Taipei City EMS Total Quality Management Initiatives Significantly Improve OHCA Survival

BRIEF BACKGROUND
Taipei City owns 2.7 million population, with 2,000 OHCA occurred each year. AED has become the standard equipment of EMTs since 2000 and endotracheal tube intubations were performed by EMT-Paramedics since 2005. With the "119" (911) responses increase 7% annually since 2011, it is obvious that a quality assurance program should be implemented to monitor the whole patient journey.

STEPS TAKEN
From 2012, a quality assurance (QA) team specific to prehospital care was formed by EMT-Paramedics. It embraced the concept of Total Quality Management (TQM) to systematically set up indicators, build teams, audit (including evaluation and approval) and improvement (through training and protocol optimization). Quality managers scrutinize every case using standardized form, extract AED records to decide compression rate, ventilation ratio, and pause time. Supplemented by audio records, CCTV in the ambulance (from 2013), patient care records, and intubation (or SGA placement) note, CPR quality can be described in a more objective way.

CHALLENGES
To assist and improve the working flow of T-CPR Telephone-CPR (T-CPR), a medical director is assigned to the dispatch center since 2013. Since 2015, all proven OHCA calls were 100% reviewed to improve the percentage of OHCA cases identified over phone, and the percentage of recognized OHCA receiving T-CPR.
RESULTS
The percentage of OHCA cases being rated as “perfectly executed” has increased since the inception of the program in 2012. In 2018, OHCA cases identified over phone and recognized OHCA cases received T-CPR were 76.1%, and 83.58%, respectively. Utstein survival rate improved from 22.3% to 35.8%. Overall OHCA survival (trauma cases included) rise from 5.51% to 9.22%, a 1.7 fold increase!

OUTLOOK
These evidences suggested that culture of excellence has been fostered and further deepened into the system.

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