Introduction: Inconsistency in the use of implantable defibrillators among eligible patients has been previously reported. Use of algorithms to identify indicated patients from electronic health records (EHR) may help researchers identify differences in care in a real-world setting. We sought to examine treatment with ICDs or CRT-Ds among newly indicated patients across race and sex groups.

Methods: US patients <79 years of age with new indications for an ICD or CRT-D from 2012-2016 were identified from Optum® EHR de-identified data using GLIDE HF (GuideLine Indications Detected in EHR for HF) program algorithms. Patients implanted with a device were identified from procedure reports. Implant rates were compared according to race and sex.

Result: Among 78,377 male patients newly indicated for an ICD/CRT-D, devices were implanted in 12,834 (16.7%), whereas 5,873 of 46,268 indicated female patients were implanted (12.7%; P<0.001). Devices were implanted in 15.6% of white patients, 14.3% of Hispanic patients, 13.3% of black patients, and 11.2% of Asian patients. White men received a device more often than men of other races (17.1% vs. 12.1%-15.2% for other races; Table). Device use in Asian women was lower (9.5%) than other female race groups (range 12.5%-12.8%). White men were significantly more likely to receive a device (P<0.001), while Asian women were significantly less likely to receive a device (P=0.041).

Conclusion: In this large real-world analysis of device-indicated patients, disparities in ICD/CRT-D use were observed across both race and sex. Device use was highest among white men, highlighting the need for further investigation into the causes of these differences in care.