Diversity Supplement – Understanding factors that lead to disparities in depression treatment

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| **Project Name:**  Diversity Supplement – Understanding factors that lead to disparities in depression treatment | |
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| **Principal Investigator institution:**  Kaiser Permanente Southern California |  |
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| **Abstract:**  Depression and other mental illnesses lead to more disability than the most prevalent physical chronic illnesses such as heart disease, diabetes, and cancer, and may cost the U.S. healthcare system as much as 300 billion dollars annually. There are clear racial and ethnic differences in depression treatment, however, it is unknown if these are patient, provider, or healthcare system driven. The diversity supplement was designed to build on previous work funded within the Mental Health Research Network (MHRN) on practice variation in the treatment of depression. The original aims of the diversity supplement were as follows:  Aim 1: To understand the healthcare system-, provider-, and patient-level factors that predict taking the initial antidepressant medication prescribed and/or attendance at the initial psychotherapy visit (primary adherence) within 30 days of an initial depression diagnosis.  Aim 2: To identify the healthcare system-, provider-, and patient-level factors that predict continuation of depression-related treatment once started (secondary adherence).  AIM 3: To characterize racial/ethnic disparities in the achievement of depression improvement or remission with treatment as assessed with the patient health questionnaire (PHQ9), and to understand the role of adherence in this response to treatment. |  |
| **Grant Number:** U19MH092201 (Supplement under MHRN II) |  |
| **Participating Sites Contributing Data:** Kaiser Permanente Southern California, Pasadena, CA Group Health Cooperative, Seattle, Washington HealthPartners Institute, Minneapolis, Minnesota Kaiser Permanente Colorado, Denver, Colorado Kaiser Permanente Hawaii, Honolulu, Hawaii Henry Ford Healthcare Systems, Detroit, Michigan |  |
| **Additional Sites Participating in the Study:** Baylor Scott & White, Temple, Texas University of Utah, Salt Lake City, Utah |  |
| **Investigators:** Karen J. Coleman, PhD Gregory Simon, MD MPH Rebecca Rossom, MD Arne Beck, PhD Beth Waitzfelder, PhD John Zieber, PhD Brian Ahmedani, PhD Zach Imel, PhD |  |
| **Major Goals:**   * To provide a high level understanding of how race/ethnicity contributes independently to the variation for initiation and continuation of depression treatment. * To provide a dataset and documentation associated with this dataset and its analyses that can be used by other researchers interested in the treatment of depression in large healthcare systems. * To provide a basis for testing culturally tailored or appropriate interventions that improve the adherence to depression treatment in a variety of patient populations. |  |
| **Major Limitations:**   * Questions about depression treatment outcomes cannot be addressed with this dataset because PHQ9 data collection in the five healthcare systems during the study period was not widespread. * Questions about healthcare system variation in policies and guidelines for depression treatment cannot be addressed with this dataset as these variables were not available for study. * Questions about provider-level variation in the treatment of depression can only be addressed for two sites in the study due to the lack of data collected for providers in the other sites. Thus, conclusions about provider-level variation and its contribution to depression treatment modalities and adherence cannot generalize to other healthcare settings. |  |
| **Description of study sample:** There are two study samples included in this study. One is for initiation of treatment for patients newly diagnosed with depression and one is for adherence to a new episode of antidepressant medication and/or formal psychotherapy treatment in patients diagnosed with depression.  Treatment in the Newly Diagnosed Patients 18 and older who had a new depression diagnosis in primary care clinics between 1/1/2009 and 12/31/2013 were included. Patients were excluded if they had a diagnosis of bipolar disorder, schizophrenia spectrum disorder, or other psychosis in the prior two years to the diagnosis date. To ensure the availability of data needed to create the patient sample for all analyses, the sample was limited to those who were continuously enrolled in the healthcare systems for at least 360 days prior to the diagnosis date, allowing a 60 day gap. New episodes of depression were defined as an ICD-9 code for depression made in a primary care setting, with no diagnosis or treatment for depression (either psychotherapy or antidepressant medication) during the 360 days prior to the diagnosis. These patients were followed for 90 days after the diagnosis date to look for the initiation of treatment (see definitions below for treatment). Patients who dis-enrolled from the healthcare systems in less than 90 days after diagnosis were excluded.  