Patient-provider race concordance and adherence to antihypertensive medications: What is the role of patient trust? Antoinette Schoenthaler 1; Linda Baier Manwell 2; Mark Linzer 3; Roger Brown 2; Mark Schwartz 1. 1NYU School of Medicine, New York, New York; 2University of Wisconsin, Madison, Wisconsin; 3Hennepin County Medical Center, Minneapolis, Minnesota. (Proposal ID # 10655)

BACKGROUND: Perceived quality of the patient-provider relationship has emerged as a potential contributing factor to racial disparities in healthcare. Race-discordant patient-provider relationships have been linked to lower perceived quality of care among Black patients receiving care from White providers compared to Black patients in race-concordant relationships. Alternatively, patients in race-concordant relationships have longer medical visits with higher ratings of positive affect, shared-decision making, and satisfaction. Despite mounting evidence that patient-provider race concordance affects processes of care (e.g., patient satisfaction, health service utilization), the impact on intermediate patient outcomes such as medication adherence is unclear. More importantly, no study has examined the mechanisms by which race concordance affects patient outcomes.

METHODS: We analyzed cross-sectional data from surveys of primary care providers and their hypertensive patients participating in the Minimizing Error, Maximizing Outcome (MEMO) Study, a multi-method longitudinal (2001-2005) study designed to explore the relationships between work conditions, physician outcomes and quality of care. Race concordance was characterized as dyads where both the patient and provider were of the same race; race discordance was characterized as dyads where the patient was Black and the provider was White. Medication adherence was assessed by asking patients to respond to a single question: In a typical week, how close do you come to following your doctor's recommendations about medications? Responses were dichotomized as always take all of my medicine vs. usually/sometimes take all of my medicine. Patient trust was measured with 4-items assessing the patient's overall trust in the provider as well as trust in their provider's medical decision-making under certain financial/administrative constraints. Responses ranged from not at all to completely on a 5-point Likert-type scale. Multivariate logistic regression models tested the hypothesis that a higher proportion of patients in race-concordant dyads would exhibit better medication adherence than patients in the race-discordant dyads, after adjusting for patient (e.g., gender, age, number of hypertensive medications), provider (e.g., age, gender, specialty), and clinic-level (e.g., location) characteristics. Using Mackinnon's model of mediation analysis, probit regression models were conducted to assess the effect of race concordance on medication adherence and if trust mediated this relationship.

RESULTS: Data from 220 physicians (10% Black, 41% female; mean age 44) and 816 of their hypertensive patients (24% Black, 64% female; mean age 61) were included. Eighty-seven percent (87%) of patients were in race-concordant relationships: 76% in a White patient-provider dyad and 11% in a Black patient-provider dyad. A total of 55% of Black patients were in race-discordant relationships with White providers compared to only 1% of White patients seen by Black providers; we excluded the latter group due to the small sample size. White patients were older and had more comorbid conditions and lower diastolic blood pressure than Black patients in either race-concordant or discordant relationships (p = 0.05 for each) and race-discordant relationships (69%; OR = 0.51, 95% CI 0.30, 0.84, p = 0.008). Adherence levels were not significantly different among Black patients in race-concordant vs. race-discordant relationships (p > 0.05). Trust in the provider did not mediate the effect of race concordance on medication adherence; rather it had an independent effect. For each 1-point increase in the trust scale, all patients were 1.8 times more likely to report always being always adherent to their medications, irrespective of their provider’s race (OR = 1.82, 95% CI: 1.30-2.55, p<0.001).

CONCLUSION: White patients with White providers reported the highest levels of adherence. Among Black patients, there were no significant differences in adherence levels by racial composition of the patient-provider relationship. Trust in one's provider was associated with better adherence for all patients, regardless of racial composition of the patient-provider relationship. While these findings do not conform to previous study's results, they convey an important message to the medical field. A patient-provider relationship characterized by high levels of trust is an influential determinant of patient behavior and even transcends the influence of race in certain populations. Future research is needed to understand under what circumstances race-concordance affects intermediate patient outcomes, particularly in Black patients, and the mechanisms driving this relationship.
BACKGROUND: Internet-based patient portals, which allow patients to access their health care system and perform selected self-management functions, will play a growing role in chronic disease care. By increasing health access, this technology has potential to ameliorate diabetes disparities, if widely used in vulnerable groups. Prior research has demonstrated that ethnically diverse, low-income patients are amenable to technologically-delivered chronic disease self-management support. However, the same populations with worse diabetes outcomes are subject to the 'digital divide,' a lack of adequate computer/ internet access; thus, the diffusion of this innovation may actually widen disparities, as seen with prior health advances.

