Stanford



John Lyon Havlik

- Postdoctoral Medical Fellow, Psychiatry
- Resident in Psychiatry and Behavioral Sciences

Bio

BIO

Hello! I'm the inaugural Humanities and Social Medicine research track resident at Stanford University.

Psychiatric and substance use disorders are usually caught only after substantial and sometimes irreparable harm has already occurred. My research program is focused on changing this in two ways. Number one, I build artificial intelligence models that identify people with psychiatric and substance use disorders earlier. I believe this kind of early intervention will one day be commonplace and prevent a great deal of human suffering. Number two, I evaluate whether the systems that receive them, like health plans, treatment facilities, and now generative AI chatbots, are equipped to respond appropriately. There is much work to do here.

On the building side, I have developed a machine learning model that detects untreated substance use disorders from EHR-like data, published in Nature Mental Health; related work uses multimodal data to flag who will go on to develop substance use disorders and to predict imminent psychiatric emergency-department visits. I work across a wide range of deterministic and probabilistic methods, including the transformer architectures behind modern "chatbots." My work has been featured in 40+ peer-reviewed publications in venues such as Nature Medicine, NeurIPS, Science Advances, Nature Mental Health, JAMA Health Forum, and featured in national news outlets. But publications matter little to the lives of my patients. My aim is to develop models that are clinically useful. This aim has been met with some degree of success as spinout AI-enabled clinical workflow automation software I developed is in use at the U.S. Department of Veterans Affairs and here at Stanford.

On the evaluating side, I serve as an expert reviewer of AI-in-medicine trials for the State of Utah's Office of Artificial Intelligence Policy, and I am a sought-after health-tech advisor for Silicon Valley's leading venture capital firms and companies. I write on psychiatric services and health policy, recently in JAMA Health Forum on private-equity residential treatment and JAMA Network Open on the economics of telemedicine "house calls". I also recently co-authored a Nature Medicine paper on how to rigorously test the true capabilities of medical AI and lead ongoing research in this area.

Alongside my research, I have an enduring interest in medical education and founded and lead Research Roundtable, a psychiatric services research group whose undergraduates have published 10+ first-author papers. Before medicine, with Peggy Mason at UChicago, I found the human bystander effect in rats (Science Advances).

PROFESSIONAL EDUCATION

- MBA, Yale School of Management
- MD, Yale School of Medicine

- BS, BA, University of Chicago , Neuroscience, Biology (Dual Degree)

Publications

PUBLICATIONS

- **A local outpatient practice-level prediction model for short-term psychiatric emergency presentation.** *JAMIA open*
  Havlik, J. L., Tyrrell, B., Polaschek, J., Bell, N., Arzubi, E. R.
  2026; 9 (5): ooag215

- **Supervised machine learning enables identification of people with untreated substance use disorders using EHR-like data** *NATURE MENTAL HEALTH*
  Havlik, J. L., Murphy, M. J., Rhee, T., Humphreys, K., Rosenheck, R. A.
  2026

- **Academic Medicine is a bridge.** *Academic medicine : journal of the Association of American Medical Colleges*
  Havlik, J.
  2026

- **Toward a test of medical AI superintelligence.** *Nature medicine*
  Goh, E., Wu, D., Walton, C., McCoy, L. G., Perez, A., Wegner, L., Nateghi Haredasht, F., Luo, L., Lacar, K., Buckley, T., Schoeffler, A., Brodeur, P., Black, et al
  2026

- **Upward trend of publications with student and trainee authors appearing in Academic Medicine, 2016-2025.** *Academic medicine : journal of the Association of American Medical Colleges*
  Havlik, J. L., Wahid, S., Norris, E., Munshi, Z. R., Evenson, H., Isaac, S., Roberts, L. W.
  2026; 101 (7): 741-745

- **Private Equity-Acquired Residential Treatment Facilities vs Other For-Profit Facilities.** *JAMA health forum*
  Havlik, J. L., Busch, S., Hidalgo, K., Mercado, K., Zhu, D., Jensen, S., Zhu, J. M.
  2026; 7 (4): e260414

