Title
Eliminating disparities in diabetes care: The impact of disease management strategies within triad.

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Access to Care Measures among Stroke Survivors by Age (all p-values < 0.003)

<table>
<thead>
<tr>
<th>Access to Care Measure</th>
<th>Younger Stroke Survivors</th>
<th>Older Stroke Survivors</th>
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</thead>
<tbody>
<tr>
<td>No health insurance</td>
<td>133 (11)</td>
<td>13 (4.0)</td>
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<tr>
<td>Inability to afford medications</td>
<td>156 (15)</td>
<td>52 (6)</td>
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<tr>
<td>No general doctor visit</td>
<td>169 (14)</td>
<td>262 (10)</td>
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<tr>
<td>No general doctor or specialist visit</td>
<td>101 (8.8)</td>
<td>135 (9.5)</td>
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</tbody>
</table>

DOES REALM LITERACY SCREENING TEST PREDICT MEDICATION COMPREHENSION?

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BACKGROUND: Among potential risk factors for medication misunderstanding and medication errors is low health literacy. Low literacy has been linked to increased risk for hospitalization, poor diabetes control and worse outcomes for HIV care. Few studies have evaluated whether low health literacy puts patients at risk for poor medication comprehension and incorrect use of medications. We set out to determine whether the Rapid Estimate of Adult Literacy in Medicine (REALM) test, a brief, simple test to predict health literacy, could be used to estimate the effect of driving distance on glycemic control.

METHODS: We used the National Health and Nutrition Examination Survey (NHANES) to select a stratified national sample of adults in the United States. We then geocoded these individuals and their PCPs to a commercially available geographic data set. A networking script was then used to determine the driving distance to site of care for each NHANES participant. Data collected included insurance status, education, urban/rural residence, and duration of diabetes. Glycemic control was measured by recording a recent A1C value. Using a geographic information system (ArcView 3.3), the addresses of these individuals and their PCPs were geo-coded (matched) to a commercially available geographic data set. A networking script was then used to determine the driving distance from each subject’s home to his or her site of care. Our goal in this study was to identify and describe the role that driving distance to site of care plays in glycemic control.

RESULTS: The overall rate of bone density testing among 17,934 hip fracture patients was 23%. In unadjusted analyses, the rate of testing in white women was 23%, in Hispanic women 10% and in black women 10%. In a logistic regression model adjusted for age and comorbidity, white women (OR 0.28 [95%CI 0.20, 0.38]) were less likely than black women to receive bone density tests. Compared with women residing in zip codes in the highest tertile of income, women in the lowest tertile were 25% less likely (AOR 0.75 [95%CI 0.63, 0.89]) and those in the middle tertile 11% less likely to receive testing (AOR 0.89 [95% 0.82, 0.97]). Compared with New York residents, Florida residents were more likely (AOR 1.50 [95%CI 1.38, 1.62]) to be tested, while Illinois residents were less likely (AOR 0.86 [95%CI 0.78, 0.94]). Urban residence and educational attainment did not affect testing and were removed from the model.

CONCLUSIONS: In a large population-based cohort of adults, women of black race and Hispanic ethnicity, as well as those residing in lower income zip codes were much less likely to receive bone density testing. As all women were insured and at high recurrent fracture risk, barriers to osteoporosis recognition such as physician overapplication of population statistics to individual patients deserve further study.

ELIMINATING DISPARITIES IN DIABETES CARE: THE IMPACT OF DISEASE MANAGEMENT STRATEGIES WITHIN TRAAD

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BACKGROUND: Osteoporotic fractures are known to be less common in members of some racial and ethnic groups than in white Americans, but the effects of this upon osteoporosis identification and care are not well-described. We hypothesized that even after hip fracture, nonwhite race and lower socioeconomic status are associated with lower rates of intervention for bone density in female Medicare recipients.

