

U.S. Nominations for IHTSDO Standing Committees

August 2014

Implementation & Education Committee Candidates

Candidates Listed Alphabetically

Candidate Name: **Howard S. Goldberg**

Affiliation: **Partners Healthcare Systems**

Statement of Interest—Implementation and Education Committee
Howard S. Goldberg, MD Partners Healthcare System Boston, MA

I am an informatician with over twenty years of academic and commercial experience. I am an Assistant Professor at Harvard Medical School and currently manage informatics infrastructure services for Partners Healthcare, which include enterprise terminology services, decision support services, and interoperability services. I am a long-time researcher into the clinical application of biomedical ontologies and controlled terminologies. Our pioneering operational use of SNOMED CT throughout the Partners system for both clinical terminology and the underpinning to clinical decision support serves to demonstrate the critical importance of a solid terminology foundation to the clinical enterprise.

It has been my pleasure to serve three terms on the Content Committee. Over the past six years, the Content Committee has supervised the development of processes for product development, project prioritization, and made recommendations to the Management Board on strategic directions for IHTSDO. With the evolution of the new Observables hierarchy integrating with LOINC, the revised Substances hierarchy integrating with CHEBI, and the revised Anatomy hierarchy reflecting the richness of the Foundational Model of Anatomy, the Content Committee has guided the maturation of SNOMED CT into formidable resource for diverse domains in healthcare and the life sciences.

I would be delighted to continue my active association with IHTSDO as a member of the Implementation and Education Committee. We now have an opportunity to exploit the rich relationships and ontologic properties of SNOMED, beyond its current application as a healthcare dictionary, to create an exciting new generation of clinical software. I was recently able to facilitate a dialog between IHTSDO and the Association of Medical Directors of Information Systems to begin to explore how SNOMED CT might enhance clinical computing functionality in the EHR. I&E plays the essential role in identifying, investigating, commissioning, and disseminating innovative reference implementations of SNOMED. I am enthusiastic to work with I&E to engage the academic and vendor communities to both accelerate broad SNOMED adoption and push the envelope with new demonstrations for decision support and clinical reporting as I have done within my home institution. We have reached an inflection point where successful dissemination of innovative reference applications of SNOMED can influence the next generation of EHR and other products, with a potential global impact on clinical practice and outcomes.

Abridged CV--Howard S Goldberg

Positions and Employment

1988-1991 Internship/Residency Internal Medicine, University Hospital, Boston, MA
1991-1993 Fellowship in Clinical Decision-Making/Medical Informatics, New England Med Center, Boston, MA
1993-1996 Associate Director, Clinical Informatics Unit, Deaconess Hospital, Boston, MA
1996-2001 Senior Associate, Center for Clinical Computing, Beth Israel Deaconess Med Center, Boston, MA
1996-2001 Instructor in Medicine, Harvard Medical School, Boston, MA
2000-2002 Director of Research and Development, Clinician Support Technology, Newton, MA
2002-2004 Vice President, Product Development, Clinician Support Technology, Newton, MA
2005-2006 Senior Medical Informatician, Partners Healthcare System, Wellesley, MA
2006- Sr Corp Manager, Enterprise Clinical Informatics Infrastructure Services, PHS Wellesley, MA
2009- Associate Physician, General Internal Medicine, BWH, Boston, MA
2009-2014 Lecturer in Medicine, Harvard Medical School, Boston, MA
2014- Assistant Professor of Medicine, Harvard Medical School, Boston, MA

Other Experience and Professional Memberships

1991- Member, American College of Physicians
1992- Member, American Medical Informatics Association
1999-2000 Scientific Program Committee, AMIA Association 2000 Annual Symposium
2000 AHRQ SBIR Review Committee, Developing Tools to Enhance Quality and Patient Safety Through Informatics
2001- Reviewer, International Journal of Medical Informatics
2008-2011 Chair, Enterprise Clinical Services Steering Committee, PHS Wellesley, MA
2008- Clinical Content Committee IHTSDO