Adherence in the Newly Treated Patients 18 and older who had a new episode of formal psychotherapy treatment (PT) between 1/1/2010 and 12/31/2013 or a new antidepressant treatment (AD) between 1/1/2010 and 12/31/2013 were included. Patients were excluded if they had a diagnosis of bipolar disorder, schizophrenia spectrum disorder, or other psychosis in the prior two years to index date. The sample was also limited to those who were continuously enrolled in the healthcare systems for at least 270 days prior to the index AD/PT episode, allowing a 60 day gap. A new episode of AD/PT treatment was defined as not having any evidence of the same type of treatment (AD or PT) during the previous 270 days before the date of the new episode.  AD episodes with a prescription for trazodone were excluded because this drug is primarily prescribed for sleep disturbance and not depression. We did not consider appointments that were less than 30 minutes and/or clearly designated as only medication management to be formal psychotherapy. |  |
| **Current Status:** The analytic dataset and its documentation have been compiled.  Further analyses funded by the project are limited to the following manuscripts which are currently in process:   * The Mental Health Provider as a Source of Racial and Ethnic Disparities in Adherence to Antidepressant Medication and Psychotherapy (Imel et al.) |  |
| **Study Registration:**  N/A |  |
| **Publications:**  Coleman KJ, Stewart C, Waitzfelder BE, Zeber JE, Morales LS, Ahmed AT, Ahmedani BK, Beck A, Copeland LA, Cummings JR, Hunkeler EM, Lindberg NM, Lynch F, Lu CY, Owen-Smith AA, Trinacty CM, Whitebird RR, Simon GE. [Racial-Ethnic Differences in Psychiatric Diagnoses and Treatment Across 11 Health Care Systems in the Mental Health Research Network](http://ps.psychiatryonline.org/doi/abs/10.1176/appi.ps.201500217?url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org&rfr_dat=cr_pub%3Dpubmed). Psychiatr Serv. 2016 Jul 1;67(7):749-57. doi: 10.1176/appi.ps.201500217. Epub 2016 Apr 15.  Rossom RC, Shortreed S, Coleman KJ, Beck A, Waitzfelder BE, Stewart C, Ahmedani BK, Zeber JE, Simon GE. [Antidepressant adherence across diverse populations and healthcare settings.](https://www.ncbi.nlm.nih.gov/pubmed/27320786) Depress Anxiety. 2016 Aug;33(8):765-74. doi: 10.1002/da.22532. Epub 2016 Jun 20.  Simon GE, Coleman KJ, Waitzfelder BE, Beck A, Rossom RC, Stewart C, Penfold RB. [Adjusting Antidepressant Quality Measures for Race and Ethnicity](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4776640/). JAMA Psychiatry. 2015 Oct;72(10):1055-6. doi: 10.1001/jamapsychiatry.2015.1437.  Simon GE, Rossom RC, Beck A, Waitzfelder BE, Coleman KJ, Stewart C, Operskalski B, Penfold RB, Shortreed SM. [Antidepressants are not overprescribed for mild depression](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4866597/). J Clin Psychiatry. 2015 Dec;76(12):1627-32. doi: 10.4088/JCP.14m09162.  Zeber JE, Coleman KJ, Fischer H, Yoon TK, Ahmedani BK, Beck A, Hubley S, Imel ZE, Rossom RC, Shortreed SM, Stewart C, Waitzfelder BE, Simon GE. [The impact of race and ethnicity on rates of return to psychotherapy for depression.](https://www.ncbi.nlm.nih.gov/pubmed/29095538) Depress Anxiety. 2017 Dec;34(12):1157-1163. doi: 10.1002/da.22696. Epub 2017 Nov 2. PubMed PMID: 29095538; PubMed Central PMCID: PMC5718939.  Waitzfelder B, Stewart C, Coleman KJ, Rossom R, Ahmedani BK, Beck A, Zeber JE, Daida YG, Trinacty C, Hubley S, Simon GE. [Treatment Initiation for New Episodes of Depression in Primary Care Settings.](https://www.ncbi.nlm.nih.gov/pubmed/29423624) J Gen Intern Med. 2018 Feb 8. doi: 10.1007/s11606-017-4297-2. [Epub ahead of print] PubMed PMID: 29423624. |  |
| **Resources:**  A data dictionary and descriptive tables for the data file associated with this project will be available soon. Some research questions cannot be addressed by this dataset and require an initial review and possible discussion to make this determination. For immediate questions, contact Greg Simon at [simon.g@ghc.org](mailto:simon.g@ghc.org). |  |
| **Lessons Learned:** For all systems contributing data to this project, electronic medical records, insurance claims, and other data systems were organized in a Virtual Data Warehouse (VDW) to facilitate population-based research. The VDW is a collection of common data definitions and formats to ensure equivalent de-identified data for analysis. Because the VDW relies on data availability from a diverse set of healthcare settings in the [Health Care Systems Research Network](http://www.hcsrn.org/en/) customizing data abstraction such as healthcare system policy variables or provider-level descriptive information is difficult and in some cases impossible. This needs to be considered when studies are proposed that examine the interplay of healthcare system-, provider-, and patient-level factors in mental health-related treatment choices and outcomes. |  |
| **What’s next?**   * 1. Possible harvest of new PHQ9 data as implementation of screening and treatment follow-up have increased exponentially since 2013.   2. Pursue an R01 to characterize heterogeneity of achievement of depression improvement or remission and incorporate more healthcare sites (only 6 of 13 MHRN sites were included) and use additional provider variation analytic methods.   3. Other possible grant ideas that have been discussed: Culturally-tailored intervention to assist with the decisions around depression treatment (shared decision-making and motivational interviewing models) |  |