- **Engines of Progress: A Quantitative Characterization of Research Track Residencies in Psychiatry.** *Academic psychiatry : the journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry*
  Havlik, J., Tran, N., Chen, A. P., Hidalgo, K., Wang, C. S.
  2026

- **Costs and Outcomes in Telemedicine-Can "House Calls" Make Sense and Cents?** *JAMA network open*
  Havlik, J. L., Humphreys, K.
  2026; 9 (2): e2556111

- **Innovation in Psychiatric Drug Development: A Quantitative Analysis of FDA-Approved Psychiatric Drugs, 2012-2024.** *The Journal of clinical psychiatry*
  Havlik, J., Isaac, S., Radovan, C., Ostacher, M. J., Smith, D., Rhee, T. G.
  2026; 87 (1)

- **Research Support for U.S. Psychiatrists From Pharmaceutical and Medical Device Companies, 2015-2022.** *Psychiatric services (Washington, D.C.)*
  Havlik, J. L., Wahid, S., Hidalgo, K., Isaac, S.
  2026: appips20250210

- **Are observation codes underused for emergency psychiatric patients with an extended length of stay? A retrospective commercial claims analysis from 2016 to 2022.** *General hospital psychiatry*
  Priest, K. C., Havlik, J., Wilson, M. P., Jo, B., Humphreys, K.
  2025; 97: 209-217

- **Characteristics of Ongoing Clinical Trials of Psychogenic Substances for Psychiatric Disorders.** *Journal of clinical psychopharmacology*
  Havlik, J. L., Isaac, S., Raman, P., Tran, N., Hidalgo, K., Suppes, T.
  2025

- **Who Leads Psychiatry? Demographics, Educations, and Scientific Contributions of US Academic Chairs.** *Academic psychiatry : the journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry*
  Havlik, J. L., Radovan, C., Isaac, S., Wahid, S.
  2025
- **Medicaid Costs and Outcomes for Patients Treated in an Outpatient Telepsychiatry Clinic.** *JAMA network open*
  Havlik, J. L., Ghomi, R. H., An, N., Budhiraja, P., Arzubi, E. R.
  2025; 8 (5): e258558
- **Trends in Psychiatrist-Led Care for Medicare Part B Enrollees.** *JAMA network open*
  Havlik, J. L., Wahid, S., Priest, K. C., Ososanya, L., Igunbor, M., Humphreys, K.
  2025; 8 (2): e2458160
- **Correlates of impaired sleep duration among adults with trauma alone and with posttraumatic stress disorder.** *Psychological trauma : theory, research, practice and policy*
  Havlik, J. L., Rhee, T. G., Rosenheck, R. A.
  2025
- **National Trends in and Concentration of Industry Payments to U.S. Psychiatrists, 2015-2021.** *Psychiatric services (Washington, D.C.)*
  Havlik, J. L., Ososanya, L., Tang, D., Wahid, S., Ross, J. S., Rhee, T. G.
  2024: appips20240218
- **How to Value a Life Without Limits: Quantifying Suffering With Quality-Adjusted Life-Years in Social Anxiety Disorder.** *The Journal of clinical psychiatry*
  Havlik, J. L., Rhee, T. G.
  2024; 85 (2)
- **Association of mental health related quality of life and other factors with treatment seeking for substance use disorders: A comparison of SUDs rooted in legal, partially legal, and illegal substances** *PLOS ONE*
  Havlik, J. L., Rhee, T. G., Rosenheck, R. A.
  2024; 19 (4): e0302544
- **The Use of Mobile Medical Units for Populations Experiencing Homelessness in the United States: A Scoping Review** *JOURNAL OF GENERAL INTERNAL MEDICINE*
  Christian, N. J., Havlik, J., Tsai, J.
  2024; 39 (8): 1474-1487
- **Association of Malnutrition with Surgical and Hospital Outcomes after Spine Surgery for Spinal Metastases: A National Surgical Quality Improvement Program Study of 1613 Patients** *JOURNAL OF CLINICAL MEDICINE*
  Elsamadicy, A. A., Havlik, J., Reeves, B. C., Sherman, J. J. Z., Craft, S., Serrato, P., Sayeed, S., Koo, A. B., Khalid, S. I., Lo, S., Shin, J. H., Mendel, E., Sciubba, et al
  2024; 13 (6)
- **The Top 50 Articles and Authors of the New Millennium in Psychiatry: A Bibliometric Analysis** *CUREUS JOURNAL OF MEDICAL SCIENCE*
  Havlik, J. L., Uranga, S. I., Lee, M. S., Magallanes, S., Wahid, S., Rhee, T.
  2024; 16 (2): e54762
- **Recent Advances in the Treatment of Treatment-Resistant Depression: A Narrative Review of Literature Published from 2018 to 2023** *CURRENT PSYCHIATRY REPORTS*
  Havlik, J. L., Wahid, S., Teopiz, K. M., Mcintyre, R. S., Krystal, J. H., Rhee, T.
  2024; 26 (4): 176-213
- **"Black Is Not Monolithic": Complexities in COVID-19 Vaccine Decision-Making** *JOURNAL OF RACIAL AND ETHNIC HEALTH DISPARITIES*
  Wu, M., Havlik, J., Reese, K., Felisca, K., Loyal, J.
  2024
- **Comparison of industry payments to psychiatrists and psychiatric advanced practice clinicians in the USA, 2021: a cross-sectional study** *BMJ OPEN*
  Havlik, J., Ososanya, L., Lee, M. S., Wahid, S., Heyang, M., Sun, Q., Ross, J. S., Rhee, T.
  2024; 14 (2): e081252