METHODS: We investigated uptake of an internet-based patient portal by race/ethnicity and educational attainment between January 2006 and December 2009, among an English-speaking adult, continuously insured population with diabetes receiving care in an integrated health maintenance organization. We measured the frequency of requesting a password for the patient portal, which represents intent to use the patient portal and indicates some computer access.

RESULTS: We studied 11,921 participants: 10% with less than high school education, 29% high school graduates, 27% some college, and 35% with college degree or higher educational attainment. They were ethnically diverse (27% non-Hispanic White, 13% Latino, 21% African-American, 10% Asian, 12% Filipino, 17% multi-racial/other ethnicity). Overall, intent to use the patient portal (i.e. requesting a password) increased markedly over the observation period across all educational levels and race/ethnicities, from 1,427 (12%) of participants in 2006 to 4,466 (37%) in 2009 (Figure A and B). In addition, the rate of uptake, or increase in registration over time, did not vary by educational attainment or race/ethnicity (p= 0.47 and 0.66, respectively). The initial modest-sized educational gradient in intent to use the patient portal widened slightly in absolute terms by 2009, but attenuated in relative terms (Figure Panel A). In 2006, 9% of those with less than a high school degree requested a password, compared to 13% of those with a college degree or higher (p <0.001). In 2009, 32% with less than a high school degree had requested a password compared to 39% with a college degree or more (p<0.001). Similarly, in 2006, there were small race/ethnic differences in intent to use the patient portal, with African-American, Filipino and Latino participants least likely and Asian and White participants most likely to request a password (Figure Panel B). Relative differences narrowed over time, for all ethnic groups. Absolute differences also narrowed, except among African Americans: in 2009, Whites were most likely and African-Americans least likely to request a password (40% vs. 34%, p<0.001).

CONCLUSION: We observed rapid, widespread uptake in use of the patient portal among diverse, English-speaking adults with diabetes. Those with lower educational attainment and African-Americans remained consistently less likely to register for the patient portal at each time-point, lagging in uptake by about 1 year. Expanded computer/ internet access, training in patient portal use and cultural/ educational tailoring may be required for patient-facing electronic health records to be harnessed as a means to reduce disparities.

BACKGROUND: The Institute of Medicine has defined healthcare disparities as racial or ethnic differences in healthcare that are not due to differences in clinical appropriateness or patient preferences. However, it is usually impossible to distinguish healthcare differences from true disparities in clinical practice because we lack sufficient data on clinical appropriateness and patient preferences. As part of the UPQUAL (Using Precision Performance Measurement to Conduct Focused Quality Improvement) initiative, simple tools were introduced into the electronic health record (EHR) at an urban academic general internal medicine practice to allow physicians to efficiently enter medical or patient reasons why quality measures are not satisfied (medical and patient exceptions) into coded fields of the EHR. This provided a unique opportunity to examine the contribution of patient preference and clinical appropriateness to racial differences in the receipt of healthcare services.

METHODS: We examined differences in the percentage of black and white patients with documented medical or patient exceptions for 12 ambulatory care quality measures as of January 1, 2011. The quality measures addressed coronary heart disease, hypertension, diabetes, and the receipt of preventive services. Medical exceptions included medical contraindications to care guidelines (e.g. drug intolerance). Patient exceptions included patient refusals. We calculated performance for each quality measure with and without the incorporation of data on medical and patient exceptions. Comparisons between white and black patients were done using Pearson's chi-square test.

RESULTS: Among black patients, the rates of documented medical or patient exceptions ranged from 1.1% (screening or treatment for diabetic nephropathy) to 11.9% (pneumococcal vaccination if > or = 65 years old). Among white patients, the range was 0.8% (screening for cervical cancer) to 5.6% (LDL control in patients with diabetes). The percentage of patients who declined recommended care differed between black and white patients for 2 measures: cervical cancer screening (1% vs. 0.5%, respectively; p=.03) and pneumococcal vaccination (11% vs. 3%; p<.001). The percentage of patients with documented medical exceptions differed between black and white patients for 2 measures: antiplatelet therapy for patients with coronary heart disease (4% vs. 2%; p=.03) and pneumococcal vaccination (0.7% vs. 0.1%; p=.003). Without the incorporation of data on clinical appropriateness and patient preference, performance for pneumococcal vaccination was significantly lower for black vs. white patients (82% vs. 91%, p<.001); when documented medical and patient reasons were included in the numerator, performance was identical (94%). The incorporation of medical and patient exceptions did not affect racial differences in performance for other measures.

