

BIOGRAPHICAL SKETCH

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NAME: GRAMLING, ROBERT

eRA COMMONS USER NAME (credential, e.g., agency login): robert_gramling

POSITION TITLE: Professor with Tenure

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
Colby College, Waterville, ME	B.A.	06/1992	Liberal Arts
Dartmouth Medical School, Hanover, NH	M.D.	06/1997	Medicine
Boston University School of Public Health, Boston, MA	D.Sc.	06/2008	Epidemiology

A. Personal Statement

I am a board certified (and practicing) palliative care physician and epidemiologist with research expertise related to the study of clinical conversations. I am the head of the Vermont Conversation Lab (www.vermontconversationlab.com) of multi-disciplinary scientists dedicated to understanding and promoting high quality communication in serious illness. I have received extramural research funding from the American Cancer Society, the National Institutes of Health, the National Palliative Care Research Center, and the Greenwall Foundation for Bioethics Research. I have extensive experience with structured mentoring, including doctoral thesis advising and primary mentorship on junior faculty career development awards. Below are five recent manuscripts led by formal advisees/mentees. In 2015, I was a Visiting Fellow in the Department of Theoretical and Applied Linguistics at the University of Cambridge (UK) to study machine learning methods for scalable analysis of clinical conversations.

1. Javed A, Rizzo DM, Suk Lee B, Gramling R. SOMETIMES: Self Organizing Maps for Time Series Clustering and its Application to Serious Illness Conversations. 2021. (preprint at <https://arxiv.org/>)
2. Clarfeld LA, Gramling R, Rizzo DM, Eppstein MJ. A general [Markov] model of conversational dynamics and an example application in serious illness communication. *PLoS One*. 2021;16(7):e0253124. PMID: 34197490.
3. Tarbi EC, Gramling R, Bradway C, Meghani SH. "If it's the time, it's the time": Existential communication in naturally-occurring palliative care conversations with individuals with advanced cancer, their families, and clinicians. *Patient, Education & Counseling*. 2021 May 10; PMID: 33992483.
4. Cheung KL, Tamura MK, Stapleton RD, Rabinowitz T, LaMantia MA, Gramling R. Feasibility and Acceptability of Telemedicine-Facilitated Palliative Care Consultations in Rural Dialysis Units. *J Palliat Med*. 2021 Jan 19; PMID: 33470899.
5. Ross L, Danforth CM, Eppstein MJ, Clarfeld LA, Durieux BN, Gramling CJ, Hirsch L, Rizzo DM, Gramling R. Story Arcs in Serious Illness: Natural Language Processing features of Palliative Care Conversations. *Patient, Education & Counseling*. 2020 Apr;103(4):826-832. PMID: 31831305.

B. Positions & Scientific Appointments

2019 - Professor with Tenure, University of Vermont, Burlington, VT
 2018 - 2019 Associate Professor with Tenure, University of Vermont
 2016 - Head of Palliative Medicine, University of Vermont Health Network
 2016 - Holly & Bob Miller Chair in Palliative Medicine, University of Vermont
 2016 - 2018 Associate Professor, University of Vermont
 2010 - 2016 Associate Professor, University of Rochester, Rochester, NY
 2008 - 2010 Assistant Professor, University of Rochester

2002 - 2008 Assistant Professor, Brown University, Providence, RI
2000 - 2002 Research Fellow, Boston University, Boston, MA
1997 - 2000 Resident, Maine-Dartmouth Family Practice Residency, Augusta, ME

C. Contribution to Science

I organize the publications below from more than 100 manuscripts, books and book chapters in order to highlight domains of contribution. A list of peer-reviewed manuscripts are available at the National Library of Medicine: <https://www.ncbi.nlm.nih.gov/myncbi/robert.gramling.1/bibliography/public/>

