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Editorial

China joins the family of in-hospital cardiac arrest registries



Many studies published in the 1980s and 1990s reported outcomes from in-hospital cardiac arrest (IHCA),¹ but these were relatively small studies and the way that data were reported was not standardised. The first standardised reporting of in hospital cardiac arrest (IHCA) registries began following the publication of the in-hospital Utstein-style guideline in 1997.² The guideline was intended to enable reliable comparison of the characteristics, trends in interventions, and outcomes from IHCA between hospitals, regions and countries.^{3,4} Standardised large-scale outcome data for IHCA have subsequently been available for over 20 years. During this time the number of national and international databases have increased providing insight into IHCA from around the world.^{5–9} The Utstein-style guideline for IHCA was updated in 2019.¹⁰ Observational studies using data from high-quality IHCA registries can be used to analyse the impact of resuscitation strategies and guidelines.^{11,12}

In this issue, Wang and collaborators describe the BASeline Investigation of Cardiac Arrest (BASIC)–IHCA, which is the first reported national IHCA registry in China.¹³ Although some Utstein-style IHCA data has previously been reported from China, this was limited to one city – Beijing.¹⁴ The BASIC-IHCA registry includes 40 hospitals across 29 of the 31 Chinese provinces – an impressive start given the geographic size and population of China. Wang and colleagues have documented 19443 IHCA after 18 months of data collection. The research team has commendably aligned many elements of their data collection with the Utstein template, which enables comparison with cardiac arrest events from registries around the world. Some of the data elements proposed for the BASIC-IHCA are additional to the core dataset recommended in the Utstein-style template. Most notably, the plan to include neurological (best described as functional) status at 6 and 12 months is ambitious but commendable if it can be achieved.

BASIC-IHCA provides a vital role in helping us understand the patterns and practices relating to IHCA in China. The registry will hopefully stand alongside the established registries and provide insights into IHCA for many years to come. Registries such as the United States Get With The Guidelines-Resuscitation (GWTG-R) registry and the UK National Cardiac Arrest Audit (NCAA) have provided data that have informed and supported cardiac arrest guidelines in recent years.¹⁵ They have also enabled us to understand how changes to the guidelines and medical advances have altered the incidence of cardiac arrest over time.¹⁶ The BASIC-IHCA registry has the potential to do the same in China and contribute to international understanding.

Cultural and organisational differences are recognised as contributors to variations in practice. As well as describing the BASIC-IHCA registry, Wang and colleagues provide a rare and fascinating insight into some of the clinical practices in Chinese hospitals. It seems that very few hospitals have cardiac arrest or rapid response teams; instead, resuscitation is activated and organised by the closest physician who may or may not call for ‘chief residents’ from other departments. The described process for managing resuscitation decisions differs from the practice in many other countries. Whilst families are often involved in these decisions in most countries, there seems to be an even stronger emphasis on family consent for decisions on DNACPR and terminating resuscitation attempts.

Wang and investigators have described the methods of the BASIC-IHCA registry and have provided baseline data on the number of cardiac arrests included, but no outcome data – these will presumably follow in a subsequent publication? While the BASIC-IHCA database conforms largely to the Utstein IHCA template, there are some deviations. The most striking difference is the inclusion of patients who did not receive chest compressions or defibrillation, therefore recording all in hospital deaths. The authors explain this by stating their intention try to understand the decision making in relation to DNACPR. If hospital deaths without a resuscitation can be excluded from the reported data, comparison with other registries should still be possible.

The publication of the BASIC-IHCA registry is an important milestone for cardiac arrest research in China. It enables us to reflect on the impact existing cardiac arrest registries have had on our understanding of IHCA and reminds us of the power of collaborative data. We very much hope that the initiative undertaken by Wang and co-investigators will be adopted by colleagues in other countries so that IHCA registries globally will begin to report data. The International Liaison Committee on Resuscitation (ILCOR) has collated and reported summary data from out-of-hospital cardiac arrest (OHCA) registries around the world¹⁷ and is now doing the same for IHCA registries.

Conflicts of interest

JPN is Editor-in-Chief of Resuscitation and Founding Editor of Resuscitation Plus. He is a co-investigator for two National Institute of Health Research (NIHR) funded studies: AIRWAYS-3 and PARAMEDIC-3.

JAP declares no conflicts of interest.

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