

**Submission Id: 4815**

**Title**

*Primary care continuity among pre-diabetics and the likelihood of progressing to type 2 diabetes within 3 years*

**Priority 1 (Research Category)**

Diabetes and endocrine disease

**Presenters**

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**Abstract**

Context. The transition from pre-diabetes (pre-DM) to type 2 diabetes (T2D) can be prevented or delayed through lifestyle modifications. Primary care and continuity of care may help patients maintain an HbA1c within the pre-diabetic range. Objective. To determine whether continuity of care impedes progression to T2D. Study Design & Analysis. Multivariate logistic regression of a retrospective cohort of primary care patients. Setting or Dataset. Data come from the Geisinger healthcare system's EHR between 1997 and 2017. Population Studied. Primary care patients with pre-DM were included in the analysis if they had an HbA1c between 5.7-6.4%, were 18-75 years, a BMI  $>27\text{kg/m}^2$ , and at least one primary care visit in the 3 years prior to diagnosis (N=5889). Data were retrospectively collected for 3 years before and 3 years after diagnosis of pre-DM. Intervention/Instrument. We measure relational primary care continuity as a count of the number of visits with the primary care provider (PCP) most frequently seen in the 3 years prior to diagnosis. Outcome Measures. Our primary outcome of interest is a binary indicator for transition from pre-DM to T2D within 3 years, controlling for the total number of primary care and specialty visits over the 6-year period, sex, race, and ethnicity. We also control for baseline characteristics including age, hypertension, hyperlipidemia, HbA1c, and BMI. Finally, we control for the patient's percent of weight lost at 1-year after baseline and a binary indicator variable for whether the patient lost  $\geq 3\%$  of their baseline weight and then regained  $\geq 2\%$  by year 3 of follow-up. Results. The median age at baseline was 55, 56% identified as female, and the majority are non-Hispanic whites. At baseline 29% and 33% of the sample had hypertension and hyperlipidemia, respectively. The median baseline HbA1c was 5.9% and the median baseline BMI was 33.89 kg/m<sup>2</sup>. Each additional visit with the primary care provider most frequently seen in the 3 years before diagnosis of pre-DM is associated with a 6% decrease in the odds of transitioning to T2D within 3 years after their pre-DM diagnosis (OR=0.95; 95% CI=0.92; 0.97,  $p<0.000$ ). Finally, the total number of PCP (OR=1.03;  $p<0.001$ ) and specialty visits (OR=0.99,  $p<0.05$ ) over the 6-year period were significant. Conclusion. Establishing continuity of primary care prior to diagnosis of pre-DM may decrease the likelihood of transitioning to T2D.