

David S. Carrell, Augmented CV

A. BIOGRAPHICAL INFORMATION

DAVID S. CARRELL

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B. EDUCATION

1979 Northwest Nazarene College, Nampa, ID, B.A. Philosophy and Religion
1983 State University of New York, Binghamton, NY, M.S. Political Science
1990 University of Washington, Seattle, WA, Ph.D. Political Science

C. LICENSURE (if applicable)

NA

D. PROFESSIONAL POSITIONS

Fellowships

1990-1992 Pew Health Policy Fellow, Institute for Health Policy Studies, University of California, San Francisco
1990-1992 National Institute on Aging Fellow, Institute for Health and Aging, University of California, San Francisco

Faculty Appointments

1993-1996 Research Assistant, Professor, School of Nursing, University of Washington, Seattle, WA
2000-2004 Research Scientist, Virology Research Clinic, University of Washington, Seattle, WA
2017-present Assistant Investigator, Kaiser Permanente Washington Health Research Institute (formerly Group Health Research Institute), Seattle, WA

Private Business

1997-2000 President and owner, **Carrell DB** Inc., Seattle, WA (private contractor)

E. HONORS, AWARDS, SCHOLARSHIPS

1983-1987 J. Allen Smith Graduate Student Scholarship, Department of Political Science, University of Washington, Seattle, WA

F. OTHER PROFESSIONAL ACTIVITIES

Professional Organizations

2005-2016 American Medical Informatics Association (member)

Grant Review

- 2015-2017 Veteran's Administration, Health Services Research and Development (HSR&D), Healthcare Informatics Review Panel (just completed 3-year term)
- 2019 Medical Research Council (United Kingdom)

Ad Hoc Grant Review

- 2011 National Heart, Lung and Blood Institute (NHLBI), Data Discovery Among NHLBI Genomic Studies (UG2/UG3)
- 2012 National Institute of Environmental Health Sciences Review Panel
- 2012-2015 Veteran's Administration, Health Services Research and Development (HSR&D), Healthcare Informatics Review Panel (ad hoc member)
- 2013 Cancer Research Network, Pilot Fund Proposals
- 2014 Patient Centered Outcomes Research Institute Review Panel

Ad Hoc Manuscript Review

- 2012-Present Journal of the American Medical Informatics Association
- 2013-Present Journal of Biomedical Informatics
- 2017-Present International Journal of Medical Informatics
- 2014 American Journal of Epidemiology
- 2015 Methods of Information in Medicine
- 2017 Medical Informatics and Decision Making
- 2017 Journal of Medical Internet Research

Other Professional Responsibilities and Service Activities

- 2008 Conference organizer, "Developing Clinical Natural Language Processing (NLP) Capacity in Applied Research Settings," Group Health Research Institute, Seattle, WA, December 17-18, 2008 (attended by representatives from nine HCSRN institutions)
- 2011 Conference organizer, "Security Roundtable for Cloud-Deployed Clinical Natural Language Processing," sponsored by the Office of the National Coordinator for Health Information Technology, Seattle, WA, May 23-24, 2011 (attended by representatives from 14 institutions nationwide, including researchers and private sector business partners)
- 2012-2015 Member, KP Washington, Information Technology Strategy Council
- 2014-2015 Member, Epic® Research Data Network, Scientific and Clinical Usefulness Workgroup
- 2015-2017 Member, KPWHRI Data & Informatics Strategy Committee
- 2016-present Member, Women in AMIA Taskforce, American Medical Informatics Association
- 2017-2018 Member, KPWHRI biostatistician search committee

