

Review of In-Hospital and Out-of-Hospital Cardiac Arrests at a Tertiary Community Hospital for Potential ECPR Rescue

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Review of In-Hospital and Out-of-Hospital Cardiac Arrests at a Tertiary Community Hospital for Potential ECPR Rescue

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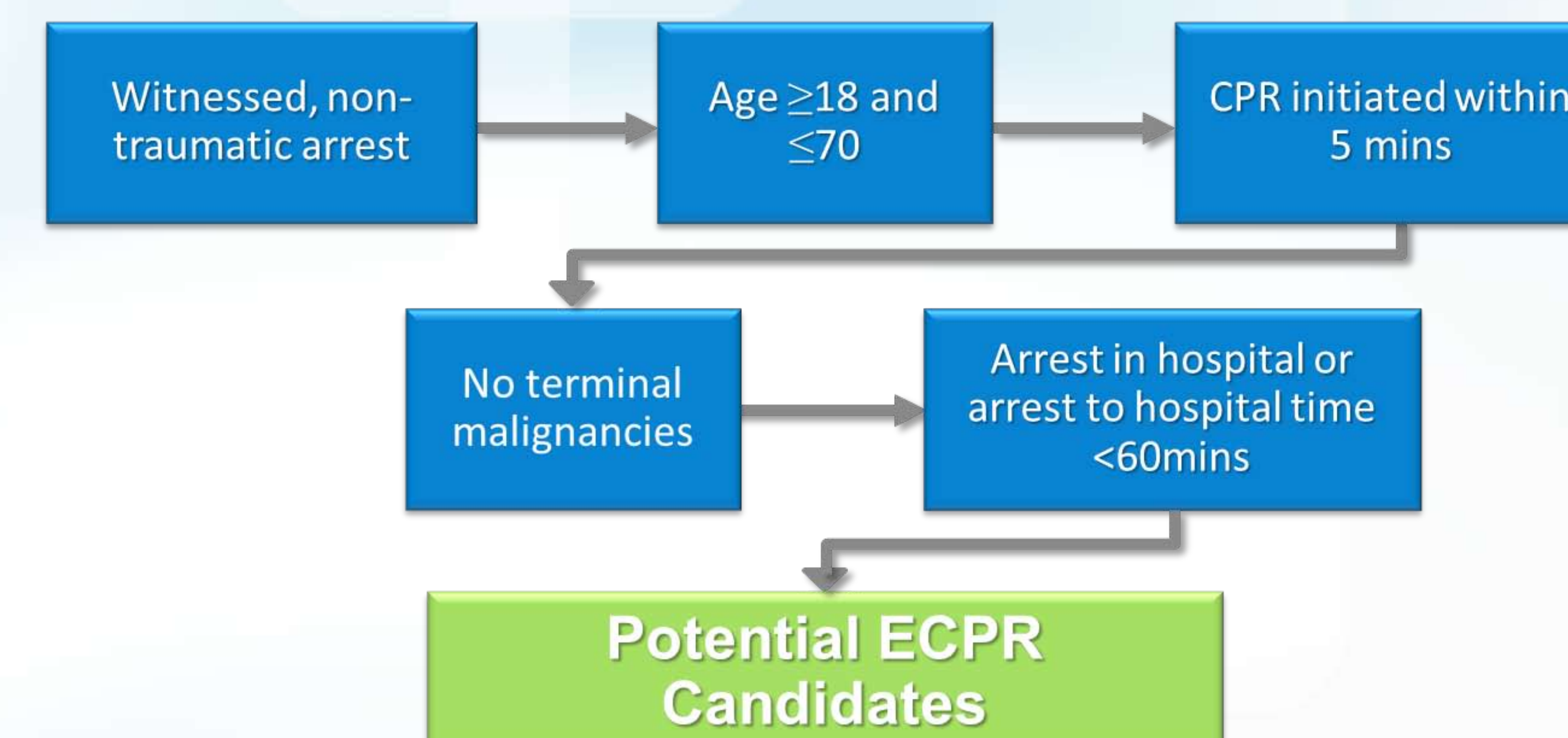
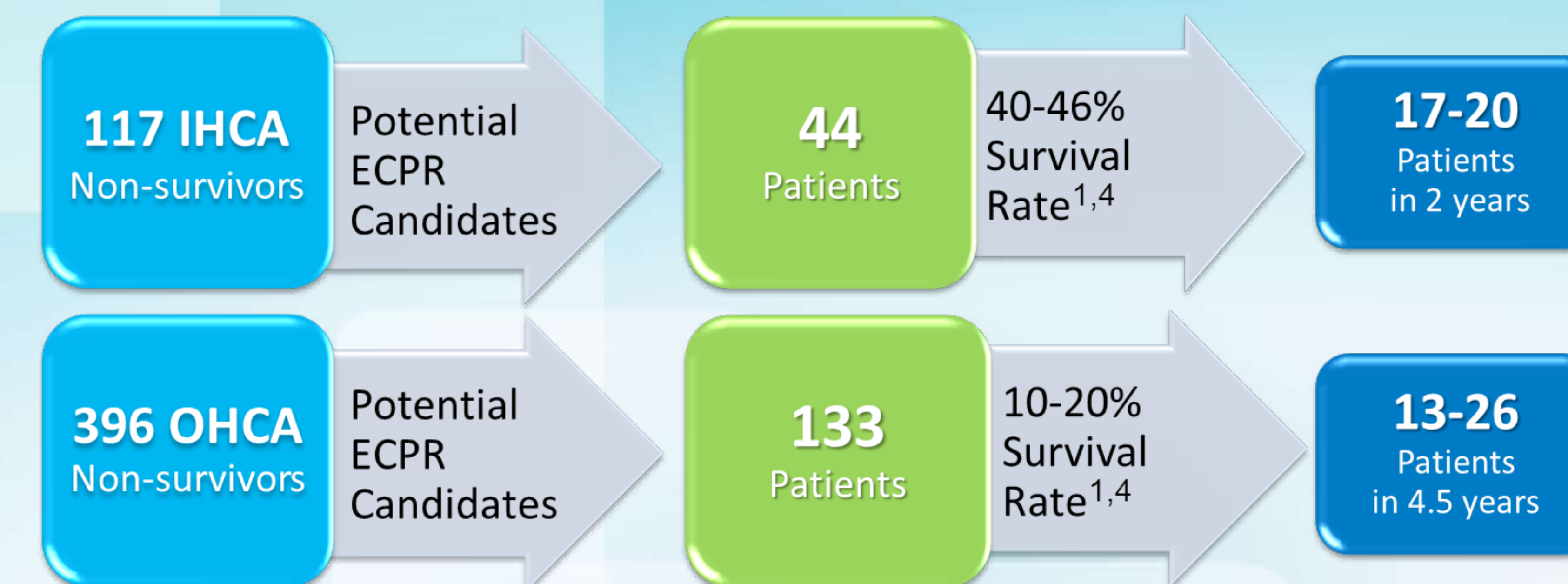
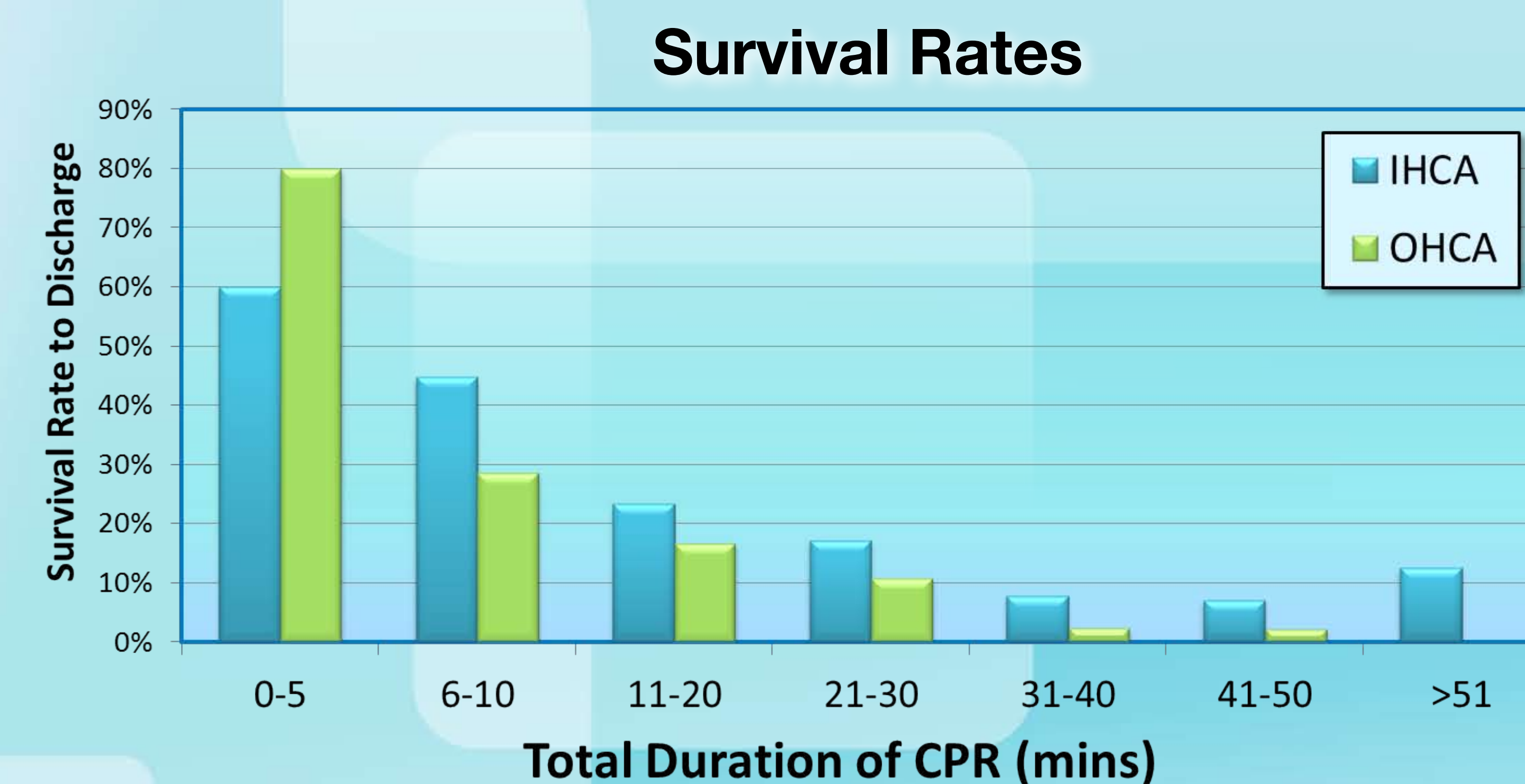
Background