Selected Terminology-Related Publications

1. Goldberg HS, Goldsmith D, Law V, Keck K, Tuttle M, Safran C. An evaluation of UMLS as a controlled terminology for the problem list toolkit. B. Cesnik et al., Eds. MEDINFO '98 Proceedings of the 9th World Congress on Medical Informatics. Amsterdam, IOS Press, 1998; 609-612.
2. Goldberg HS, Hsu, C, Law V, Safran C. Validation of clinical problems using a UMLS-based semantic parser. JAMIA Supplement 1998; 5:805-9.
3. Law V, Goldberg HS, Jones P, Safran C. A component-based problem list subsystem for the HOLON testbed. JAMIA Supplement 1998; 5:411-15.
4. Goldberg HS, Morales A, MacMillan D, Quinlan M. An Ontology-Driven Application to Improve the Prescription of Educational Resources to Parents of Premature Infants. Sure, York and Corcho O. Eds. Proceedings of the 2nd International Workshop on the Evaluation of Ontology-based Tools. <http://ceur-ws.org> ISBN 1613-0073 Volume 87.
5. Goldberg HS and Morales A. Improving Information Prescription to Parents of Premature Infants through An OWL-Based Knowledge Mediator. Medinfo. 2004;2004:361-5.
6. Goldberg HS, Kashyap V, Spackman KS. Creation and Usage of a "Micro Theory" for Long Bone Fractures: An Experience Report. Proceedings of the KR 2008 Workshop on Formal Biomedical Knowledge Representation, Arizona, USA.
7. Chen ES, Zhou L, Kashyap VK, Schaeffer M, Dykes PD, Goldberg HS. Early experiences in evolving an enterprise-wide information model for laboratory and clinical observations. Proceedings of the 2008 AMIA Fall Symposium; 2008 Nov 8-12; Washington, DC; 2008.
8. Dykes PC, Kim H, Goldsmith DM, Choi J, Esumi K, Goldberg HS. The Adequacy of ICNP Version 1.0 as a Representational Model for Electronic Nursing Assessment Documentation. JAMIA 2009;16:238-246.
9. Dixon B, Simonaitis L, Goldberg HS, Paterno MD, Schaeffer M, Hongsemeier T, Wright A, Middleton B. A pilot study of distributed knowledge management and clinical decision support in the cloud. Artificial Intelligence in medicine. 2013; 59(1) 45-53. [Doi: 10.1016/j.artmed.2013.03.004](https://doi.org/10.1016/j.artmed.2013.03.004). 2013.
10. Goldberg HS, Paterno MD, Rocha BH, Schaeffer M, Wright A, Erickson JL, Middleton B. A Highly Scalable, Interoperable Clinical Decision Support Service. J Am Med Inform Assoc. [Doi: 10.1136/amiainl-2013-001990](https://doi.org/10.1136/amiainl-2013-001990). 2013 Jul 4 [epub ahead of print]



Skills Matrix – Implementation & Education

Please help us to ensure that IHTSDO Committees consist of a balanced and diverse set of expertise and experience. We would appreciate if you could complete the form below, marking each box for which you have relevant skills or experience.

Thank you for helping to ensure a strong advisory structure for IHTSDO and its Members.

Nominee

Name	Howard Goldberg
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Skills Matrix

IHTSDO seeks individuals with a mix of skills to serve on Standing Committees. Please mark the attribute(s) in which you have experience and expertise at an organizational, national and/or international level.

Attributes	Check all that apply
SNOMED CT Concept Design, Content Development, and/or Research on SNOMED CT Design and Implementation Issues	XXX
Systems Architecture and Integration	XXX
Software Design, Development and Implementation	XXX
Implementation and use of SNOMED CT and/or other terminologies in Health Information Systems, including clinical or health services research systems	XXX
Implementation of clinical messaging or document standards	XXX
Research and Development of Biomedical Ontologies and Health Terminologies other than SNOMED CT	XXX
Research/Experience in Semantic Interoperability and Semantic Data Mining	XXX
Research Management and Funding	XXX
SNOMED CT, Biomedical Ontologies, and/or Health terminologies Education /teaching	XXX
Education Management and Certification/Accreditation	
Public Relations	
Ability to influence implementation by key stakeholders	XXX

Candidate Name: **Robert McClure** *[Incumbent]*

Affiliation: **MD Partners, Inc.**



MD Partners, Inc.

August 1, 2014

Statement of Interest in serving as US representative to the IHTSDO Implementation & Education Standing Committee

As a community we continue to struggle to deliver on our long-stated promise to make health care informatics tools (systems) easy to use while providing enhanced capabilities to practicing clinicians, clinical researchers, and health care managers. In part this is a reflection on our community's focus on tool functionality (with only partial success) at the expense of the information we capture with those tools. This lack of attention to the content that drives *semantic* interoperability is now changing. In part this is occurring because as a community we have had enough time to recognize that application functionality alone cannot solve the problem; we must fix issues of consistency and easy of use of the required terminologies used to record content in order to best serve our patients and support our changing environment of clinical care and research.

I have been in the middle of this change during the past two years while I worked directly with the US Office of the National Coordinator of Health IT (ONC) and the US National Library of Medicine (NLM) to improve the usability of clinical terminology in electronic quality measures and other Meaningful Use (MU) requirements. During this time I have also worked directly with the NLM on the development and deployment of the Value Set Authority Center (VSAC) with the goal of providing a universal platform for the creation, vetting, publication and maintenance of value sets use in clinical systems, particularly those defined in clinical standards. I continue to act as a senior advisor to both ONC and NLM on the tasks noted and this direct experience with implementation issues for SNOMED CT (and other terminologies) continues to sharpen my focus on the practical needs in implementing standardized terminology by everyday clinicians and researchers, as well as measure developers and regulators. I understand that to date, the use of SNOMED CT in MU has raised more concerns than sighs of relief, and while change is inevitable, we must continue to work hard to make this change practical.

I am also a current member of the IHTSDO I&E Standing Committee and during my recent tenure I have worked hard to bring projects that can result in accelerated usability to SNOMED CT that aligns with our needs as defined by the requirements of the Meaningful Use regulations. During this time IHTSDO has also undergone changes that provide for more focused resources to member-user needs. This has resulted in substantial resource allocation to two projects that I have helped define and develop: 1) A resource to support sharing of SNOMED CT value sets (refsets) developed by other members, and 2) Exploring an approach to investigate the general use of SNOMED CT expressions to represent information not found as pre-coordinated SNOMED CT concepts. This latter project we call *Expressions in the Wild* and is targeted to support easy exchange and use of template expressions, such as those to represent family history conditions. Both of these projects are ongoing and my continued participation as a member of the committee will be very useful to seeing them completed.