G. BIBLIOGRAPHY

Peer-Reviewed Research Publications in Journals

1. **Carrell DS**. Whither the Revolution? *The Tocqueville Review*. 1987;8:39-92.
2. Bowen DJ, Urban N, **Carrell DS**, Kinne S. Comparisons of strategies to prevent breast cancer mortality. *J Soc Issues*. 1993 Summer;49(2):35-60. PMID: 17165234.
3. Bowen DJ, Kestin M, McTiernan A, **Carrell DS**, Green P. Effects of dietary fat intervention on mental health in women. *Cancer Epidemiol Biomarkers Prev*. 1995 Jul-Aug;4(5):555-9. PMID: 7549814.
4. Wilkerson JD, **Carrell DS**. Money, politics, and medicine: the American Medical PAC's strategy of giving in U.S. house races. *J Health Polit Policy Law*. 1999 Apr;24(2):335-55. PMID: 10321360.
5. Wald A, **Carrell DS**, Remington M, Kexel E, Zeh J, Corey L. Two-day regimen of acyclovir for treatment of recurrent genital herpes simplex virus type 2 infection. *Clin Infect Dis*. 2002 Apr;34(7):944-8. PMID: 11880960.
6. Engelberg R, **Carrell DS**, Krantz E, Corey L, Wald A. Natural history of genital herpes simplex virus type 1 infection. *Sex Transm Dis*. 2003 Feb;30(2):174-7. PMID: 12567178.
7. Wald A, Huang ML, **Carrell DS**, Selke S, Corey L. Polymerase chain reaction for detection of herpes simplex virus (HSV) DNA on mucosal surfaces: comparison with HSV isolation in cell culture. *J Infect Dis*. 2003 Nov;188(9):1345-51. PMID: 14593592.
8. Meyer JL, Crosby RA, Whittington WL, **Carrell DS**, Ashley-Morrow R, Meier AS, Harrington RD, DiClemente R, Wald A. The psychosocial impact of serological herpes simplex type 2 testing in an urban HIV clinic. *Sex Transm Infect*. 2005 Aug;81(4):309-15. PMC1745021.
9. Bonomi AE, Thompson RS, Anderson M, Rivara FP, Holt VL, **Carrell DS**, Martin DP. Ascertainment of intimate partner violence using two abuse measurement frameworks. *Inj Prev*. 2006 Apr;12(2):121-4. PMC2564437.
10. Bonomi AE, Thompson RS, Anderson M, Reid RJ, **Carrell DS**, Dimer JA, Rivara FP. Intimate partner violence and women's physical, mental, and social functioning. *Am J Prev Med*. 2006 Jun;30(6):458-66.
11. Rivara FP, Anderson ML, Fishman P, Bonomi AE, Reid RJ, **Carrell DS**, Thompson RS. Intimate partner violence and health care costs and utilization for children living in the home. *Pediatrics*. 2007 Dec;120(6):1270-7.
12. Bonomi AE, Anderson ML, Rivara FP, Cannon EA, Fishman PA, **Carrell DS**, Reid RJ, Thompson RS. Health care utilization and costs associated with childhood abuse. *J Gen Intern Med*. 2008 Mar;23(3):294-9. PMC2359481.
13. Ralston JD, Rutter CM, **Carrell DS**, Hecht J, Rubanowice D, Simon GE. Patient use of secure electronic messaging within a shared medical record: a cross-sectional study. *J Gen Intern Med*. 2009 Mar;24(3):349-55. PMC2642567.
14. Green BB, Ralston JD, Fishman PA, Catz SL, Cook A, Carlson J, Tyll L, **Carrell DS**, Thompson RS. Electronic communications and home blood pressure monitoring (e-BP) study: design, delivery, and evaluation framework. *Contemp Clin Trials*. 2008 May;29(3):376-95. PMC2645352.
15. Green BB, Cook AJ, Ralston JD, Fishman PA, Catz SL, Carlson J, **Carrell DS**, Tyll L, Larson EB, Thompson RS. Effectiveness of home blood pressure monitoring, Web communication, and pharmacist care on hypertension control: a randomized controlled trial. *JAMA*. 2008 Jun;299(24):2857-67. PMC2715866.
16. Reid RJ, Bonomi AE, Rivara FP, Anderson ML, Fishman PA, **Carrell DS**, Thompson RS. Intimate partner violence among men prevalence, chronicity, and health effects. *Am J Prev Med*. 2008 Jun;34(6):478-85.
17. Grembowski D, Anderson ML, Conrad DA, Fishman PA, Larson EB, Martin DP, Ralston JD, **Carrell DS**, Hecht J. Evaluation of the Group Health Cooperative access initiative: study