Cardiac arrest remains a major cause of death in United States.¹ Both in-hospital cardiac arrests (IHCA) and out-of-hospital cardiac arrests (OHCA) have very poor survival rates at 17% and 5%, respectively.^{2,3} The current standard strategy for intervention of IHCA and OHCA is the advanced cardiac life support (ACLS) protocol; with extracorporeal membrane oxygenation cardiopulmonary resuscitation (ECPR) being available in some centers. ECPR is a technique that externally circulates the blood to support cardiac and pulmonary function.^{1,4} We sought to determine if additional patients could have potentially survived if ECPR protocol had been in place at our institution.

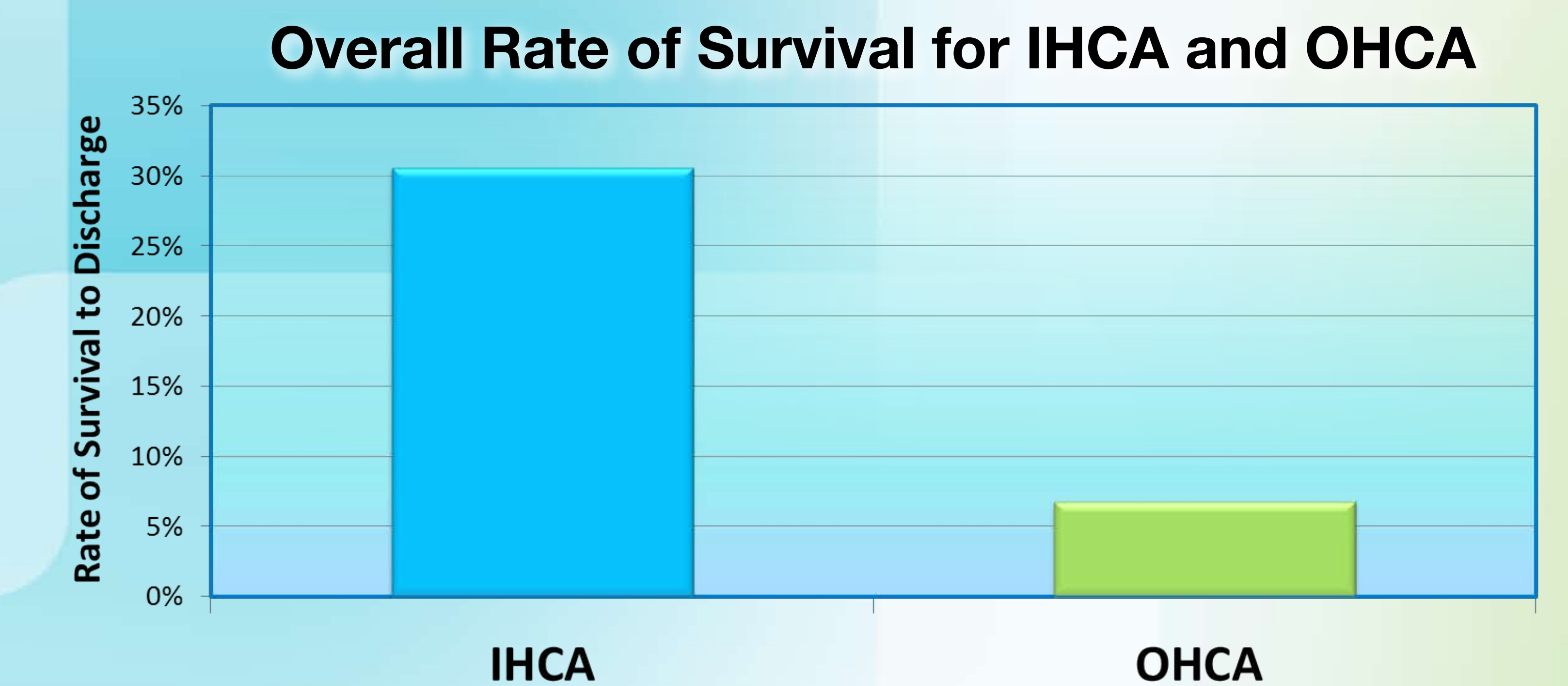
Methods

A retrospective chart review was performed for 169 IHCA patients in 2011-2012 and for 425 OHCA patients in 2011-May 2015. Overall exclusion criteria were an age less than 18 or greater than 70 or an existing DNR. When evaluating patients who may have benefited from ECPR, the inclusion criteria were: Patients with witnessed and non-traumatic arrests, CPR initiated within 5 minutes, no terminal malignancies, time from arrest to hospital <60 minutes or arrest in hospital. Exclusion criteria was survival or sustained ROSC from conventional CPR.

Results



Results



Conclusions

A large correlation was found between decreasing survival rates with increasing duration of CPR for both IHCA and OHCA. Overall survival rates were found to be around the national average at 6.8% for OHCA and above the national average at 30% IHCA respectively.

If ECPR protocols had been in place with the specific inclusion and exclusion criteria outlined, additional patients could have potentially survived. This study warrants further research into resuscitation protocols for those with prolonged or refractory arrests and the possible implementation of an ECPR protocol in the LVHN.

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