- **Distribution of CARES Act Provider Relief Funding to Psychiatric Care Organizations** *PSYCHIATRIC SERVICES*
  Havlik, J. L., Wahid, S., Ososanya, L., Tang, D., Lee, M. S., Tsai, J.
  2024; 75 (2): 194-197

- **Characterization of quality of life among individuals with current treated, untreated, and past alcohol use disorder** *AMERICAN JOURNAL OF DRUG AND ALCOHOL ABUSE*
  Havlik, J. L., Rhee, T., Rosenheck, R. A.
  2023; 49 (6): 787-798

- **Association Between Intravenous to Oral Opioid Transition Time and Length of Hospital Stay After Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis** *INTERNATIONAL JOURNAL OF SPINE SURGERY*
  Hengartner, A. C., Havlik, J., David, W. B., Reeves, B. C., Freedman, I. G., Sarkozy, M., Maloy, G., Fernandez, T., Craft, S., Koo, A. B., Tuason, D. A., DiLuna, M., Elsamadicy, et al
  2023; 17 (3): 468-476

- **Geriatric Relationship with Inpatient Opioid Consumption and Non-Routine Discharge After Open Posterior Spinal Fusion for Adult Spine Deformity**
  Elsamadicy, A. A., Sandhu, M., Reeves, B., Sherman, J., Craft, S., Koo, A., Williams, M., Havlik, J., Hersh, A., Lo, S., Shin, J., Mendel, E., Sciubba, et al
  AMER ASSOC NEUROLOGICAL SURGEONS.2023

- **Geriatric Relationship with Inpatient Opioid Consumption and Non-Routine Discharge After Open Posterior Spinal Fusion for Adult Spine Deformity**
  Elsamadicy, A. A., Elsamadicy, A., Sandhu, M., Reeves, B., Sherman, J., Craft, S., Koo, A., Williams, M., Havlik, J., Hersh, A., Lo, S., Shin, J., Mendel, et al
  AMER ASSOC NEUROLOGICAL SURGEONS.2023

- **Geriatric Relationship with Inpatient Opioid Consumption and Non-Routine Discharge After Open Posterior Spinal Fusion for Adult Spine Deformity**
  Elsamadicy, A. A., Elsamadicy, A., Sandhu, M., Reeves, B., Sherman, J., Craft, S., Koo, A., Williams, M., Havlik, J., Hersh, A., Lo, S., Shin, J., Mendel, et al
  AMER ASSOC NEUROLOGICAL SURGEONS.2023

- **Characteristics of Esketamine Prescribers Among Medicare Beneficiaries in the United States, 2019-2020** *JAMA NETWORK OPEN*
  Havlik, J. L., Murphy, M. J., Gong, N., Tang, D., Krystal, J. H.
  2023; 6 (4): e2311250