- design challenges in estimating the impact of a large-scale organizational transformation. *Qual Manag Health Care*. 2008 Oct-Dec;17(4):292-303.
18. Bonomi AE, Anderson ML, Reid RJ, Rivara FP, **Carrell DS**, Thompson RS. Medical and psychosocial diagnoses in women with a history of intimate partner violence. *Arch Intern Med*. 2009 Oct;169:1692-7.
 19. Rivara FP, Anderson ML, Fishman P, Reid RJ, Bonomi AE, **Carrell DS**, Thompson RS. Age, period, and cohort effects on intimate partner violence. *Violence Vict*. 2009;24(5):627-38.
 20. Green BB, Wang CY, Horner K, Catz S, Meenan RT, Vernon SW, **Carrell DS**, Chubak J, Ko C, Laing S, Bogart A. Systems of support to increase colorectal cancer screening and follow-up rates (SOS): design, challenges, and baseline characteristics of trial participants. *Contemp Clin Trials*. 2010 Nov;31(6):589-603. PMC2956868.
 21. Schildcrout JS, Basford MA, Pulley JM, Masys DR, Roden DM, Wang D, Chute CG, Kullo IJ, **Carrell DS**, Peissig P, Kho A, Denny JC. An analytical approach to characterize morbidity profile dissimilarity between distinct cohorts using electronic medical records. *J Biomed Inform*. 2010 Dec;43(6):914-23. PMC2991387.
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 23. Floyd JS, Heckbert SR, Weiss NS, **Carrell DS**, Psaty BM. Use of administrative data to estimate the incidence of statin-related rhabdomyolysis. *JAMA*. 2012 Apr;307(15):1580-2. PMC3483067.
 24. Peissig PL, Rasmussen LV, Berg RL, Linneman JG, McCarty CA, Waudby C, Chen L, Denny JC, Wilke RA, Pathak J, **Carrell DS**, Kho AN, Starren JB. Importance of multi-modal approaches to effectively identify cataract cases from electronic health records. *J Am Med Inform Assoc*. 2012 Mar-Apr;19(2):225-34. PMC3277618.
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35. Rasmussen LV, Thompson WK, Pacheco JA, Kho AN, **Carrell DS**, Pathak J, Peissig PL, Tromp G, Denny JC, Starren JB. Design patterns for the development of electronic health record-driven phenotype extraction algorithms. *J Biomed Inform*. 2014 Oct;51:280-6. PMC4194216.
36. Rasmussen-Torvik LJ, Stallings SC, Gordon AS, Almoguera B, Basford MA, Bielinski SJ, Brautbar A, Brilliant MH, **Carrell DS**, Connolly JJ, Crosslin DR, Doheny KF, Gallego CJ, Gottesman O, Kim DS, Leppig KA, Li R, Lin S, Manzi S, Mejia AR, Pacheco JA, Pan V, Pathak J, Perry CL, Peterson JF, Prows CA, Ralston J, Rasmussen LV, Ritchie MD, Sadhasivam S, Scott SA, Smith M, Vega A, Vinks AA, Volpi S, Wolf WA, Bottinger E, Chisholm RL, Chute CG, Haines JL, Harley JB, Keating B, Holm IA, Kullo IJ, Jarvik GP, Larson EB, Manolio T, McCarty CA, Nickerson DA, Scherer SE, Williams MS, Roden DM, Denny JC. Design and anticipated outcomes of the eMERGE-PGx project: a multicenter pilot for preemptive pharmacogenomics in electronic health record systems. *Clin Pharmacol Ther*. 2014 Oct;96(4):482-9. PMC4169732.