METHODS: A cohort of women Medicare enrollees aged 67-91 from three states (FL, NY, IL) who had a hip fracture in 2001 was identified by adapting a published fracture algorithm (previously reported positive predictive value 98%) using 100% of each state’s Medicare claims. As bone density tests are Medicare-reimbursed every 2 years, appropriate osteoporosis testing was defined as any bone density test (ultrasound or X-ray absorptiometry) performed between 2 years before and 6 months after the fracture. Race and ethnicity were measured as self-reported by Medicare beneficiaries assigned to the subject with the known threat to patient safety posed by the use of medications, identifying risk factors for poor comprehension and incorrect use of medications is crucial. Rapid Estimate of Adult Literacy in Medicine (REALM) has been validated as a brief, simple test to predict health literacy. We conducted a pilot study to evaluate the predictive value of the REALM score for medication knowledge.

METHODS: Patients at an academic internal medicine clinic who had brought their medications to their visit who agreed to participate were surveyed regarding level of education, self-reported literacy level, and number of medications. They were then administered the REALM test as well as a survey of medication comprehension. This tool could enable physicians to identify patients at risk and intervene with intervention and education. REALM score (p =0.0003) and last grade completed may independently predict medication comprehension as assessed by the Medication Comprehension Score. Therefore, the REALM score may be an accurate screening tool for patients at risk for poor medication comprehension.

CONCLUSIONS: This survey pilot study suggests that REALM score and last grade completed may independently predict medication comprehension as assessed by the Medication Comprehension Score. Therefore, the REALM score may be an accurate screening tool to predict health literacy. We conducted a pilot study to evaluate the predictive value of the REALM score for medication knowledge.
differences were not observed within groups intensively implementing these two disease management strategies. In contrast, among persons with poor control, Latino and African-American/Pacific Islanders received the same level of aggressive therapy as did whites.

CONCLUSIONS: In a setting of uniform access to care, process delivery and aggregate management of poor risk factors remained comparable between Latinos and whites and Asians/Pacific Islanders and whites. However, in low-intensity groups disparities remained for African Americans compared to whites, with some attenuation in the high-intensity groups. All minority groups had worse intermediate outcomes than whites, suggesting that disease management programs as presently implemented are not eliminating disparities in risk factors. Research identifying mutable factors closely related to intermediate outcomes in diabetes might provide strategies to address the issue of disparities in diabetes complications.

EXAMINING THE LINK BETWEEN COMMUNICATION AND MEDICATION ADHERENCE AMONG AFRICAN AMERICANS AND LATINOS

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BACKGROUND: Hypertension disproportionately affects minority populations in part due to many different socio-cultural factors that affect adherence to antihypertensive drug therapies. In multicultural minority populations, issues dealing with patient communication may play a significant role because of linguistic and contextual barriers that inhibit effective provider-patient communication. In this study, we examine the relationship between provider-patient communication and medication adherence.

METHODS: We included 1,867 African-American (79%) and Hispanic-American (25%) adults participated in the study at a large teaching hospital on the West Coast. Participants are representative of the surrounding, predominantly low-income minority community. The patients were randomly assigned to health providers, and received one of three types of intervention designed to enhance provider-patient communication: Individualized patient counseling sessions (CS) following clinic visits, computerized appointment (CA) reminder patient tracking and home visits by community health workers (CHW) to encourage family members to support patient’s management of lifestyle and medication adherence, or the usual care (UC). Patient adherence was measured at baseline and six months after the intervention using the Morisky adherence measure, which is scaled from 1 (low) to 3 (high). We used multilevel ordered logistic models to evaluate the effects of the intervention on patient adherence, after adjusting for individual health beliefs, social support, patient satisfaction, complexity of medication regimen, BMI, age, baseline adherence and ethnicity.

RESULTS: After the intervention, patients who received counseling sessions (OR 1.07, (95% CI 1.03–1.11), P =.04), and those who received the usual care. Patient adherence was also associated with health beliefs (OR 1.15, (95% CI 1.04–1.28), P =.03), patient satisfaction (OR 1.07, (95% CI 1.03–1.11), P =.04), and complexity of medication regimen (OR=2.55, (95% CI 1.38 – .78), P=.01).

