

# EFFECTIVENESS AND COST-EFFECTIVENESS OF OHCA-EARLY DEFIBRILLATION PROGRAM (EDP) IN SOUTHERN SWITZERLAND

Massimo Brunetti<sup>1</sup>, Stefano Mimmi<sup>1</sup>, Claudio Benvenuti<sup>2</sup>, Roman Burkart<sup>2</sup>, Romano Mauri<sup>2</sup>

<sup>1</sup>SUPSI / DSAN, Manno, Switzerland • <sup>2</sup>Ticino Cuore Foundation, Breganzona, Switzerland

## PURPOSE

In 2006 Ticino Cuore Foundation started an early defibrillation program in southern Switzerland including community BLSD training, PAED and first responder network. Aim of the present work was to evaluate effectiveness and cost-effectiveness of the OHCA early defibrillation program.

## METHODS

The study compared clinical data (Utstein style) and economic outcomes before and after EDP implementation. We used 2002-2005 as control and 2008-2012 as the intervention period. Primary clinical outcomes were: ROSC at ED admission, survival to hospital discharge and good cerebral performance (CPC 1 or 2). We applied logistic regression to compare outcomes, estimating adjusted OR using sex, age, etiology, lay witness, bystander BLS and location as covariates. For economic evaluation we used a cost effectiveness analysis, comparing cost difference to clinical difference. We considered direct cost of implementation, as personnel, AEDs, BLSD training, marketing and other costs.

## RESULTS

The analysis considered 1,104 OHCA before (mean age 66,3) and 1,307 (67,9) after implementation. ROSC showed an increasing trend (19.30% before and 22.50% after; adjusted OR = 1.226 p = 0.086), while survival to hospital discharge showed a significant increase (7.00% before vs 9.80% after, adjusted OR = 1.476 p = 0.028). In particular, survival to hospital discharge with CPC 1-2 increases (5.80% before vs 9.30% after, adjusted OR = 1.712 p = 0.004). We calculated that the program saved 9 more lives per year with good cerebral performance (16 before vs 25 after). In the same period we measured that the total cost of the program was 3.417.856 CHF Considering a conservative mean survival of 5 years for each patients, cost effectiveness results were 15,190 CHF per life year saved (16,601 \$), less than 50,000 \$, the US standard generally accepted per life year saved (1).

## CONCLUSIONS

Our results showed that the Ticino Cuore early defibrillation program can be considered good value for money for the health system in southern Switzerland.

## References

1. NICE (National Institute for Health and Clinical Excellence) Guide to the methods of technology appraisal. Issue date: June 2008 Accessed June 2009 at [www.nice.org/media/B52/A7/TAMethodsGuideUpdatedJune2009.pdf](http://www.nice.org/media/B52/A7/TAMethodsGuideUpdatedJune2009.pdf)