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- Electronic medical records and genomics (eMERGE) network exploration in cataract: several new potential susceptibility loci. *Mol Vis*. 2014 Sep;20:1281-95. PMID: 25352737.
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 42. Crosslin DR, **Carrell DS**, Burt A, Kim DS, Underwood JG, Hanna DS, Comstock BA, Baldwin E, deAndrade M, Kullo IJ, Tromp G, Kuivaniemi H, Borthwick KM, McCarty CA, Peissig PL, Doheny KF, Pugh E, Kho A, Pacheco J, Hayes MG, Ritchie MD, Verma SS, Armstrong G, Stallings S, Denny JC, Carroll RJ, Crawford DC, Crane PK, Mukherjee S, Bottinger E, Li R, Keating B, Mirel DB, Carlson CS, Harley JB, Larson EB, Jarvik GP. Genetic variation in the HLA region is associated with susceptibility to herpes zoster. *Genes Immun*. 2015 Jan-Feb;16(1):1-7. PMC4308645.
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 44. Gao H, Bowles EJA, **Carrell DS**, Buist DS. Using natural language processing to extract mammographic findings. *J Biomed Inform*. 2015 Apr;54:77-84. PMC4408241.
 45. Wieneke AE, Bowles EJA, Cronkite D, Wernli KJ, Gao H, **Carrell DS**, Buist DSM. Validation of natural language processing to extract breast cancer pathology procedures and results. *J Pathol Inform*. 2015 Jun 23;6:38. PMC4485196.
 46. Palmer RE, **Carrell DS**, Cronkite D, Saunders K, Gross DE, Masters E, Donevan S, Hylan TR, Von Korff M. The prevalence of problem opioid use in patients receiving chronic opioid therapy: computer-assisted review of electronic health record clinical notes. *Pain*. 2015 Jul;156(7):1208-14. PMID: 25760471.
 47. Abdul-Baki H, Schoen RE, Dean K, Rose S, Leffler DA, Kuganeswaran E, **Carrell DS**, Mehrotra, A. Public reporting of colonoscopy quality is associated with an increase in endoscopist adenoma detection rate. *Gastrointest Endosc*. 2015 Oct;82(4):676-82. PMID: 26385276.
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56. Van Driest SL, Wells QS, Stallings S, Bush WS, Gordon A, Nickerson DA, Kim JH, Crosslin DR, Jarvik GP, **Carrell DS**, Ralston JD, Larson EB, Bielinski SJ, Olson JE, Ye Z, Kullo IJ, Abul-Husn NS, Scott SA, Bottinger E, Almoguera B, Connolly J, Chiavacci R, Hakonarson H, Rasmussen-Torvik LJ, Pan V, Persell SD, Smith M, Chisholm RL, Kitchner TE, He MM, Brilliant MH, Wallace JR, Doheny KF, Shoemaker MB, Li R, Manolio TA, Callis TE, Macaya D, Williams MS, Carey D, Kapplinger JD, Ackerman MJ, Ritchie MD, Denny JC, Roden DM. Association of arrhythmia-related genetic variants with phenotypes documented in electronic medical records. *JAMA*. 2016 Jan;315(1):47-57. PMID: 26746457.
57. Simonti CN, Vernot B, Bastarache L, Bottinger E, **Carrell DS**, Chisholm RL, Crosslin DR, Hebring SJ, Jarvik GP, Kullo IJ, Li R, Pathak J, Ritchie MD, Roden DM, Verma SS, Tromp G, Prato JD, Bush WS, Akey JM, Denny JC, Capra JA. The phenotypic legacy of admixture between modern humans and Neandertals. *Science*. 2016 Feb;351(6274):737-41. PMID: 26912863.
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Submitted manuscripts:

