Major Disparities in Public Access Defibrillation Programs Implementation: a French Nationwide Study

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Purpose

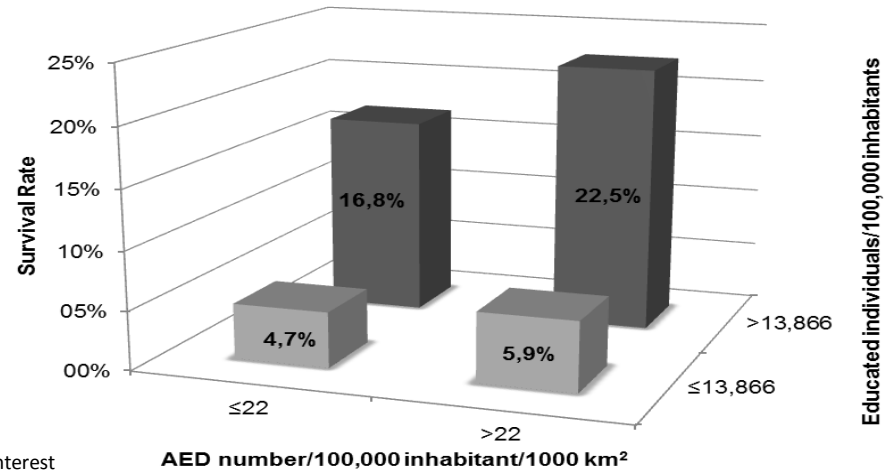
Public Access Defibrillation (PAD) programs emerged since mid-nineties for improving Out-of-Hospital Cardiac Arrest **(OHCA) survival** by increasing Automated External Defibrillator **(AED) availability** and Basic Life Support **(BLS) education**. Their implementation and impact have not been evaluated in real life.

Aims

To assess PAD **implementation** in real life, and the potential **process behind their success**.

Methods

We carried out a 5-year prospective assessment, in **51 French districts**, of the two arms of PAD programs: **density of AEDs** per 100,000 inhabitants per 1,000 km² and number, per 100,000 inhabitants, of **persons educated in BLS**. Per-district OHCA survival rates during the study period were obtained from the French national registry on sports-related OHCA.



Results

We observed **huge discrepancies** in PAD across districts. The proportion of educated persons varied from 6,955 to 36,636, and the density of AEDs from 5 to 3,399. Only a **third** of districts developed **significant and balanced programs** (both AED density and educational rate above the median). **Survival** rate was much **more correlated** with BLS **education** (correlation coefficient 0.83, *P*<0.001) than with AED density (0.29, *P*=0.03). After **adjustment** for other prognostic factors (including age, presence of witness, bystander CPR, response time, initial shockable rhythm), **only** the level of population **education remained significantly** associated with survival (OR 1.64,95%CI 1.17-2.31, P=0.004).

Conclusion

Major heterogeneities in PAD programs implementation exist, with significant **room for better coordination** in implementing their two arms. Deploying **AEDs** leads to **limited benefit if not combined with BLS education**, which should considered in **public health policies** for improving OHCA survival.

* No conflicts of interest