Background Research suggests almost 30% of the United States population has undiagnosed diabetes and that diabetes typically have the disease for 4 to 7 years before eventual diagnosis. Delay in initial diagnosis results in greater diabetes-related complications, poorer patient outcomes, and reduced quality of life. Most diabetes research is necessarily confined to diagnosed diabetes. Our objective was to identify risk factors for remaining undiagnosed.

Methods The Boston Area Community Health (BACH) Pre-Diabetes study is an ongoing community-based random-sample cohort study that has enrolled 2,974 participants to date. Participants were asked to fast for 8 hours prior to their interview. Fasting glucose (FG) and glycated hemoglobin (HbA1c) were collected during in-home interviews. Undiagnosed diabetes was defined as FG >125 mg/dL or HbA1c ≥6.5%. Risk factors were organized into four logistic groupings: 1) socio-demographics, 2) lifestyle/behavioral, 3) utilization/access to healthcare, and 4) health status/comorbidities. Logistic regression was used to estimate the odds ratio (OR) for diagnosed vs. undiagnosed diabetes.

Results The prevalence of diabetes in the BACH study was 27.8% (n=827). 21.2% of diabetes cases were undiagnosed. The data indicate that healthcare utilization and the presence of co-morbid conditions had a large impact on diabetes diagnosis. Participants who visited a health care provider 5 or more times in the past year were 90% more likely to be diagnosed (OR=1.9, p<0.001) than participants who had 5 or fewer visits. Participants with a history of high cholesterol were more than twice as likely to be diagnosed (OR=2.7, p<0.001). High blood pressure or a history of heart disease also increased the likelihood a participant was diagnosed. Participants with a documented family history of diabetes were more likely to be diagnosed (OR=2.9, p<0.001). Finally, English-speaking participants were more than twice as likely to be diagnosed (OR=2.6, p=0.01) than their Spanish-speaking counterparts.

Conclusion Undiagnosed diabetes is a highly prevalent problem in the United States that leads to poorer patient outcomes and significant health-care costs. These results indicate that access to care, healthcare utilization and the presence of co-morbid conditions have an important impact on diabetes diagnosis. Individuals who do not have the traditional risk factors for diabetes (i.e. family history) have a greater risk of remaining undiagnosed. These findings suggest that improving access to care in the United States may greatly increase the likelihood of diagnosing previously undiagnosed diabetes.