1. Joo YY, Lin FT, Pacheco JA, Thompson WK, Rasmussen-Torvik LJ, Gawron AJ, Rasmussen LV, Peissig PL, Veerappan A, Tromp GC, Borthwick KM, Denny JC, **Carrell DS**, de Andrade M, Pathak J, Bottinger E, Ellis SB, Gottesman O, Smith M, Chisholm RL,

- Hayes MG, Kho AN. A genome-wide and phenome-wide association study of diverticular disease using electronic health records. *Gut*. (Under review).
2. Sullivan M, Boudreau D, Ichikawa L, Cronkite D, Albertson-Junkans L, Salgado G, VonKorff M, **Carrell DS**. Association of primary care opioid taper plans with sustained taper. *JAMA Intern Med*. (Under Review).
 3. Rasmussen-Torvik L, Baldridge AS, Chung I, Pacheco JA, Benoit BJ, Borthwick KM, **Carrell DS**, Carrol RJ, Cronkite DJ, de Andrade M, Denny JC, Gawron AJ, Hayes MG, Hripcsak G, Jarvik GP, Kho AN, Li R, Lin FTJ, LV; Shang N, Sohn S, Thompson WK, Veerappan A, Williams MS, Smith ME, Chisholm RL. GWAS of colon polyps from colonoscopy electronic health record data. *Int J Colorectal Dis*. (Under review).
 4. **Carrell DS**, Cronkite DJ, Li R, Aberdeen J, Malin BA, Hirschman L. The machine giveth and the machine taketh away: A parrot attack on clinical text de-identified with hiding in plain sight. *J Am Med Inform Assoc*. (Accepted). May 2019.
 5. Penfold RB, **Carrell D**, Cronkite D, Pabiniak C, Dodd TS, Glass A, Johnson E, Thompson E, Arrighi HM, Stang PE. Development of a natural language processing algorithm to predict mild cognitive impairment. *J Am Med Inform Assoc*. (Under review).
 6. Gordon AS, Rosenthal ER, **Carrell DS**, Amendola LM, Dorschner MO, Scrol A, Stanaway IB, Ralston JD, Zouk H, Rehm HL, Larson E, Crosslin D, Leppig KA, Jarvik GP. Rates of actionable genetic findings in individuals with colorectal cancer or polyps ascertained from a community medical setting. *Am J Hum Genet*. (Under Review).
 7. Green CA, Perrin NA, Hazlehurst B, Janoff SL, DeVeugh-Geiss A, **Carrell DS**, Grijalva CG, Liang C, Enger CL, Coplan PM. Identifying and classifying opioid-related overdoses: a validation study. *Pharmacoepidemiol Drug Saf*. (Under review).
 8. Hripcsak G, Shang N, Peissig PL, Rasmussen LV, Liu C, Benoit B, Carroll RJ, **Carrell DS**, Denny JC; Dikilitas O, Gainer VS, Howell KM, Klann JG, Lingren T, Mentch FD, Murphy SN, Natarajan K, Pacheco JA, Wei W, Wiley K, Weng C. Facilitating phenotype transfer using a common data model. *J Biomed Inform*. (Under Review).
 9. Shang N, Liu C, Rasmussen LV, Ta CN, Carroll RJ, Benoit B, Lingren T, Dikilitas O, Mentch FD, **Carrell DS**, We W, Luo Y; Gainer VS, Kullo IJ, Pacheco JA, Hakonarson H, Walunas TL, Denny JC, Wiley K, Murphy SN, Hripcsak G, Weng C. Making work visible for electronic phenotype implementation: lessons learned from the eMERGE network. (Under Review).

Planned manuscripts (submission dates unknown):

1. **Carrell DS**, Cronkite DJ, Bradley KB, Shea M, Oliver M, Lee A, Lapham G. Extracting clinical documentation of medical cannabis use from primary care encounter notes. JAMIA (to be submitted Spring 2019).
2. **Carrell DS**, Cronkite DJ, Johnson R, Penfold R. Prevalence of side effects associated with new anti-depressant medication treatment and feasibility of scalable extraction of patient-reported side effects from unstructured clinical encounter notes using natural language processing (to be submitted Spring 2019).
3. Gordon AS, Rosenthal ER, **Carrell DS**, Amendola LA, Dorschner MO, Scrol A, Ralston J, Zouk H, Rehm H, Larson E, Crosslin D, Leppig K, Jarvik GP. Colorectal cancer ascertainment-based rates of actionable genetic findings in a community medical setting.
4. Overby Taylor C, Lemke KW, Richards T, Roe KD, He T, Arruda-Olson A, **Carrell DS**, Denny JC, Hripcsak G, Kiryluk K, Kullo I, Larson EB, Peissig P, Walton NA, Wei W, Ye Z, Chute CG, Weiner JP. Comorbidity characterization among eMERGE institutions: a pilot evaluation of the Johns Hopkins ACG system (to be submitted Winter 2019)
5. Palmer MR, Kim DS, Crosslin DR, Stanaway IB, Rosenthal EA, **Carrell DS**, Cronkite DJ, Gordon A, Du X, Li YK, Williams MS, Brilliant M, Weng C, Feng Q, Li R, Pendergrass S, Hakonarson H, Fasel D, Ye Z, Sleiman P, Handelman S, Speliotes E, Kullo I, Larson E,