SNOMED CT is widely recognized as the preeminent general clinical terminology available and has been adopted by many of the developed health care world. The use of SNOMED CT is no longer only a concern for academics and "future systems," it is a part of everyday clinical systems. We must continue to work hard to make this code system serve *all* users and do so by bringing the practical lessons learned through our MU activities to the IHTSDO Standing Committees. I will make this my primary goal as a member of this committee.

Robert McClure, MD

President
MD Partners, Inc.

Robert Charles McClure, M.D.

Professional Experience (compressed)

1999–Present	MDPartners, Inc., Lafayette, CO President. (Not active from 2004-2012)
2004–2012	Apelon, Inc., Ridgefield, CT Vice President / Chief Medical Officer.
1996–1999	McKesson HBOC, Inc. / HBO & Company, Atlanta, GA Information Technology Business Vice President of Clinical Strategy.
1992–1996	GMIS Inc. / Medical Intelligence, Inc., Malvern, PA Medical Director, Clinical Research and Development, Medical Informatics.
1989–1992	Decision Systems Group Department of Radiology, Brigham and Women's Hospital, Boston, MA. Medical Informatics Fellow and Associate.
1990–1995	Harvard Community Health Plan / Health Centers Division Staff Physician. Part-time internal medicine and pediatrics primary care.

Academic Appointments:

2010–Present	Assistant Professor, Adjunct; College of Nursing, University of Colorado Denver.
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Committees:

2013–Present	Member, HL7 Terminology Authority (HTA). Health Level Seven (HL7) International.
2012–2014	Member, US Health & Human Services Office of the National Coordinator, Health Information Technology – Standards Committee, Clinical Quality Working Group.
2010–11, 13–14	Elected representative for the US, Implementation & Innovation Committee. International Health Terminology Standards Development Organization (IHTSDO).
2008–2010	Chair. Canada Health Infoway Standards Collaborative Working Group (SCWG 9) Terminology Representation and Services.

Medical Informatics:

2011–Present	JAMIA Reviewer.
1996–1997	Editor, eMD journal - New Information Technology in Real-World Medicine. McGraw-Hill Healthcare Publications. Minneapolis, MN.

Education:

1989–1991	Fellow in Medical Informatics. Harvard School of Public Health, Department of Biostatistics. Decision Systems Group, Brigham and Women's Hospital, Boston, MA.
1988–1988	Residency in Internal Medicine. NC Memorial Hospital, Chapel Hill, NC.
1985–1987	Combined Residency in Internal Medicine and Pediatrics. North Carolina Memorial Hospital, Chapel Hill, NC.
1981–1985	Doctor of Medicine. University of Colorado Health Sciences Center, Denver, CO.
1975–1980	Bachelor of Arts with Distinction in Chemistry, emphasis in Biochemistry. University of Colorado, Boulder, CO.



Skills Matrix – Implementation & Education

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Nominee

Name	Robert McClure, MD
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Skills Matrix

IHTSDO seeks individuals with a mix of skills to serve on Standing Committees. Please mark the attribute(s) in which you have experience and expertise at an organizational, national and/or international level.

Attributes	Check all that apply
SNOMED CT Concept Design, Content Development, and/or Research on SNOMED CT Design and Implementation Issues	X
Systems Architecture and Integration	
Software Design, Development and Implementation	X
Implementation and use of SNOMED CT and/or other terminologies in Health Information Systems, including clinical or health services research systems	X
Implementation of clinical messaging or document standards	X
Research and Development of Biomedical Ontologies and Health Terminologies other than SNOMED CT	X
Research/Experience in Semantic Interoperability and Semantic Data Mining	X
Research Management and Funding	
SNOMED CT, Biomedical Ontologies, and/or Health terminologies Education /teaching	X
Education Management and Certification/Accreditation	
Public Relations	X
Ability to influence implementation by key stakeholders	X

Candidate Name: **Rachel Richesson**

Affiliation: **Duke University School of Nursing**

**Statement of Interest for IHTSDO Implementation and Education Committee,
Rachel Richesson, August 1, 2014**

I appreciate the opportunity to serve on the IHTSDO Implementation and Education Committee. During my past service on the IHTSDO Implementation and Innovation Committee (2009 – 2010), I had the opportunity to witness the formation and growth in the IHTSDO and to develop relationships with individuals representing other member countries. Since my first IHTSDO appointment, I have taken a new position at Duke University that has given me exposure to health care systems data and national research networks aimed at comparative effectiveness research and pragmatic clinical trials using EHR data. As a result, I am now more versed in the issues of SNOMED CT in clinical systems. In addition, my new teaching responsibilities have allowed me to gain new skills and experience. Therefore, I am better able now to contribute to both aspects - Implementation and Education - of this very important IHTSDO committee.

