Medical Information Sciences Program, a multidisciplinary graduate program combining research in computer science, decision theory, and biomedicine.
- Doctoral thesis defined a model for uniform access to heterogeneous clinical databases via the application of semantic data models and automated query-translation techniques.

B.A.   **Harvard College, Cambridge, MA**

- Earned B.A. in economics while minoring in pre-medical sciences. Graduated cum laude. Phi Beta Kappa, Junior year. Ski team, WHRB radio, Fox Club.

Notable Speaking Engagements

- *Guest Lecturer, Biomedical Informatics 210, Stanford University.* Prepared and presented five lectures for this graduate -level course on biomedical data modeling and decision support, covering the topics of probabilistic reasoning, clinical data modeling, and health information exchange. February – March, 2020.

- *To Switch or Not to Switch: A Guide for Community Clinics Considering Changing EHRs.* Presentation at California Primary Care Association Annual Conference. October, 2019.

- *Open Issues in Measurement Frameworks for Interoperability Standards*. Presentation at the 2019 Office of the National Coordinator Interoperability Forum Standards Measurement Workshop. August, 2019.

- *The State of Interoperability and Health Information Exchange: Advancing Steadily or Treading Water?* Panel Presentation at the American Medical Informatics Association Annual Symposium. November, 2017.

- *Health Information Exchange: Challenges and Methods*. 3-hour education session, American Medical Informatics Association 2015 Annual Symposium. San Francisco, CA. November, 2015.

- *Information Technologies for Measuring and Improving Chronic Disease Care: Features and Trade-offs.* Presentation to the Stanford Clinical Informatics Fellowship. December, 2015.

- *The Informatics of Health Information Exchange*. 3-hour education session, American Medical Informatics Association 2012 Annual Symposium. Washington, D.C. November 3, 2012.

- *Standards for Storing and Exchanging Clinical Data in Electronic Health Record Systems.* 3-hour education session, American Medical Informatics Association 2010 Annual Symposium. Washington, D.C. November 13, 2010. Also presented this tutorial at the 2007, 2008 and 2009 Annual Symposia.

Other Activities and Honors

- Adjunct Faculty Member, Biomedical Informatics Research Department, Stanford Medical School. January 2020 - Present.

- Member of Scientific Committee, Frontier of AI-Assisted Care Scientific Symposium, Stanford Medical School. 2019.

- Invited expert at Workshop on Exploring Legal Challenges to Fulfilling the Potential of mHealth in a Safe and Responsible Environment. American Association for the Advancement of Science (AAAS). October 6-7, 2014.

- Member of Advisory Panel to HHS Health Information Technology Policy Committee on the topic of disease registries as data intermediaries for clinical quality measures. 2013 – 2014.

- Member of Expert Panel for Lab Data Integration for Diabetes Care Improvement. Brookings Institution, November 2009.

- Member of Technical Expert Panel for the development of "Privacy and Security Solutions for Interoperable Health Information Exchange -- Perspectives on Patient Matching." 2009.

- Judge, Electronic Medical Record Product Awards. Towards Electronic Patient Records (TEPR) Conference. 2003-2005.

- Engaged as an expert witness in several patent-infringement cases involving health information technology

Publications

W. Sujansky, K. Campbell. Modeling Limitations of the Argonaut HL7 FHIR Implementation Guide: Implications for Patient Safety. Submitted to the Proceedings of the American Medical Informatics Association Annual Symposium, March 2020.

W. Sujansky. To Switch or Not to Switch: A Guide for Community Clinics Considering Changing EHRs. *California Health Care Foundation*. May 2019. (https://www.chcf.org/publication/switch-guide-community-clinics-changing-ehrs/ accessed April 2, 2020).

W. Sujansky. Promise and Pitfalls: A Look at California's Regional Health Information Organizations. *California Health Care Foundation*. January 2019. (https://www.chcf.org/publication/promise-pitfalls-californias-regional-health-information-organizations/ accessed April 2, 2020).

W. Sujansky, T. Wilson. DIRECT Secure Messaging as a Common Transport Layer for Reporting Structured and Unstructured Lab Results to Outpatient Providers. *The Journal of Biomedical Informatics*. Volume 54, April 2015, Pages 191–201.

W. Sujansky, D. Kunz. A Standards-Based Model for the Sharing of Patient-Generated Health Information with Electronic Health Records. *Personal and Ubiquitous Computing.* Volume 19, Issue 1 (2015), Page 9-25.

W. Sujansky. Evaluation Results from the SoCalHIE Pilot: An Implementation of DIRECT Messaging and Provider Directory Services for Health Information Exchange in North San Diego County. *California Health Care Foundation*. March 2014. (https://www.chcf.org/wp-content/uploads/2017/12/PDF-EvaluationTestingHIEDIRECTMessaging.pdf accessed April 2, 2020).

W. Sujansky, S. Faus, et. al. A Method to Implement Fine-Grained Access Control for Personal Health Records using Standard Relational Database Queries. *The Journal of Biomedical Informatics*. 2010 Oct;43(5 Suppl): S46-50. Epub 2010 Aug 7.

W. Sujansky, M. Overhage, et. al. The Development of a Highly Constrained HL7 Implementation Guide to Facilitate Electronic Laboratory Reporting to Ambulatory EHRs. *The Journal of the American Medical Informatics Association*. 2009; 16: 285-290.