Jarvik GP. A Loci identified by a genome-wide association study of carotid artery stenosis in eMERGE (to be submitted January 2019).

Peer-Reviewed Full-Length Research Papers in Conference Proceedings

1. **Carrell DS.** A strategy for deploying secure cloud-based natural language processing systems for applied research involving clinical text. Proceedings of the 44th Hawaii International Conference on System Sciences (HICSS). 2011 Jan 4-7: Kauai, HI. 1-11 p.

Other Non-Peer-Reviewed Scholarly Publications

1. **Carrell DS,** Ralston J. Messages, strands and threads: measuring use of electronic patient-provider messaging. *AMIA Annu Symp Proc.* 2005:913. PMC1560601.
2. **Carrell DS,** Ralston JD. Variation in adoption rates of a patient web portal with a shared medical record by age, gender, and morbidity level. *AMIA Annu Symp Proc.* 2006:871. PMC1839457.
3. Ralston JD, Hereford J, **Carrell DS.** Use and satisfaction of a patient Web portal with a shared medical record between patients and providers. *AMIA Annu Symp Proc.* 2006:1070. PMC1839721.
4. **Carrell DS,** Miglioretti D, Smith-Bindman R. Coding free text radiology reports using the Cancer Text Information Extraction System (caTIES). *AMIA Annu Symp Proc.* 2007 Oct 11:889.
5. Ralston JD, **Carrell DS,** Reid R, Anderson M, Moran M, Hereford J. Patient web services integrated with a shared medical record: patient use and satisfaction. *J Am Med Inform Assoc.* 2007 Nov-Dec;14(6):798-806. PMC2213480.
6. **Carrell DS,** Baldwin D. A method for discovering variant spellings of terms of interest in clinical text. *Clin Med Res.* 2010 Dec;8(3-4):183.
7. Conway M, Berg RL, **Carrell DS,** Denny JC, Kho AN, Kullo IJ, Linneman JG, Pacheco JA, Peissig P, Rasmussen L, Weston N, Chute CG, Pathak J. Analyzing the heterogeneity and complexity of Electronic Health Record oriented phenotyping algorithms. *AMIA Annu Symp Proc.* 2011;2011:274-83. PMC3243189.
8. **Carrell DS,** Mardekian J, Cronkite DJ, Ramaprasan A, Hansen K, Gross DE, Palmer RE, Masters E, Von Korff M. A fully automated algorithm for identifying patients with problem prescription opioid use using electronic health record data. Proceedings of the 78th Annual Meeting of the College on Problems of Drug Dependence. 2016 Jun 11-16: Palm Springs, CA.
9. Liu Y, Wan Z, Xia W, Kantarcioglu M, Vorobeychik Y, Clayton EW, Kho A, **Carrell D,** Malin BA. Detecting the presence of an individual in phenotypic summary data. Paper accepted at: AMIA 2018 Annual Symposium. 2018 Nov 3-7: San Francisco, CA.

Books and book chapters

1. Chapter describing methods and results of a key informant survey of California state policy makers on public policy related to long term care of the elderly (in book edited by Carroll Estes, early 1990s; details to follow).

H. PATENTS AND OTHER INTELLECTUAL PROPERTY

None

I. FUNDING HISTORY

Table 1. Carrell Funding History as of September 2016.