I have more than a decade of experience in the identification and implementation of data standards for a variety of multi-national multi-site clinical research and epidemiological studies, including the NIH Rare Diseases Clinical Research Network (RDCRN) and The Environmental Determinants of Diabetes in the Young (TEDDY) study. In the past year, I have taken additional leadership positions in national networks that will be using EHR data for interventional and observational research. I co-chair the Phenotyping, Data Standards, and Data Quality Core for the NIH Health Care Systems Research Collaboratory, a demonstration program for the transformation of clinical trials based upon use of electronic health records (EHRs) and healthcare systems partnerships. In this role, I am developing standardized approaches and guidance for the extraction of clinical data to support research and learning healthcare systems, and I see an important role for SNOMED CT. In addition, I co-lead the Rare Diseases Task Force for the national distributed Patient Centered Outcomes Research Network (PCORnet), specifically promoting standardized EHR-based condition definitions (“computable phenotypes”) for rare diseases, and helping to develop a national research infrastructure that can support observational and interventional research for various types of conditions. I think SNOMED can play a pivotal role in identifying patients for treatment and research protocols, and I think that coalitions of rare disease advocacy groups may advocate for – and drive – the increased use of SNOMED CT in clinical systems.

My qualifications for the committee are also strengthened by my academic affiliation and more recent teaching training and experience since my move to Duke. I am currently an Associate Professor at the Duke University School of Nursing and have been teaching graduate nursing and informatics students the mechanics and use SNOMED CT for the past 2 years and have developed an appreciation for the importance of education in the adoption of complex controlled terminologies such as SNOMED CT.

I have also conducted original research on the quality and usability of various terminological data standards, including SNOMED CT, in the context of clinical research. I have presented dozens of posters and invited talks on the topic of data standards in clinical research studies, and have had several manuscripts published on the topic in high impact peer reviewed journals such as the Journal of the American Medical Informatics Association.

I believe that I can bring to the IHTSDO a multi-faceted perspective and a demonstrated understanding of coverage and implementation requirements for the use of SNOMED CT in various settings. Because of the variety of studies that I consult with, I have exposure to representational and technical requirements across a spectrum of research and delivery settings, application contexts, users, patient age groups, and disease populations. Furthermore, my participation in the research and informatics activities of the Duke University Medical Center and School of Nursing since my move here 2 years ago have brought me new qualifications and a readiness to contribute to this exciting committee.

Rachel Lynn Richesson, MPH, MS, PhD
Abbreviated CURRICULUM VITAE, prepared: August 1, 2014

Professional interests: Clinical research informatics, research use of clinical data, patient registries, standards development, controlled terminologies, rare diseases research infrastructure, nursing informatics

Current Position: Associate Professor, Duke University School of Nursing, Durham, NC

Education: INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Massachusetts, Amherst, MA	MS	1987-1991	Zoology
University of Texas, Houston, TX	MPH	1992-1995	Community Health Practice
University of Texas, Houston, TX	MS	1998-2001	Informatics
University of Texas, Houston, TX	PhD	2001-2003	Informatics

Selected Relevant Committees and Working Groups:

- Implementation and Innovation Committee, IHTSDO, 2009-10.
- Secretary, Clinical Research Informatics Working Group, American Medical Informatics Assn., 2010-12.
- Registry Advisory Board, U.S. Neuromuscular Disease Registry, Muscular Dystrophy Assn., 2012 – 15.
- Co-Lead, Rare Diseases Task Force, Patient Centered Outcomes Research Network (PCORnet), 2014 – 15.
- Co-Chair, Data, Phenotype and Data Standards Core. The NIH HSC Collaboratory, 2013-15.

Selected (SNOMED CT-related) publications and presentations:

1. Richesson RL, Andrews J, Krischer J. Use of SNOMED CT to Represent Clinical Research Data: A Semantic Characterization of Data Items on Case Report Forms in Vasculitis Research. *Journal of the American Medical Informatics Association* 2006; 13:536-546. PMID:[16799121](#)
2. Andrews JE, Richesson RL, Krischer J. Variation of SNOMED CT Coding of Clinical Research Concepts among Coding Experts. *Journal of the American Medical Informatics Association* 2007; 14:497-506. PMID:[17460128](#)
3. Richesson RL, Krischer JP. Data Standards in Clinical Research: Gaps, Overlaps, Challenges and Future Directions. *Journal of the American Medical Informatics Association* 2007; 14(6):687-696. PMID:[17712081](#)
4. Richesson RL, Sved A, Guillette H, Tuttle MS, Krischer JP. A Web-based SNOMED CT Browser: Distributed and Real-time Use of SNOMED CT During the Clinical Research Process. *MedInfo 2007 Congress, 20-24 August 2007, Brisbane Australia*. [MEDLINE indexed as: *Stud Health Technol Inform.* 2007;129(Pt 1):631-5. PMID:[17911793](#)]
5. Andrews JE, Patrick TB, Brown H, Richesson RL, Krischer JP. Comparing Heterogeneous SNOMED CT Coding of Clinical Research Concepts by Examining Normalized Expressions. *Journal of Biomedical Informatics* 2008; 41(6):1062-9. PMID:[18328789](#)
6. Richesson RL, Fung KW, Krischer JP. Heterogeneous but “Standard” Coding Systems for Adverse Events: Issues in Achieving Interoperability between Apples and Oranges. *Journal of Contemporary Clinical Trials* 2009; 29(5): 635-45. PMID:[18406213](#)
7. Richesson RL, Moldwin R, Andrews JE, Shereff DE, Albarracin N. The Use of Metadata and Terminology Standards to Support for Retrieval and Re-use of Question and Answer Sets for Patient Registries. *International Journal of Functional Informatics and Personalised Medicine*. 2010; 10(2-3): 119-135. doi: 10.1080/19386389.2010.506385
8. Fung KW, Richesson R, Bodenreider O. Coverage of Rare Disease Names in Standard Terminologies and Implications for Patients, Providers, and Research. *Paper Accepted for presentation at the AMIA Annual Symposium, Washington, D.C., Nov.15-19, 2014.*



