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## 22 OUT-OF-HOSPITAL CARDIAC ARREST AS A MANDATORY REPORTABLE DISEASE – FIRST EXPERIENCES FROM NORWAY

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**Aim** Survival after cardiac arrest (CA) depends on the time-critical interventions summarised in the chain of survival – identification and alarming, cardiopulmonary resuscitation (CPR), defibrillation (if appropriate), and standardised post-arrest care. Voluntary, population based CA-registries have indicated significant improvements in survival associated with improved performance. Systematic improvement is based on repeated cycles of; measure to identify weakness, interventions to improve, and measure again to verify changes and effects. Strengthening CA-registries by making CA a mandatory reportable disease enables implementation.

**Methods** Norway has a population of ~5.2 million. The Norwegian Cardiac Arrest Registry (NorCAR) restarted in 2013 with mandatory reporting in collaboration with Norwegian Cardiovascular Disease Registry. We measured “coverage” as the percentage of the Norwegian population served by the reporting EMS, and report incidence and survival rates per 100 000 person-years.

**Results** Out of the 19 EMS health trusts in Norway, the number reporting to NorCAR (coverage) increased from 8 (47%) in 2013, to 17 (92%) in 2015, and by 2017 all EMS health trusts are reporting. Incidence rates of ambulance-treated CA have increased: 41, 44, 48, and 51. Thirty-day survival rates from all-cause out-of-hospital CA in 2013, 2014, and 2015 were: 7.7 (19%), 5.9 (14%), 7.3 (15%), respectively. For first 2/3 of 2016 numbers are 6.8 (13%).

**Conclusion** Establishing mandatory reporting is valuable when creating a population based registry. Regional variations inspire further work to improve reporting and quality. Close involvement of the local registrars and feeding back the results to local EMS are our main strategies.

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## 23 HELICOPTER EMERGENCY MEDICAL SERVICES IN MAJOR INCIDENT MANAGEMENT: NATIONAL NORWEGIAN CROSS-SECTIONAL SURVEY

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**Aim** Helicopter Emergency Medical Services (HEMS) and Search and Rescue (SAR) helicopters are highly specialised, sparse resources that are used in major incidents (MI) to transport medical personnel to the scene for triage, treatment and transport.<sup>1</sup> We aimed to collect data on experiences from Norwegian HEMS/SAR from the last five years to identify potential areas of improvement in preparedness for and management of MI.

**Methods** All Norwegian HEMS/SAR personnel were invited to participate in a cross-sectional survey. They were presented with questions regarding basic demographic data, experience from real incidents and training and equipment.

**Results** Of 329 invited, 229 (70%) responded. Rescue paramedics and pilots had experience from a median of three MI, doctors had experience from a median of one. Road traffic incidents were most common (n=61, 48%), blunt trauma the dominating injury (n=51, 59%). HEMS/SAR crewmembers mainly contributed with triage, treatment and transport. Multiple helicopters attended 83% of the incidents. Own or other HEMS/SAR unit coordinated on-scene helicopters in 71% of MI, only 41% of the pilots had guidelines for coordination. Communication with participating agencies was described as bad prior to arrival, but good to excellent on-scene. Among SAR pilots, 80% (n=20) reported lack of equipment for situational awareness, but only 9% (n=3) among the HEMS pilots. More interdisciplinary exercises were desirable.

**Conclusion** HEMS/SAR crewmembers have infrequent exposure to MI management. Communication remains a challenge. Training on frequent scenarios with other agencies is called for.

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## 24 CITIZENS' UTILISATION AND SATISFACTION WITH A NOVEL ORGANISATIONAL STRUCTURE OF PREHOSPITAL ACCESS TO HOSPITAL CARE

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