Project Title (grant type)	PI	Funder	Direct Costs	Role	Dates	Effort
Funded External projects as PI or Site-PI						
Natural Language Processing for Cancer Research Network Surveillance Studies (ARRA Challenge Grant)	Carrell, David S	NCI	688,161	PI	9/30/09 - 8/31/12	
SHARP Area 4: Secondary Use of EHR Data (ONC grant)	Chute, Chris	ONC	373,665	Site-PI	4/1/10 - 12/18/13	
Patient Outcomes for High Tech Diagnostic Imaging Studies (PCORI)	Solberg, Leif	PCORI	44,530	Site-PI	7/1/12 - 6/30/15	
Scalable and Robust Clinical Text De-Identification Tools (R01)	Carrell, David S	NLM	703,238	PI	9/1/12 - 8/31/16	
Measuring and Improving Colonoscopy Quality Using NLP (R01)	Mehrotra, Ateeva	NCI	165,402	Site-PI	8/1/13 - 2/28/17	
NLP Algorithms to Capture Molecular Markers from Tumors (CRN pilot)	Kushi, Larry	NCI	40,441	Site-PI	9/1/13 - 10/31/14	
NLP for Identifying Clinical Risk Factors in Pulmonary Nodule Surveillance (CRN pilot)	Farjah, Farhood	NCI	45,619	Site-PI	9/1/13 - 10/31/14	
Identification of Opioid Abuse Using EHR Data and NLP Algorithms (industry contract)	Carrell, David S	Pfizer	156,166	PI	9/1/14 - 12/31/15	
Computable Algorithms for Identifying Opioid Abuse and Addiction, Part I (industry contract)	Carrell, David S	FDA	14,363	PI	4/1/15 - 5/31/15	
Computable Algorithms for Identifying Opioid Abuse and Addiction, Part II (industry contract)	Carrell, David S	FDA	1,282,991	PI	5/4/15 - 12/31/17	
Incidence and Predictors of Opioid Overdose and Death (industry contract)	Carrell, David S	FDA	531,131	PI	2/1/16 - 12/31/18	
Funded External projects as Key Personnel						
eMERGE Network - Genetic Discovery and Application	Larson, Eric B	NHGRI	2,912,449	Co-I	8/15/11 - 8/31/15	
Identifying Opioid Misuse and Abuse using EHR data and NLP	Von Korff, Mike	Pfizer	156,149	Co-I	5/1/13 - 6/30/14	
Precursors of First-Episode Psychosis in a Population-Based Sample	Simon, Greg	NIMH	2,056,240	Co-I	7/19/13 - 6/30/17	
U.S. Study of Uterine Fibroids: Case-Finding, Incidence, and Patterns of Care	Scholes, Delia	Bayer	197,132	Co-I	9/15/14 - 9/30/16	
eMERGE Network - Phase III	Larson, Eric B	NHGRI	2,725,348	Co-I	9/1/15 - 5/31/19	
Integrating Addiction Research in Health Systems	Campbell, Cynthia	NIDA	713,143	Co-I	9/1/15 - 5/31/20	
Endometriosis and Adenomyosis: Incidence, Case-finding, Patterns of Care	Scholes, Delia	Bayer	228,233	Co-I	3/21/16 - 6/30/17	
Family Network Approach to Assess Trickle-Down Effects of Genetic Testing	Larson, Eric B	NHGRI	100,000	Co-I	6/1/16 - 5/31/17	
Risk of Cognitive Dysfunction and Related Dementias Following General Anesthesia	Penfold, Robert	J&J	134,545	Co-I	7/1/16 - 10/31/17	
ER/LA Opioid PMR Consortium Data Analysis Coordinating Center	Nelson, Jennifer	FDA	1,258,108	Co-I	7/1/16 - 6/30/19	3.6
Funded Internal projects as PI or Co-I						
Programmer Support for NLP Software Deployment	Carrell, David S	GHRI	14,658	PI	8/16/09 - 12/31/09	
2010 Consolidation of Text Mining Resources and Tools	Carrell, David S	GHRI	81,416	PI	8/1/10 - 12/31/11	