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Nominee

Name Rachel Richesson

Skills Matrix

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SNOMED CT Concept Design, Content Development, and/or Research on SNOMED CT Design and Implementation Issues	X (national / international)
Systems Architecture and Integration	X (organizational)
Software Design, Development and Implementation	X (organizational)
Implementation and use of SNOMED CT and/or other terminologies in Health Information Systems, including clinical or health services research systems	X (research systems only; national / international))
Implementation of clinical messaging or document standards	X (have studied specifications and teach HL7 and CDA standards; NO implementation experience)
Research and Development of Biomedical Ontologies and Health Terminologies other than SNOMED CT	X
Research/Experience in Semantic Interoperability and Semantic Data Mining	X
Research Management and Funding	X
SNOMED CT, Biomedical Ontologies, and/or Health terminologies Education /teaching	X (teach in various academic programs)
Education Management and Certification/Accreditation	X (Support accreditation of some Duke School of Nursing programs)
Public Relations	
Ability to influence implementation by key stakeholders	I am part of the coordinating center for PCORnet national research network. At Duke, recently appointed to the Duke-wide Information Technology Advisory Council.

Candidate Name: **Ram Gouripeddi**

Affiliation: **Department of Biomedical Informatics, University of Utah**

STATEMENT OF INTEREST

My areas of interest and work have been in using SNOMED CT for interoperable standards based clinical research across multiple institutions. I also work with SNOMED CT in sharing clinical knowledge and in providing clinical decision support. Through these experiences I have gained a lot of working knowledge on how SNOMED CT could be implemented in these areas and how software applications would have to be tailored to meet these needs. In these efforts I have developed methods to evaluate SNOMED CT implementations and best practices for mapping local coding systems to standard terminologies. I have working experience with many other terminologies including LOINC, RxNorm, HL7, NDF-RT, Multum, ICD, CPT, CDSIC and MedDRA, and with biomedical ontologies.

In other works, I have drilled into SNOMED CT to check its coverage for clinical sub-specialties and in creating subsets specific to sub-populations such as pediatric problem lists. I assessed the similarity/dissimilarity of SNOMED CT's representation of clinical concepts to that of clinical experts and how far SNOMED CT's representation of clinical knowledge. On a related note I have embedded SNOMED CT into knowledge discovery platforms using state of the art machine learning algorithms that utilize the terminologies hierarchical and concept relationships. One of my other interests is in semantic data mining and semi-automating the mapping of local terminologies to SNOMED CT.

The Implementation and Education Committee plays an important role in keeping SNOMED CT relevant and ready for use and adaptation in the ever-evolving clinical environment. The committee's role in assessing new and unproven ideas and envisioning how these would fit into the new health landscape is therefore important. One such idea that I would be interested in is the use of social collaborative efforts in authoring and maintenance of SNOMED CT terminology. As medicine becomes more specialized, it would need people with varied expertise to contribute in their capacities. Also the advice and assistance provided by this committee in the practical implementation of SNOMED CT dependent tools is important for revolutionizing healthcare. This task of the committee is important for SNOMED CT being used as the backbone for clinical information management - be it for patient care, clinical knowledge and guidelines sharing, or for clinical research and knowledge discovery.

With these interests in using and developing SNOMED CT for clinical research and decision support, and with my formal clinical and informatics trainings and experiences, I feel that I could contribute to the SNOMED CT and IHTSDO by being a member of the Implementation and Education Committee. I would like to thank you for considering me for this position.

- Ram Gouripeddi, MBBS, MS

PROFESSION EXPERIENCE

Assistant Professor, Dept. of Biomedical Informatics, University of Utah Dec 2012 - Present

- Principal Investigator for development of a \$ 8 Million standard terminology based infrastructure for clinical data federation and integration to performance of comparative effectiveness research.
- Lead terminology implementation, mapping and modeling of disparate data sources to standards.
- Semantic data mining approaches to semi-automate mapping of local to standard terminologies.
- Evaluating user behaviors in utilizing standard terminology based systems.
- Teaching: Biomedical Terminologies and Ontologies for Clinical Research, Foundations of Biomedical Informatics.

Senior Biomedical Informatics Scientist, Biomedical Informatics Core, Center for Clinical and Translation Sciences, University of Utah Dec 2013 - Present

- Lead the informatics research need to support the clinical and translational sciences.

Research Associate, University of Utah Jan 2012 – Nov 2012

- Lead the design and implementation of terminology and management of controlled vocabularies, metadata and knowledge, including analysis and translation of requirements specified by user community, repository architects, and software engineers into useful and maintainable content.
- Methods to evaluate terminology quality and mappings.
- Use of SNOMED CT for managing micro-organisms and microbial investigations in clinical databases.

Medical Terminology Engineer, University of Utah Nov 2010 – Dec 2011

- Lead the design and implementation of terminology and management of controlled vocabularies.
- Terminology modeling, development and management for clinical research, knowledge sharing and decision support endeavors.
- Mapping local terminologies to central project terminologies and helping define integration, migration, conversion strategies for new content sources, including robust change control and versioning procedures.
- Education and assistance to operational personnel.