CONCLUSIONS: In this randomized intervention study, African American and Latino patients who received personalized communication from health providers or community health workers were more likely to adhere to their medication treatment. These results give new evidence for the importance of provider-patient communication. These providers may influence the adherence behavior of their patients by supporting and reinforcing current positive behaviors or clarifying misunderstandings and incorrect beliefs.

FACTORS MEDIATING ETHNIC DIFFERENCES IN GLYCEMIC AND CARdiovascular risk FACTOR CONTROL IN diabetEs.

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BACKGROUND: Ethnic differences in cardiovascular risk factor levels and glycemic control persist in US adults with diabetes. While these disparities have been demonstrated, little is known about what patient and system characteristics are responsible for these differences. Identifying patient and system characteristics that mediate these differences may be important to developing interventions that target these characteristics in order to ameliorate these disparities.

METHODS: We analyzed the 1999-2000 National Health and Nutrition Examination Survey to evaluate if hemoglobin A1c % (HbA1c) and cardiovascular risk factors such as systolic blood pressure (SBP), low-density lipoprotein (LDL) and high-density lipoprotein (HDL) cholesterol, and triglycerides (TG) varied by ethnicity. Ethnic categories analyzed were non-Hispanic whites (NHW), non-Hispanic blacks (NHB) and Mexican-Americans (MA). Initially, multi-variant linear regression was used to test if HbA1c, SBP, LDL cholesterol, HDL cholesterol and TG differed by ethnicity. We evaluated if education level and ethnic health beliefs were related to adherence, duration of diabetes and insulin use were responsible for the variation in cardiovascular risk factors and HbA1c among diabetics by R-square change analyses (AIC). All analysis incorporated the complex survey design effects to determine population estimates.

RESULTS: Significant ethnic differences were noted in HbA1c, HDL cholesterol and triglyceride levels. NHW had significantly lower HbA1c levels (7.48%) compared to NHB (8.31%) and MA (8.26%). In contrast, NHB had significantly higher HDL cholesterol (50.5 mg/dl) and lower TG (177.9 mg/dl) than NHW (HDL 42.4 mg/dl, TG 243.5 mg/dl) and MA (HDL 43.6 mg/dl, TG 311.9 mg/dl). Education level was the single largest determinant of variability in HbA1c (AR2 2.80, p <.05), with more modest effects (p <.05) of access to care (AR2 1.10), duration of diabetes (AR2 1.18) and use of insulin (AR2 1.62). Though the magnitude was small, significantly different for the variation in SBP (AR2 change 0.27) and TG (AR2 1.69), and access to care for variation in LDL (AR2 0.05). None of these variables were significantly responsible for variability in HDL cholesterol. However, age in education may decrease ethnic differences in glycemic control. Future research should evaluate other behavioral, socioeconomic and biologic factors as mediators of ethnic differences in order to effectively develop interventions to eliminate disparities.

GOOD DOCTOR-PATIENT RELATIONSHIP CAN OVERCOME LANGUAGE BARRIERS: A STUDY FROM THE VA

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BACKGROUND: Previous research has shown that language concordance between doctors and patients is related to higher patient satisfaction with care. To what degree, if any, can a good doctor-patient relationship overcome barriers imposed by doctor-patient language discordance? We sought to examine the independent effects of the quality of the doctor-patient relationship and language discordance on patients’ ratings of care.

METHODS: We surveyed 3,258 (74% response rate) Chinese and Vietnamese patients who had an office visit in the last month at one of 11 health centers across the U.S. In a mail survey in multiple languages, we asked patients to report on different aspects of their visit and to rate the quality of overall care. We studied patients whose doctors spoke their native language (concordant group) vs. those who did not (discordant group). We used patient-level multivariable logistic regressions to determine the effects of language concordance and the quality of the doctor-patient relationship on patients’ ratings of the quality of care (including rating of the overall quality of the last visit, rating of doctor, and recommendation of the clinic). We adjusted for patient demographic characteristics including age, education, primary language, English proficiency, time in