1. Conversation Epidemiology: Improving healthcare communication requires valid, meaningful and scalable measurement of complex conversations in the natural clinical setting. Advances in natural language processing and machine-learning methods offer extraordinary opportunities to do so. Our interdisciplinary team of computer scientists, engineers, linguists, epidemiologists and healthcare communication experts at the UVM Vermont Conversation Lab (www.vermontconvsationlab.com) is at the forefront of conversation feature measurement and analytics for large sample healthcare settings.
 - a. Clarfeld LA, Gramling R, Rizzo DM, Eppstein MJ. A general [Markov] model of conversational dynamics and an example application in serious illness communication. *PLoS One*. 2021;16(7):e0253124. PMID: 34197490.
 - b. Javed A, Rizzo DM, Suk Lee B, Gramling R. SOMTIMES: Self Organizing Maps for Time Series Clustering and its Application to Serious Illness Conversations. 2021. (preprint at <https://arxiv.org/>)
 - c. Gramling R, Javed A, Durieux BN, Clarfeld LA, Matt JE, Rizzo DM, Wong A, Braddish T, Gramling CJ, Wills J, Arnoldy FL, Straton J, Cheney N, Eppstein MJ, Gramling D. Conversational Stories & Self Organizing Maps: Innovations for the Scalable Study of Uncertainty in Healthcare Communication. *Patient, Education & Counseling*. 2021. July 29 (online ahead of print)
 - d. Ross L, Danforth CM, Eppstein MJ, Clarfeld LA, Durieux BN, Gramling CJ, Hirsch L, Rizzo DM, Gramling R. Story Arcs in Serious Illness: Natural Language Processing features of Palliative Care Conversations. *Patient, Education & Counseling*. 2020 Apr;103(4):826-832. PMID: 31831305.
 - e. Durieux BN, Gramling CJ, Manukyan V, Eppstein MJ, Rizzo DM, Ross LM, Ryan AG, Niland MA, Clarfeld LA, Alexander SC, Gramling R. Identifying *Connectional Silence* in Palliative Care Consultations: A Tandem Machine-Learning and Human Coding Method. *J Palliat Med*. 2018 Dec;21(12):1755-1760. PMID: 30328760.
 - f. Manukyan V, Durieux BN, Gramling CJ, Clarfeld LA, Rizzo DM, Eppstein MJ, Gramling R. Automated Detection of Conversational Pauses from Audio Recordings of Serious Illness Conversations in Natural Hospital Settings. *Journal of Palliative Medicine*. 2018. Dec;21(12):1724-1728.
2. Prognostication in serious illness: Palliative care consultation results in better patient outcomes and high-quality prognostication is one hypothesized reason for these effects. Our work contributes substantively to the growing empirical understanding of prognosis estimation & communication in serious illness.
 - a. Tarbi E, Gramling R, Bradway C, Broden EG, Meghani S. "I Had a Lot More Planned": A Mixed Methods Inquiry into the Existential Dimensions of Prognosis Communication with Adults with Advanced Cancer. *Journal of Palliative Medicine*. 2021. Feb 2 (online ahead of print)
 - a. Ingersoll LT, Alexander SC, Priest J, Ladwig S, Anderson W, Fiscella K, Epstein RM, Norton SA, Gramling R. Racial/ethnic differences in prognosis communication during initial inpatient palliative care consultations among people with advanced cancer. *Patient, Education & Counseling*. 2019 Jun;102(6):1098-1103. PMID: 30642715.
 - b. Gramling R, Gajary-Coots E, Cimino J, Fiscella K, Epstein R, Ladwig S, Anderson W, Alexander SC, Han PK, Gramling D, Norton SA. Palliative Care Clinician Overestimation of Survival in Advanced Cancer: Disparities and Association With End-of-Life Care. *J Pain Symptom Manage*. 2019 Feb;57(2):233-240. PMID: 30391655.

- c. Gramling R, Stanek S, Han PKJ, Duberstein P, Quill TE, Temel JS, Alexander SC, Anderson WG, Ladwig S, Norton SA. Distress Due to Prognostic Uncertainty in Palliative Care: Frequency, Distribution, and Outcomes among Hospitalized Patients with Advanced Cancer. *J Palliat Med*. 2018 Mar;21(3):315-321. PMID: 28920751.
 - d. Gramling R, Fiscella K, Xing G, Hoerger M, Duberstein P, Plumb S, Mohile S, Fenton JJ, Tancredi DJ, Kravitz RL, Epstein RM. Determinants of Patient-Oncologist Prognostic Discordance in Advanced Cancer. *JAMA Oncol*. 2016 Nov 1;2(11):1421-1426. PMID: PMC5896571.
3. "Heard & Understood": Measuring the quality of healthcare conversations is essential for health systems to improve. Evaluating quality requires dual attention to what actually happens during clinical conversations (as described above in #1) and how patients experience healthcare communication. Our team developed an epidemiological field measure for point-of-care use in the clinical environment that is becoming a national standard for patient experience in serious illness care. The measure has been adapted for the outpatient setting and undergone national standardization in more than 3,500 seriously ill patients. We anticipate forthcoming adoption by the National Quality Forum and Center for Medicare & Medicaid Studies (CMMS Cooperative Agreement described here: <https://www.nationalcoalitionhpc.org/macra/>).
- a. Gramling R, Straton J, Ingersoll LT, Clarfeld LA, Hirsch L, Gramling CJ, Durieux BN, Rizzo DM, Eppstein MJ, Alexander SC. Epidemiology of Fear, Sadness, and Anger Expression in Palliative Care Conversations. *J Pain Symptom Manage*. 2021 Feb;61(2):246-253.e1. PMID: 32822753.
 - a. Ingersoll LT, Saeed F, Ladwig S, Norton SA, Anderson W, Alexander SC, Gramling R. Feeling Heard and Understood in the Hospital Environment: Benchmarking Communication Quality Among Patients With Advanced Cancer Before and After Palliative Care Consultation. *J Pain Symptom Manage*. 2018 Aug;56(2):239-244. PMID: 29729348.
 - b. Gramling R, Stanek S, Ladwig S, Gajary-Coots E, Cimino J, Anderson W, Norton SA, Aslakson RA, Ast K, Elk R, Garner KK, Grudzen C, Kamal AH, Lamba S, LeBlanc TW, Rhodes RL, Roeland E, Schulman-Green D, Unroe KT. Feeling Heard and Understood: A Patient-Reported Quality Measure for the Inpatient Palliative Care Setting. *J Pain Symptom Manage*. 2016 Feb;51(2):150-4. PMID: 26596879.
4. Epidemiology methods for assessing interaction: Understanding outcomes of clinical conversations requires careful attention to interaction between conversation content and the context in which such conversations occur (e.g., patient values, identities and cultural norms). My doctoral dissertation added to the science of interaction in epidemiological studies and guides my approach to interaction in communication research.
- a. Gramling R, Lash TL, Rothman KJ, Cabral HJ, Silliman R, Roberts M, Stefanick ML, Harrigan R, Bertoia ML, Eaton CB. Family history of later-onset breast cancer, breast healthy behavior and invasive breast cancer among postmenopausal women: a cohort study. *Breast Cancer Res*. 2010;12(5):R82. PMID: PMC3096975.
 - b. Gramling R, Eaton CB, Rothman KJ, Cabral H, Silliman RA, Lash TL. Hormone replacement therapy, family history, and breast cancer risk among postmenopausal women. *Epidemiology*. 2009 Sep;20(5):752-6. PMID: PMC2903620.