Business Analyst, Sai Systems International Feb 2010 – Nov 2010

- Developing medical vocabularies and for HIS management and analysis.

Research Associate, Arizona State University Aug 2007 – May 2010

- Machine Learning & Knowledge Engineering approaches in Clinical Decision Support using state of the art machine learning algorithms and clinical terminologies like SNOMED CT.
- Conversion of Clinical Guidelines into a computable form and encoding them with terminologies to enable interoperability.

Consultant Physician, India Oct 2004 – June 2007

EDUCATION

Master of Science (Biomedical Informatics), Arizona State University 2010

Bachelor of Medicine, Bachelor of Surgery (MBBS) 2004

Dr. TN MGR Medical University, Chennai, INDIA



Skills Matrix – Implementation & Education

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Please send completed forms to the National Library of Medicine via e-mail (auld@nlm.nih.gov) no later than COB August 4, 2014. Please use the subject "US Nominations – IHTSDO Standing Committees".

Thank you for helping to ensure a strong advisory structure for IHTSDO and its Members.

Nominee

Name	Ram Gouripeddi, MBBS, MS

Skills Matrix

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SNOMED CT Concept Design, Content Development, and/or Research on SNOMED CT Design and Implementation Issues	√
Systems Architecture and Integration	√
Software Design, Development and Implementation	√
Implementation and use of SNOMED CT and/or other terminologies in Health Information Systems, including clinical or health services research systems	√
Implementation of clinical messaging or document standards	√
Research and Development of Biomedical Ontologies and Health Terminologies other than SNOMED CT	√
Research/Experience in Semantic Interoperability and Semantic Data Mining	
Research Management and Funding	√
SNOMED CT, Biomedical Ontologies, and/or Health terminologies Education /teaching	√
Education Management and Certification/Accreditation	√
Public Relations	√
Ability to influence implementation by key stakeholders	√

Candidate Name: **Sukhbir Singh**

Affiliation: **U.S. National Library of Medicine**

Sukhbir Singh

Statement of Interest: Implementation and Education Committee

While working on improving US Extension SNOMEDCT release process, there were many times that I wished things were designed little differently with ITIL (Information Technology Infrastructure Library) in mind. For starters, there is no development guide or comments in the Workbench code to help new developers, which makes really hard for junior developers and they constantly need guidance. For not having documentation in the workbench code, developers have to contact international workbench developers for every code related issues, which sometimes takes more for then a day or two for getting answers while we have to put the release process on hold. After attending IHTSDO Tooling Service conference call and viewing the roadmap for services, I was eager to provide my insights from my previous services experiences.

I have worked in private and government sectors for past six years and gained valuable experience in Service Oriented Architecture (SOA). There are many times when a service oriented project is delivered on time, but it's entirely different than what the users anticipated. Most of the time, a project is started on time and later decisions are made for changes due to new requirements or other unforeseeable reasons. With my experience in leading SOA related projects, I can provide the right guidance so there are fewer changes and we steer the project in right direction to meet our end goal. Also, I have experience in ITIL process, which will help aligning IHTSDO tooling services with the needs of business and providing the right documentation or training for new developers.

In the long run, streamlining the development and release process of SNOMEDCT would help achieving goals of current and future IHTSDO members. A strong development platform and a precise education program would also help new developers. Currently, I'm working on a second release of US Extension of SNOMEDCT and aware of all the missing sections that are required for working toward a successful release. If provided the opportunity to be a member of this committee, I would make sure that all the missing requirements are successfully implemented. Also, I will help IHTSDO to start moving toward using ITSM (Information Technology Service Management) or ITIL processes, so that everyone can benefit from technology related projects provided by IHTSDO.

Sukhbir Singh

WORK EXPERIENCE

National Library of Medicine

Woodlawn, MD

January 2012 – Present

- Project lead for IHTSDO US handling various application implementation using agile methodology.
- Developed prototypes for replacement for current MeSH browser using elastic search Mongo DB and OpenLinkVirtuoso RDF framework.
- Provided technical guidance for improving current USCRS/SIRS content request system.

Social Security Administration

Woodlawn, MD

May 2012 – January 2013

- Information Technology Specialist (APPSW): Developing Data Access Layer with Java Persistence Api (JPA 2.0) and Enterprise Java Beans (EJB 3.0).
- Developed prototypes for new Representative Payee System (eRPS) and implemented use cases to assist the analysts.
- Implemented the conversion of the existing Misuse Allegation Application from Hibernate to JPA 2.0 and EJB 3.0, converted all the service classes into EJBs and all the Data Access Object (DAO) classes into JPA Entity classes. In addition, Implemented criteria based queries for persistence.
- Updated Internal DCS framework version 3.0 and added new Component Medication Manager (CMM) for SSN verification.
- Developed JEE Security for Misuse Allegation and Representative Payee Accounting (eRPA) Systems and added EJB based roles for security.
- Responsible for building and deploying applications to the Development and Validation environments.