W. Sujansky, R. Sterling, R. Swafford. Practice Management Systems for Safety-Net Clinics and Small Group Practices: A Primer. *California Health Care Foundation*. February 2009. (https://www.chcf.org/publication/practice-management-systems-for-safety-net-clinics-and-small-group-offices-a-primer/ accessed April 2, 2020).

W. Sujansky & S. Chang. The California Clinical Data Project: A Case Study in the Adoption of Clinical Data Standards for Quality Improvement. *The Journal of Health Information Management*. 2006. Vol. 20, Num. 3.

W. Sujansky. Clinical Terminologies for Data Analysis and Structured Data Entry. Book chapter in J. Silva, Ed. Cancer Informatics: Essential Technologies. 2002. Springer-Verlag, New York.

W. Sujansky. Heterogeneous Database Integration in Biomedicine. *The Journal of Biomedical Informatics*. 2001 Aug; 34(4):285-98.

W. Sujansky. A Document-Centric Electronic Medical Record System with Database-Centric Reporting Capabilities. *Toward An Electronic Patient Record, Proceedings Manual*. San Antonio, TX. 1999.

W. Sujansky. The Benefits and Challenges of an Electronic Medical Record: Much More than a "Word-Processed" Patient Chart*. Western Journal of Medicine*, 169(3): 176-83, Sept. 1998.

Jenders RA, Sujansky W, Broverman CA, Chadwick M. Towards improved knowledge sharing: assessment of the HL7 Reference Information Model to support medical logic module queries. *Proceedings of the 1997 AMIA Annual Fall Symposium*, Washington, D.C., 308-12.. Hanley & Belfus, 1997.

W. Sujansky. *A Formal Model for Bridging Heterogeneous Relational Databases in Clinical Medicine*. (DOCTORAL THESIS). April 1996.

W. Sujansky & R. B. Altman. An Evaluation of the TransFER Model for Sharing Clinical Decision-Support Applications. In James J. Cimino, Ed., *Proceedings of the 1996 AMIA Annual Fall Symposium*, Washington, D.C., 468-472. Hanley & Belfus, 1996.

W. Sujansky & R. Altman. Towards a Standard Query Model for Sharing Decision-Support Applications. *Proceedings of the Eighteenth Annual Symposium on Computer Applications in Medical Care*, Washington, DC, 325-331. 1994.

W. Sujansky & R. Altman. Bridging the Representational Heterogeneity of Clinical Databases. *AAAI Spring Symposium on Artificial Intelligence in Medicine*, Stanford, CA, 157-161. 1994.

W. Sujansky & R. Altman. Towards a Universal Interface to Clinical Databases. *Abstract Book of the American Medical Informatics Association Spring Congress*, p. 122. San Francisco, May 1994.

W. Sujansky & M. Shwe. The SQLX System: Generating Explanations for Clinical Rules Encoded in SQL. *Proceedings of the Sixteenth Annual Symposium on Applications in Medical Care*, Baltimore, MD, 239-243. 1992.

W. Sujansky, D. Zingmond, M. Toshiyuki, & T. Barsalou. PENGUIN: An Intelligent System for Modeling and Sharing Declarative Knowledge Stored in Relational Databases. In K.C. Lun et al., Ed., *MEDINFO 92*, Palexpo Geneva, Switzerland, 466-471. 1992.

W. Sujansky, T. Barsalou, & G. Wiederhold. Structural Semantics and Complex Objects for the Coupling of Relational Databases and Knowledge-Based Systems. *AAAI Workshop on Knowledge Base Management Systems*, Boston, MA. 1990.

W. Sujansky, T. Barsalou, L. Herzenberg, & G. Wiederhold. An Enhanced Relational Database Model to Support the Design of Flow Cytometry Protocols. Abstract in *Proceedings of AMIA Educational and Research Conference*, Joyce Mitchell, Ed., p. 30. June 1990.

M. Shwe, W. Sujansky, & B. Middleton. Reuse of Knowledge Represented in the Arden Syntax. *Proceedings of the Sixteenth Annual Symposium on Computer Applications in Medical Care*, Baltimore, MD, 47-51. 1992.

T. Barsalou, W. Sujansky, L. Herzenberg, & G. Wiederhold. Management of Complex Immunogenetics Information Using an Enhanced Relational Model. *Computers and Biomedical Research*, 24(Issue):476-498, 1991.

T. Barsalou, W. Sujansky, & G. Wiederhold. Expert Database Systems in Biomedicine: The PENGUIN Project. *AAAI Spring Symposium Series on AI in Medicine*, Stanford, CA, 14-17. 1990.

G. Wiederhold, W. Sujansky, T. Barsalou, N. Siambela, D. Zingmond. Supporting Access to Multiple Databases for Multiple Views. *Extended Abstract, NLM Biomatrix Conference Proceedings*, George Mason Univ., Fairfax VA, July 1990.

G. Wiederhold, T. Barsalou, W. Sujansky. Sharing Information Among Biomedical Applications. Presented at the SEMI Conference on Medical Informatics, Amsterdam, October 1990.

K. Law, G. Wiederhold, T. Barsalou, N. Siambela, W. Sujansky, D. Zingmond. Managing Design Objects in a Sharable Relational Framework. CIFE, Stanford University, March 1990.