CONCLUSION: Overall, the rates of patient and medical exceptions were low with few racial differences. This suggests that differences in patient preference and clinical appropriateness are relatively small contributors to racial differences in performance for most ambulatory care quality measures. However, blacks were much more likely to decline pneumococcal vaccination, and accounting for this significantly affected the measured racial difference in performance. A set of simple tools can facilitate the capture of data on clinical appropriateness and patient preference into coded fields of the EHR, and this approach may help us to better understand whether apparent differences in care are due to either of these factors.
BACKGROUND: Individuals released from prison have a high mortality risk compared to community norms. Older adults (aged 55 or older) comprise a rapidly increasing proportion of US prisoners and have more chronic medical conditions than both younger prisoners and non-incarcerated older adults. Interventions to promote a safe and healthy reentry from prison for older adults are hampered by a dearth of knowledge about their health and experience. Therefore, our aims were to compare mortality rates and causes of death between older and younger adults released from prison.

METHODS: This was a longitudinal study of all 30,237 individuals released from the Washington State Department of Corrections from July 1999 through December 2003. Individuals aged 55 or older were classified as "older adults" to be consistent with prior literature that accounts for the "accelerated aging" of prisoners. We compared baseline characteristics between younger and older prisoners using chi-square tests and t-tests. All post-release deaths and causes of death were determined using the National Death Index. Post-release mortality rates accounted for amount of time in the community.

RESULTS: Overall, 30,237 individuals were released over the study period, of whom 2.2% (856 individuals) were age 55 years or older. The average ages of the 2 groups were 61 years (older adults) and 33 years (younger adults). Older adults were significantly more likely to be men (93% vs. 87%) and white (70% vs. 62%), and to have had a longer mean length of incarceration (45 vs. 18 months) and fewer releases during the study period (1.1 vs. 1.3; all p<0.001). Over a mean follow-up of 1.9 years, 443 individuals died including 68 (7.9%) older persons and 375 (1.3%) younger persons. Older adults accounted for 15.3% of all post-release deaths. The post-release mortality rate per 100,000 person-years was 4,772 deaths for older adults compared to 674 deaths for younger adults (p<0.001). The leading causes of post-release death for older adults were cardiovascular (36.8%), cancer (30.8%) and liver disease (5.9%); while for younger adults the leading causes of death were drug overdose (26.7%), homicide (12.2%), suicide (10.4%), and motor vehicle accidents (8.8%). There were no significant differences in mortality rates between older and younger adults for overdose (211 vs. 180, p=0.95), suicide (70 vs. 70, p=1.0) or motor vehicle accidents (140 vs. 59, p=0.44). In contrast, death rates between older and younger adults were markedly different for cardiovascular disease (1,754 vs. 56, p<0.001), cancer (1,474 vs. 32, p<0.001), and liver disease (281 vs. 34, p=0.005). The death rate due to homicide was higher for younger than for older adults (70 vs. 0).

CONCLUSION: We found that the post-release mortality rate for older adults was 7-times higher than for younger adults. In context, this means that the mortality rate for older persons with an average age of 61 years following release from prison (4772 deaths/100,000 person-years) was similar to the mortality rate for 75-79 year old US adults (4,034 deaths/100,000 person-years) and was approximately double the reported mortality rate for all US prisoners aged 55 or older (2,123 deaths/100,000 person-years). These findings suggest that the period of release confers added mortality risk for older persons. In addition, while post-release mortality rates for self-harm events including overdose, suicide and motor vehicle accidents were similar between older and younger adults, older adults had substantially higher mortality rates for chronic medical conditions. This final finding suggests that the geriatric model of transitional care focused on both social and medical needs is of paramount importance for older adults transitioning from prison to the community.
BACKGROUND: Patients with substance use disorders report high levels of physical pain. However, current data is conflicting as to whether chronic pain affects substance abuse treatment outcomes. Office based buprenorphine therapy is a new paradigm for treatment of opioid dependence, and the impact of co-morbid chronic pain on buprenorphine treatment outcomes is not well understood. Clinical guidelines cite chronic severe pain as a relative contraindication to buprenorphine treatment, since buprenorphine is a partial opioid agonist. Instead, treatment with methadone, a full opioid agonist, is recommended for patients with chronic severe pain. However, evidence supporting these recommendations is lacking. To examine the association between pain and buprenorphine treatment outcomes, we compared the proportion of treatment failures in opioid dependent patients with and without chronic pain who received primary care based buprenorphine treatment.