UnitedHealthcare

Basking Ridge, NJ

November 2009 – May 2012

- Software Engineer / Application Developer (Lead): Closely worked with Project Managers to manage the project scope, identify & deploy the appropriate resources to support the systems development efforts.
- Project Manager for outsourced business projects and followed Six Sigma standards.
- Created .Net Framework customized classes, which were used later as the building blocks for the applications.
- Developed SOA(Service Oriented Architecture) Middleware web services to establish connectivity between front end (.NET application) and backend (OBPM (Oracle Business Process Management)) and CICS(Customer Information Control System).
- Built, enhanced, debugged, and maintained various .NET and J2EE web/desktop enterprise applications for business needs.

Verizon Corp.

Philadelphia, PA

June 2008 – November 2009

- Software Engineer / Programmer Analyst: Working with a development team using Java and Visual Studio 2005 (VB .net XML Functionality) for implementation and maintenance of Client/Server library to support backend operations.
- Implementing and modifying store procedures in MS SQL Server 2005 to support Client/Server library.
- Worked in production support team supporting Verizon Service Ordering systems. Performed maintenance on Billing Database and supported Service Order and Billing processing.
- Assisted in writing complex SQL and creating REXX programs to update DB2 database. Assisted in testing and the execution of these jobs. Used programs and spufl's to perform database maintenance to correct and prevent billing and system errors.



Skills Matrix – Implementation & Education

Please help us to ensure that IHTSDO Committees consist of a balanced and diverse set of expertise and experience. We would appreciate if you could complete the form below, marking each box for which you have relevant skills or experience.

Thank you for helping to ensure a strong advisory structure for IHTSDO and its Members.

Nominee

Name	Sukhbir Singh
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Skills Matrix

IHTSDO seeks individuals with a mix of skills to serve on Standing Committees. Please mark the attribute(s) in which you have experience and expertise at an organizational, national and/or international level.



Attributes	Check all that apply
SNOMED CT Concept Design, Content Development, and/or Research on SNOMED CT Design and Implementation Issues	YES
Systems Architecture and Integration	YES
Software Design, Development and Implementation	YES
Implementation and use of SNOMED CT and/or other terminologies in Health Information Systems, including clinical or health services research systems	YES
Implementation of clinical messaging or document standards	YES
Research and Development of Biomedical Ontologies and Health Terminologies other than SNOMED CT	YES (Mesh RDF)
Research/Experience in Semantic Interoperability and Semantic Data Mining	YES
Research Management and Funding	YES
SNOMED CT, Biomedical Ontologies, and/or Health terminologies Education /teaching	
Education Management and Certification/Accreditation	
Public Relations	YES
Ability to influence implementation by key stakeholders	YES

Candidate Name: **Amy Wang**

Affiliation: **Intelligent Medical Objects**

Statement of Interest in Support of Nomination of Amy Wang for IHTSDO Implementation and Education Committee

Submitted by Amy Wang, Clinical Implementation Lead, Intelligent medical Objects

August 3, 2014

As I near the end of a rewarding two years as a member of the IHTSDO Content Committee, I find myself drawn to the Implementation and Education Committee. I have much to contribute to the IHTSDO Implementation and Education Committee. Through my work at College of American Pathologists (CAP) and Intelligent Medical Objects (IMO), I have experience with design, development, production, and implementation involving SNOMED CT and other terminologies. I also collaborate with EHR vendors and support health care organizations to implement clinical terminologies.

Over the past year, my responsibilities at IMO have shifted from primarily terminology production to implementation. I support health care organizations that are implementing terminologies to meet Meaningful Use (MU) requirements. I communicate regularly with EHR customers and EHR vendor staff to answer questions and resolve issues with terminology implementation. This work has been challenging, given that MU and the necessary terminologies are complex and unfamiliar, especially for those with minimal experience with clinical terminologies. Each EHR system implements terminology differently, and these systems are often designed for legacy codesets, not clinical terminologies.

As many of their MU issues had common themes, it became clear that there was a great need for more educational materials. To meet this need, I spent the past few months designing and recording a series of recorded seminars for health organizations on reconciling their own legacy terms to MU-required codesets. Developing these videos involved collaboration with EHR vendors, tool developers, customers, and implementers and required prioritization of content, development and review of scripts, preparation of demo data, and actual recording of sessions. Through my experiences developing this series of webinars, I have gained practical experience and a deep appreciation for the issues and challenges of developing complex educational materials for individuals with different levels of expertise with clinical terminologies.

I am committed to the advancement of clinical terminology standards and would like to continue my involvement with the SNOMED CT community. There are significant challenges in implementing clinical terminologies which can prevent information from being captured, stored, exchanged, and analyzed correctly. The Implementation and Education Committee plays a major role in addressing these issues and promoting best practices. Given my combination of experience with terminology design, development, implementation, and education, I have much to contribute to the Committee. As a Committee member, I would be able to draw upon my relevant experiences and further my interest in terminology implementation and education. |

