Race/Ethnic Differences in the Diagnosis and Management of Diabetes by Primary Care Physicians

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Background

One third of diabetes mellitus in the U.S. remains undiagnosed and there are worrisome health care disparities when it is eventually diagnosed and managed. Studies of the contribution of healthcare providers to the creation and amplification of health care disparities have been encouraged by the IOM and the NIH.

Major Questions

- To estimate the effect of patients' race and ethnicity on the **initial diagnosis** of diabetes;
- To estimate the contributions of patient, provider and organizational influences to variations in the **management of already diagnosed** diabetes.

Methods

- Factorial experiment conducted with 192 primary care physicians (NY, NJ, PA).
- Participants had either ≤ 12 years or ≥ 22 years of clinical experience.
- Had to be providing clinical care at least half-time or greater.
- Each viewed two clinically authentic video-based scenarios: the first "patient" had symptoms strongly suggestive of diabetes; the second, with already diagnosed diabetes, had emerging peripheral neuropathy (See **Table 1**).

Table 1: Symptoms Embedded in Two Clinical Scenarios: Undiagnosed Diabetes and Diabetes with Peripheral Neuropathy

Undiagnosed Case	Diagnosed Case
Symptoms	**Symptoms**
• Frequent urination (polyuria) • Thirst (polydipsia) • Non-intentional weight loss (weight loss with polyphagia) • Fatigue • Not feeling well	• Burning in feet • Bottoms of feet and up one ankle • Intermittent • Hard to localize
Distractions	**Distractions**
• Patient concern about heart disease • High blood pressure (135/95) • Drinking a lot of caffeine • Hasn't been to doctor in several years	• Patient concern about high blood pressure • On blood pressure medication, but compliance less than ideal • Single high blood pressure reading (145/98) • HbA1c = 6.9

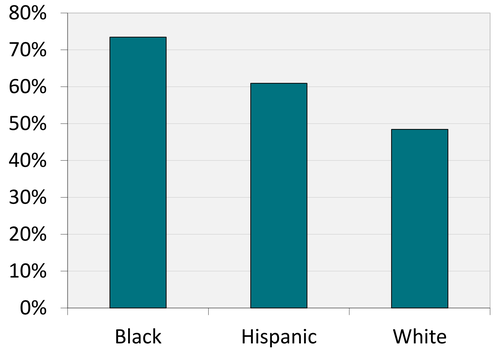
Note: Since patients seldom present as 'textbook cases', minor distractions were also embedded to increase the clinical authenticity of the clinical scenarios.

Findings

First Scenario (Undiagnosed diabetes)

- 60.9% of physicians correctly diagnosed diabetes (48% when "patient" was White, 61% when Hispanic, and 73% when Black) p=0.009 (See **Figure 1**).
- Of those initially diagnosing diabetes, 23.9% would not order confirmatory tests.
- Competing diagnoses were offered even though conditions were not in scenario.
- Physician characteristics and organizational factors had little influence.

Figure 1: Race/Ethnic Differences in the Diagnosis of Diabetes by Primary Care Physicians (N=192) (p=0.009)



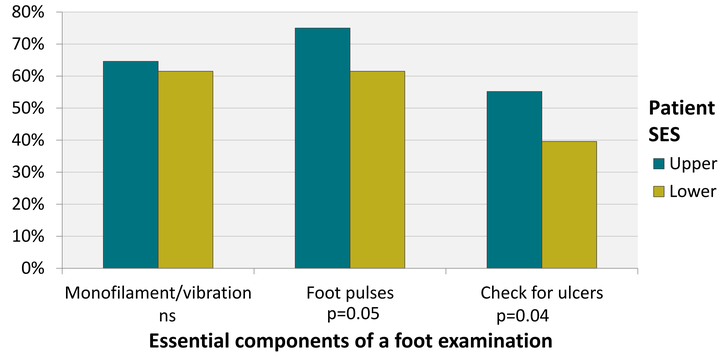
Physicians are significantly more likely to diagnose diabetes in Black and Hispanic "patients". Orthogonal design of factorial controls for effect of age, gender, and SES.

Second Scenario (Diagnosed diabetes with peripheral neuropathy)

- Only 42.2% of physicians would do all essential components of a foot examination; 21.9% would do none.
- Males, older "patients", and those of higher SES were more likely to get each component of the foot examination (See **Figure 2**).
- Female physicians were more likely to do foot examinations.

Findings continued

Figure 2: SES Differences in Foot Examinations by Primary Care Physicians (N=192)



Conclusions

- Widely reported race/ethnic differences in diabetes are accepted as real and commonly attributed to either:
  a) genetics, family background or bio-physiologic influences; and/or
  b) influence of social and behavioral risk factors (geographic location, diet, obesity).
- **An additional contributor to race/ethnic disparities in diabetes may be social patterning resulting from variable decision making at the level of primary care.**
- Recognizing the importance of health care for minority patients, findings indicate that diabetes diagnoses may be missed by placing higher emphasis (consciously or subconsciously) on perceived base rates rather than on symptom presentation.
- Focusing on race/ethnicity, rather than SES, distracts attention from the real source and potentially changeable health disparities.

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