- **Hospital Frailty Risk Score Predicts Adverse Events and Readmission Following a Ventriculoperitoneal Shunt Surgery for Normal Pressure Hydrocephalus** *WORLD NEUROSURGERY*
  Koo, A. B., Elsamadicy, A. A., Renedo, D., Sarkozy, M., Reeves, B. C., Barrows, M. M., Hengartner, A., Havlik, J., Sandhu, M. S., Antonios, J. P., Malhotra, A., Matouk, C. C.
  2023; 170: E9-E20

- **Primary Care for Veterans Experiencing Homelessness: a Narrative Review of the Homeless Patient Aligned Care Team (HPACT) Model** *JOURNAL OF GENERAL INTERNAL MEDICINE*
  Tsai, J., Havlik, J., Howell, B. A., Johnson, E., Rosenthal, D.
  2023; 38 (3): 765-783

- **Association of inpatient opioid consumption on postoperative outcomes after open posterior spinal fusion for adult spine deformity** *SPINE DEFORMITY*
  Elsamadicy, A. A., Sandhu, M. S., Reeves, B. C., Freedman, I. G., Koo, A. B., Jayaraj, C., Hengartner, A. C., Havlik, J., Hersh, A. M., Pennington, Z., Lo, S., Shin, J. H., Mendel, et al
  2023; 11 (2): 439-453

- **Quantifying the Surgical Residency Match in the Zoom Era: Applicant Volume, Match Rates, and Where We Go Next**
  Havlik, J. L., Dey, P., Yoo, P. S., Ahuja, N.
  LIPPINCOTT WILLIAMS & WILKINS.2022: S231

- **Assessment of Frailty Indices and Charlson Comorbidity Index for Predicting Adverse Outcomes in Patients Undergoing Surgery for Spine Metastases: A National Database Analysis** *WORLD NEUROSURGERY*
  Elsamadicy, A. A., Havlik, J. L., Reeves, B., Sherman, J., Koo, A. B., Pennington, Z., Hersh, A. M., Sandhu, M. S., Kolb, L., Lo, S., Shin, J. H., Mendel, E., Sciubba, et al

2022; 164: E1058-E1070

- **Impact of Frailty on Morbidity and Mortality in Adult Patients Undergoing Surgical Evacuation of Acute Traumatic Subdural Hematoma** *WORLD NEUROSURGERY*

  Elsamadicy, A. A., Sandhu, M. S., Freedman, I. G., Koo, A. B., Reeves, B. C., Yu, J., Hengartner, A., Havlik, J., Hong, C. S., Rutherford, H. J. V., Kim, J. A., Gerrard, J., Gilmore, et al

  2022; 162: E251-E263

- **Effects of Extended Operative Time on Surgical and Hospital Outcomes After Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis**

  Elsamadicy, A. A., Havlik, J., Freedman, I., Koo, A., Reeves, B., Sherman, J., Hengartner, A., Hong, C., Kundishora, A., Sciubba, D., Tuason, D., DiLuna, M.

  AMER ASSOC NEUROLOGICAL SURGEONS.2022

- **Differences in Health Care Resource Utilization After Surgery for Metastatic Spinal Column Tumors in Patients with a Concurrent Affective Disorder in the United States** *WORLD NEUROSURGERY*

  Elsamadicy, A. A., Koo, A. B., Sarkozy, M., Reeves, B. C., Pennington, Z., Havlik, J., Sandhu, M. R., Hersh, A., Patel, S., Kolb, L., Lo, S., Shin, J. H., Mendel, et al

  2022; 161: E252-E267

- **Higher Hospital Frailty Risk Score is associated with increased complications and healthcare resource utilization after endovascular treatment of ruptured intracranial aneurysms** *JOURNAL OF NEUROINTERVENTIONAL SURGERY*

  Koo, A. B., Elsamadicy, A. A., Renedo, D., Sarkozy, M., Sherman, J., Reeves, B. C., Havlik, J., Antonios, J., Sujijantarat, N., Hebert, R., Malhotra, A., Matouk, C.