AMY Y. WANG, MD

PROFESSIONAL EXPERIENCE

- Clinical Integration Lead, Intelligent Medical Objects, Northbrook, Illinois** 2013 to 2014
- Implement clinical terminologies in health information systems
- Lead Clinical Terminologist, Intelligent Medical Objects, Northbrook, Illinois** 2004 to 2013
- Develop clinical and consumer terminologies and content for use in health information systems.
- Adjunct Professor, Department of Biomedical and Health Information Sciences, College of Applied Health Sciences, University of Illinois at Chicago, Chicago, IL** 2012 to 2013
- Teach Consumer Health Informatics course in Master of Science in Health Informatics program
- Clinical Consultant, Volunteers in Medicine – Clinic of the Cascades, Bend, Oregon** 2003
- Advised on scheduling, building layout, organizational structure, personnel, training, and technical issues for successful EHR implementation at volunteer community health center in rural Oregon.
- Clinical Content Developer, Greenway Medical Technologies, Carrollton, Georgia** 2002 to 2003
- Developed clinical terminologies and content, supported implementation, training, and support for ambulatory care EHR
- SNOMED Clinical Editor, College of American Pathologists, Northfield, Illinois** 2000 to 2002
- Collaborated with multidisciplinary, international design teams to merge two comprehensive medical terminologies, SNOMED RT and CTV3, into a unified work, SNOMED CT. Presented talks and articles about SNOMED CT development
- Locum Tenens Family Physician** 1999 to 2000
- Family medicine practice in acute, ambulatory, urban, and rural settings

EDUCATION AND POSTGRADUATE TRAINING

- Graduate Certificate in Medical Informatics, Oregon Health and Science University, Portland, OR 2004
- Family Medicine Residency, University of Illinois at Chicago-St. Francis Hospital, Evanston, IL 1996 to 1999
- Doctor of Medicine, Northwestern University Medical School, Chicago, IL 1996
- Bachelor of Arts with Honor in Biology, Washington University, St. Louis, MO 1991

SELECTED PUBLICATIONS AND PRESENTATIONS

1. Kanter, AS, Fraser HSF, Payne, J, Wang AY. Development of a Common Maternal Health Concept Dictionary: Integration of Mobile Maternal Health Platforms using the Maternal Concept Lab. Presented at AMIA PHI 2011.
2. Charlot R, Cole CL, Cheriff A, Kanter AS, Masarie FE, Wang AY, Oganessova A and Naeymi-Rad F. Finding Specialists Using Interface Terminology and Concept-based Hierarchical Reference Terminology. Presented at VIVO National Conference, 2010.
3. Wang AY. Enhancing Clinical and Meaningful Use through Terminology. Presented at Eclipsys User Network Outcomes Conference, 2009.
4. Kanter AS, Wang AY, Masarie FE, Naeymi-Rad F, Safran C. Interface Terminologies: Bridging the Gap between Theory and Reality for Africa. *Stud Health Technol Inform*. 2008;136:27-32 and presented at HELINA 2007, Bamako, Mali.
5. Naeymi-Rad F, Wang AY, Cheriff A, Cole CL, Alban CJ, Haines D, Scichilone R, and Kanter AS. Improving Clinical and Business Processes: Capitalizing on the Investment in Controlled Medical Terminology. AMIA Annual Symposium proceedings 2007:1183-5.
6. Becker J, Gill R, Moy S, Seshadri V, Tran D, Wang A, Yang G. Managing Change. In: Lorenzi NM, Ash JS, Embinder L, Embinder J, McPhee W (Eds.), *Transforming Health Care Through Information*. 2nd ed. New York: Springer-Verlag. 2005. p. 43-8.
7. Wang AY, Sable JH, Spackman KA. The SNOMED Clinical Terms Development Process: Refinement and Analysis of Content. *Journal of the American Medical Informatics Association, Symposium Supplement*, p.845-849, 2002. Presented at 2002 AMIA Symposium.
8. Wang AY, Spackman KA. The Grouping of Roles in SNOMED Clinical Terms. *Journal of the American Medical Informatics Association, Symposium Supplement*, p.1192, 2002. Presented at 2002 AMIA Symposium.
9. Wang AY, Barrett JW, Bentley T, Markwell D, Price C, Spackman KA, Stearns MQ. Mapping Between SNOMED RT and Clinical Terms Version 3: A Key Component of the SNOMED CT Development Process. *Journal of the American Medical Informatics Association, Symposium Supplement*, p.741-745, 2001. Presented at 2001 AMIA Symposium.
10. Stearns MQ, Price C, Spackman KA, Wang AY. SNOMED Clinical Terms: Overview of the Development Process and Project Status. *Journal of the American Medical Informatics Association, Symposium Supplement*, p.662-666, 2001.
11. Sable JH, Nash S, Wang AY. Culling a Clinical Terminology: A Systematic Approach to Identifying Problematic Content. *Journal of the American Medical Informatics Association, Symposium Supplement*, p.578-82, 2001.



Skills Matrix – Implementation & Education

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Thank you for helping to ensure a strong advisory structure for IHTSDO and its Members.

Nominee

Name	Amy Wang
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Skills Matrix

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Attributes	Check all that apply
SNOMED CT Concept Design, Content Development, and/or Research on SNOMED CT Design and Implementation Issues	✓
Systems Architecture and Integration	✓
Software Design, Development and Implementation	✓
Implementation and use of SNOMED CT and/or other terminologies in Health Information Systems, including clinical or health services research systems	✓
Implementation of clinical messaging or document standards	
Research and Development of Biomedical Ontologies and Health Terminologies other than SNOMED CT	✓
Research/Experience in Semantic Interoperability and Semantic Data Mining	✓
Research Management and Funding	
SNOMED CT, Biomedical Ontologies, and/or Health terminologies Education /teaching	✓
Education Management and Certification/Accreditation	
Public Relations	✓
Ability to influence implementation by key stakeholders	✓