J. CONFERENCES AND SYMPOSIUMS

- 2009 National Cancer Institute, “Cancer Surveillance Planning Workshop,” member of expert panel identifying future directions for cancer surveillance research. October 22-23, 2009.
- 2010 University of Washington, Computational Linguistics Seminar, "Applied Natural Language Processing for Clinical, Epidemiological and Health Systems Research." Seattle, WA, April 13, 2010.
- 2010 University of Pittsburgh Medical Center, “Cancer Text Information Extraction System (caTIES) User Meeting.” invited presentation, Pittsburgh, PA, January 26-28, 2010.

- 2011 Institute of Medicine and the Office of the National Coordinator for Health Information Technology sponsored workshop on "Electronic Infrastructure for the Learning Healthcare System," expert panel member addressing issues of information extraction from electronic medical record systems. Washington, DC, July 27-28, 2011.
- 2011 University of California San Diego, workshop sponsored by iDASH (Integrating Data for Analysis, Anonymization and Sharing) on "Overcoming barriers to secondary use of EHR data: Cloud deployed NLP," invited presentation. La Jolla, CA May 2-3, 2011.
- 2011 Johns Hopkins University, Institute for Computational Medicine, Cardiovascular Research Grid, invited Webinar presentation on "Automated Extraction of Cardiovascular Findings from Clinical Reports: The Promise, the Challenges, and Ideas for the Future," co-presenter (with Wendy W. Chapman). October 13, 2011.
- 2012 Stanford Center for Biomedical Informatics Research, Research Colloquium, "Resources and Tools to Support Collaborative Development and Application of Clinical Natural Language Processing Technologies." Stanford, CA, April 12, 2012.
- 2014 "High-throughput Clinical Phenotyping using Epic Data." Epic Spring Research Advisory Council. Verona, WI. March 2, 2014.
- 2017 Developing and Validating Disease-Specific Algorithms Using Electronic Health Data. Health Care Systems Research Network Annual Meeting, San Diego, CA March 21, 2017.
- 2017 "Is an Algorithm Just an Algorithm? How to Define Clinical Concepts for Use in Comparative Safety and Effectiveness Distributed Research Networks." American Medical Informatics Association (AMIA) Joint Summits. San Francisco, CA, March 28, 2017.
- 2018 Invited presentation to the U.S. Food and Drug Administration workshop. "Use of Natural Language Processing to Enhance Clinical Trials and Safety Surveillance of Medical Products" (co-hosted by the UCSF-Stanford Center of Excellence in Regulatory Science and Innovation, and San Francisco State University). Crown Hill, MD, June 15, 2017.
- 2018 Podium presentation: "Automatic Text De-Identification: How and When is it Acceptable?" American Medical Informatics Association (AMIA) Annual Symposium, San Francisco, CA, November 5, 2018.

K. PROFESSIONALLY-RELATED COMMUNITY SERVICE

Member, Women in AMIA Task Force (2016-present)

L. TEACHING HISTORY

Lecturer

1988-1989 Introduction to Statistics for Business Majors, University of Washington School of Business (lecturer for three consecutive quarters)

Guest Lectures

2014 Lecture on "Risks and Opportunities in Secondary Use of Electronic Health Record Data," Information School, Master's degree in cyber security students, University of Washington, Seattle, WA (details available upon request)

M. ADVISING AND FORMAL MENTORING

- 2012 Recruited and mentored University of Washington Computational Linguistics Master's degree candidate as part of an unpaid internship program
- 2015 Recruited and mentored University of Washington Computational Linguistics Master's degree candidate as part of an unpaid internship program
- 2017-present Mentoring Dr. Lu Chen, a post-doctoral fellow at KPWHRI regarding use of natural language processing methods she will learn and use in her career development (K) award.
- 2018 Mentored Claire Richards, PhD, candidate for KPWHRI Catalyst Fellow.