METHODS: We conducted a longitudinal cohort study of opioid-dependent individuals who initiated buprenorphine treatment at an urban community health center. Participants were interviewed at baseline, and 1, 3, and 6 months after initiating buprenorphine treatment. Questionnaires included demographic information, substance use, depressive symptoms, health status, and presence and severity of pain. The primary outcome was treatment failure, defined as self-reported use of opioids (heroin, methadone, or opioid analgesics) in the 30-day period preceding the 6 month follow-up visit. The main predictor variable was presence of chronic pain, defined as a score of 5 or greater on a scale from 1-10 on the Brief Pain Inventory at every study visit. We used logistic regression models to test whether treatment failure was associated with chronic pain, adjusting for baseline opioid use.

RESULTS: Of 84 participants, the median age was 44, and most were male (73%), Hispanic (69%), unstably housed (61%), and had used heroin in the 30 days prior to initiation of buprenorphine (67%). These characteristics were similar in the 31 (37%) participants with chronic pain and the 53 without chronic pain. The groups with and without chronic pain differed on a number of factors measured at baseline, including history of injection drug use (68% vs. 42%, p < .05), problematic alcohol use (50% vs. 15%, p < .01), sedative use (29% vs. 8%, p < .01), and opioid analgesics use (48% vs. 15% p < .01). Of these covariates, only sedative use was associated with treatment failure in bivariate analysis. At 6 months of follow-up, 25 participants (30%) experienced treatment failure. Adjusting for baseline opioid use, there was no difference in opioid use at 6 months between those with and without chronic pain (OR = 1.05, 95% CI: 0.37 - 3.00). Further adjustment for other covariates associated with treatment failure, such as sedative use at baseline, did not alter this finding.

CONCLUSION: Over one-third of participants in this cohort of opioid dependent patients receiving buprenorphine treatment at an urban health center experienced chronic pain. Despite greater use of other substances at baseline and additional factors that may predict treatment failure, substance abuse treatment outcomes did not appear to differ between patients with chronic pain and those without chronic pain. Our study was limited by its lack of a comprehensive measure of pain severity, relatively small sample size, and limited power to detect small difference between groups. While these findings are exploratory, they suggest that buprenorphine treatment for opioid dependence may be effective even in patients with chronic pain. Future research that examines buprenorphine treatment outcomes among patients with chronic pain is warranted.
Food Insecurity and Glycemic Control among Patients with Diabetes Hilary Seligman 1; Elizabeth Jacobs 2; Nancy Jianhua Jin 1; Andrea Lopez 1; Alicia Fernandez1. 1University of California San Francisco, San Francisco, California ; 2Rush, Chicago, Illinois . (Proposal ID # 10128)

BACKGROUND: Food insecurity refers to the inability to reliably afford safe and nutritious food. Almost 15% of households in the US are food insecure. In addition to reductions in the quantity of food consumed, food insecurity is also associated with a reduction in the quality of food consumed, with a shift in intake toward inexpensive, calorically-dense foods (added fats/sugars, refined carbohydrates) which raise blood glucose. We hypothesized that food insecurity would therefore be associated with poor glycemic control among adults with diabetes.

METHODS: We examined the association between food insecurity and glycemic control in a cross-sectional, observational study of 711 English- and Spanish-speaking patients with type 2 diabetes. All patients were receiving ongoing care in safety-net health clinics in San Francisco or Chicago. Participants were enrolled and completed questionnaires between June 2008 and July 2009. We assessed food insecurity using the short form of the Food Security Survey Module. Our main outcome measure was poor glycemic control, which we defined a priori as HbA1c greater than or equal to 8.5%. We compared baseline characteristics using chi-square tests and used generalized regression models to determine whether an association existed between food insecurity and glycemic control. We subsequently determined whether difficulty following a diabetic diet, diabetes-specific self-efficacy, or diabetes distress mediated observed associations.

RESULTS: The prevalence of food insecurity in our sample was 46%. Food insecure participants were younger than food secure participants (53 vs 56 years, p

CONCLUSION: Food insecurity is a strong predictor of glycemic control and thus may contribute to inequities in diabetes-related complications. Translation of diabetes interventions into low-income settings should specifically address participantsâ€™ limited financial ability to afford diabetes-appropriate foods.