Introduction
Surgical resection is the primary curative treatment for localized gastric cancer. A multitude of research supports surgical nodal sampling guidelines. Though there are known disparities in adherence to nodal sampling, it is unclear how hospital program-level disparities have changed over time. The purpose of this study is to evaluate trends in program-level disparities in adherence to gastric cancer nodal sampling guidelines.

Methods
Patients who underwent resection of gastric cancer from 2005-2017 were identified in the National Cancer Database (NCDB). Patients treated at academic programs were compared to those treated at nonacademic programs, and rates and trends of adherence to nodal sampling guidelines (defined as ≥15 lymph nodes) were determined. Adjusted multivariable analysis was used to determine likelihood of nodal sampling adherence and receipt of adjuvant chemotherapy while controlling for sociodemographic, clinical, hospital, and travel distance characteristics.

Results
A total of 55,421 patients were included with 27,201 (49.1%) of patients meeting adherence criteria for lymph node sampling. Academic programs treated 44.4% of the total cohort.

Overall, lymph node sampling criteria were met in 59.2% of patients treated at high-volume academic programs and 37.0% of patients treated at low-volume nonacademic programs (IRR 0.67, 95% CI 0.63-0.72 vs high-volume academic programs).

Adherence rates improved from 2005 to 2017 for both low-volume nonacademic programs (27.8% in 2005 to 50.1% in 2017) and high-volume academic programs (46.0% in 2005 to 69.8% in 2017, p<0.001).

In adjusted multivariable analysis, lymph node guideline adherence (≥15 lymph nodes sampled) was associated with increased likelihood of receipt of adjuvant chemotherapy (IRR 1.23, 95% CI 1.20-1.27 vs <15 lymph nodes sampled).

Conclusions
Though adherence rates have improved from 2005-2017, nonacademic and low volume facilities have lower likelihood of successful adherence to guidelines for gastric cancer. Adherence to lymph node sampling guidelines is associated with increased likelihood of receipt of adjuvant therapy.

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