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BACKGROUND: Disappointing survival rates from out-of-hospital cardiac arrests encourage strategies for faster defibrillation, such as use of automated external defibrillators (AEDs) by nonconventional responders. METHODS AND RESULTS: AEDs were provided to all Miami-Dade County, Florida, police. AED-equipped police (P-AED) and conventional emergency medical rescue (EMS) responders are simultaneously deployed to possible cardiac arrests. Times from 9-1-1 contact to the scene were compared for P-AED and concurrently deployed EMS, and both were compared with historical EMS experience. Survival with P-AED was compared with outcomes when EMS was the sole responder. Among 420 paired dispatches of P-AED and EMS, the mean+/-SD P-AED time from 9-1-1 call to arrival at the scene was 6.16+/-4.27 minutes, compared with 7.56+/-3.60 minutes for EMS (P<0.001). Police arrived first to 56% of the calls. The time to first responder arrival among P-AED and EMS was 4.88+/-2.88 minutes (P<0.001), compared with a historical response time of 7.64+/-3.66 minutes when EMS was the sole responder. A 17.2% survival rate was observed for victims with ventricular fibrillation or pulseless ventricular tachycardia (VT/VF), compared with 9.0% for standard EMS before P-AED implementation (P=0.047). However, VT/VF benefit was diluted by the observation that 61% of the initial rhythms were nonshockable, reducing the absolute survival benefit among the total study population to 1.6% (P-AED, 7.6%; EMS, 6.0%). CONCLUSIONS: P-AED establishes a layer of responders that generate improved response times and survival from VT/VF. There was no benefit for victims with nonshockable rhythms.