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A NATIONWIDE WEB-BASED QUALITY REGISTRY FOR DISPATCHER-ASSISTED CARDIOPULMONARY RESUSCITATION (DACPR) OF OUT-OF-HOSPITAL CARDIAC ARREST (OHCA) – AN INNOVATIVE STRUCTURED MEASUREMENT

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Aim Following the guidelines of DACPR may enhance bystander CPR rate after OHCA. Registry of quality measurement for DACPR has never been explored. We designed a nationwide quality registry for DACPR performance and innovated a structured format of measurement.

Method A nationwide Google Forms based online registry covering over twenty administrative regions and more than twenty millions of population was designed and launched for DACPR performance and quality measurement at individual case level for non-traumatic OHCA patient. Audio records of individual EMS call were reviewed for performance rating.

Designs System data inputted could be immediately retrieved as feedback to each corresponding administrative region. Recognition of cardiac arrest by call communication, CPR Instructions upon the recognised OHCA, and chest compression upon the recognised OHCA were the three major categorical performance indicators, and each operational time interval of call-to-recognition, call-to-instruction, and call-to-compression were evaluated. Each categorical performance indicator (Y axis) was paired with its operational time interval (X axis) as a set of quality index for diagrammatic comparison in our design. We used regression analysis for statistical analysis.

Results A total of 5642 audio records for OHCA EMS calls across 17 regions were centralised into the nationwide DACPR Quality Registry in 6 months (minimal 40 to maximal 1622 cases/region according to its population). Regional recognition rate significantly varied from 10.0% to 65.5% ($p < 0.01$; averaged 51.0%, SD 20.0%). Instruction rate varied from 41.3% to 95.0% ($p < 0.01$; averaged 80.0%, SD 28.5%). Compression rate varied from 0% to 87.5% ($p < 0.01$; averaged 54.0%, SD 23.6%). Averaged regional call-to-recognition time, call-to-instruction time, and call-to-compression time were 48 (SD 19), 84 (SD 42), and 185 (SD 114) seconds. The designated diagrammatic comparisons may indicate the administrative regions of better performance located at the upward and leftward dimension, and the ones of unsatisfied performance located at the downward and rightward dimension (diagrams will be illustrated).

Conclusion We successfully innovated and launched a nationwide DACPR quality e-registry showing a wide variety of regional performance needing improvement. The designated diagram may easily indicate and compare the individual performance across the joint regions.

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OPIOID OVERDOSE DEATH IN WALES FROM 2012 TO 2015: A LINKED DATA AUTOPSY STUDY

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We performed a retrospective autopsy study to better understand factors associated with opioid poisoning death. Using anonymised linked data we describe demographic characteristics, emergency service utilisation, and clinical presentation prior to death.

Method Decedents of opioid poisoning in Wales in 2015 were identified from Office of National Statistics (ONS) mortality data and their records linked with the Emergency Department data.

Results Age at death ranged 18 to 78 years, with a mean of 42. Average male age was 41 and average female age was 44. 76% of decedents were men ($n=98/112$). 87% of decedents ($n=112/129$) attended the emergency department in the three years prior to death; $n=89$ in the previous year, 99 in the previous two years and 112 in the previous three years. 84% of male and 93% of female decedents attended the ED in the three years prior to death. There were 665 attendances, and half involved conveyance by ambulance. Attendances per individual ranged from 1 to 60, with over half of decedents attending more than three times. Diagnostic codes were mostly missing or non-specific, with only 6.5% of attendances representing 27 decedents, coded as drug related.

Conclusion Matching previously published data, we found that fatal opioid poisoning is preceded by a period of high emergency health service utilisation. On average decedents were in their fifth decade and more likely to be male than female. Attendances varied widely, with men less likely to attend than women.

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IMPACT OF ADDITIONAL CALL TRIAGE TIME ON EMS RESPONSE PERFORMANCE AND RESOURCE USE

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Aim Time based standards have been used as a key performance measure for EMS internationally but can lead to operational behaviours that are not clinically focussed. NHS England tested a new operational model (Dispatch on Disposition) allowing additional call triage time of up to 4 min before starting the response interval clock start.

Method A controlled before and after time series analysis of the intervention implemented in 6 of the 10 regional EMS services. We measured weekly trends in average resource