  2023; 15 (3): 255-261

- **Hospital Frailty Risk Score and Healthcare Resource Utilization After Surgery for Primary Spinal Intradural/Cord Tumors** *GLOBAL SPINE JOURNAL*

  Elsamadicy, A. A., Koo, A. B., Reeves, B. C., Pennington, Z., Sarkozy, M., Hersh, A., Havlik, J., Sherman, J. J. Z., Goodwin, C., Kolb, L., Laurans, M., Lo, S., Shin, et al

  2023; 13 (7): 2074-2084

- **Racial Disparities in Health Care Resource Utilization After Pediatric Cervical and/or Thoracic Spinal Injuries** *WORLD NEUROSURGERY*

  Elsamadicy, A. A., Sandhu, M. R., Freedman, I. G., Koo, A. B., Hengartner, A. C., Reeves, B. C., Havlik, J., Sarkozy, M., Hong, C. S., Kundishora, A. J., Tuason, D. A., DiLuna, M.

  2021; 156: E307-E318

- **Effects of preoperative nutritional status on complications and readmissions after posterior lumbar decompression and fusion for spondylolisthesis: A propensity-score analysis** *CLINICAL NEUROLOGY AND NEUROSURGERY*

  Elsamadicy, A. A., Havlik, J., Reeves, B. C., Koo, A. B., Sherman, J., Lo, S., Shin, J. H., Sciubba, D. M.

  2021; 211: 107017

- **Modified-frailty index does not independently predict complications, hospital length of stay or 30-day readmission rates following posterior lumbar decompression and fusion for spondylolisthesis** *SPINE JOURNAL*

  Elsamadicy, A. A., Freedman, I. G., Koo, A. B., David, W. B., Reeves, B. C., Havlik, J., Pennington, Z., Kolb, L., Shin, J. H., Sciubba, D. M.

  2021; 21 (11): 1812-1821

- **Patient- and hospital-related risk factors for non-routine discharge after lumbar decompression and fusion for spondylolisthesis** *CLINICAL NEUROLOGY AND NEUROSURGERY*

  Elsamadicy, A. A., Freedman, I. G., Koo, A. B., David, W., Hengartner, A. C., Havlik, J., Reeves, B. C., Hersh, A., Pennington, Z., Kolb, L., Laurans, M., Shin, J. H., Sciubba, et al

  2021; 209: 106902

- **Lessons from the COVID-19 Pandemic: The Case for Virtual Residency Interviews.** *Annals of surgery open : perspectives of surgical history, education, and clinical approaches*

  Dey, P., Havlik, J. L., Kurup, V., Ahuja, N.

  2021; 2 (3): e077

- **Impact of Frailty on Morbidity and Mortality in Adult Patients Presenting with an Acute Traumatic Cervical Spinal Cord Injury** *WORLD NEUROSURGERY*

  Elsamadicy, A. A., Sandhu, M. S., Freedman, I. G., Reeves, B. C., Koo, A. B., Hengartner, A., Havlik, J., Sherman, J., Maduka, R., Agboola, I. K., Johnson, D. C., Kolb, L., Laurans, et al

  2021; 153: E408-E418

- **The Effects of Pulmonary Risk Factors on Hospital Resource Use After Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis Correction** *WORLD NEUROSURGERY*
  Elsamadicy, A. A., Freedman, I. G., Koo, A. B., David, W. B., Havlik, J., Kundishora, A. J., Sciubba, D. M., Kahle, K. T., DiLuna, M.
  2021; 149: E737-E747
- **Impact of Preoperative Anemia on Outcomes After Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis** *WORLD NEUROSURGERY*
  Elsamadicy, A. A., Freedman, I. G., Koo, A. B., David, W. B., Havlik, J., Kundishora, A. J., Hong, C. S., Sciubba, D. M., Kahle, K. T., DiLuna, M.
  2021; 146: E214-E224
- **Characteristics of Reported Industry Payments to Neurosurgeons: A 5-Year Open Payments Database Study** *WORLD NEUROSURGERY*
  Elsamadicy, A. A., Freedman, I. G., Koo, A. B., Reeves, B. C., Havlik, J., David, W. B., Hong, C. S., Kolb, L., Laurans, M., Matouk, C. C., DiLuna, M.
  2021; 145: E90-E99