Results 143 paramedics undertook the survey and 858 vignettes were completed. There was clear agreement between paramedics for transport decisions ($\kappa=0.63$) and for admission prediction ($\kappa=0.86$). Overall accuracy was 0.69 (95% CI: 0.66 to 0.73). Paramedics were better at 'ruling in' the ED with sensitivity of 0.89 (95% CI: 0.86 to 0.92). The specificity of 'ruling out' the ED was 0.51 (95% CI: 0.46 to 0.56). Text comments were focused on patient safety and risk aversion.

Conclusion Paramedics make accurate conveyance decisions but are more likely to over-convey than under-convey, meaning that whilst decisions are safe they are not always appropriate. Some risk-averse decisions were made due to patient and professional safety reasons. It is important that paramedics feel supported by the service to make non-conveyance decisions. Reducing over-conveyance is a potential method of reducing ED demand.

Conflict of interest None

Funding None

63 USE OF THE SBARR IN HANDOVERS FROM THE AMBULANCE SERVICE TO THE EMERGENCY DEPARTMENT

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Aim One of the main causes of adverse events in the health-care chain is communication failure. Information loss from handovers could lead to a prolonged stay in the Emergency Department (ED) and reduced patient safety. Objectives in this study were to evaluate the accurate use of the SBARR and to evaluate the influence of the (appropriate) use of the SBARR on the agreement between the probable diagnosis after handover and the final diagnosis and time of stay at the ED.

Method Data on handovers were collected through observations in 4 hospitals in Amsterdam, from February until May 2017. Subsequently multiple interventions to improve the use of SBARR were implemented (education, newsletters, e-learning, posters and notebooks). This was followed by a second observation period from September until November 2017.

Results A total of 990 handovers was observed. 45 Handovers were excluded because these were transfers patients from other hospitals or patients refused to participate. Of the remaining 945 handovers, 14 (1.5%) used only one element of the SBARR and 242 (25.6%) of handovers used 2 elements. In over half of cases (567, 60%) 3 elements were used. In 107 handovers (11.3%) 4 elements were used and in 15 handovers (1.6%) all 5 elements were used. For the appropriate use of the SBARR, there were 7 handovers which didn't start with the S, 267 (28.3%) which only consisted of the S, 451 (47.7) with the SB order, 197 (20.8%) SBA, 17 handovers (1.8%) SBAR and 6 handovers (0.6%) SBARR. Other analyses are currently in progress.

Conclusion The use of the SBARR in these observations was suboptimal. With further analysis, we want to study if this also has a important effect on patient oriented outcomes, like length of stay in the emergency department.

Conflict of interest None

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DIAGNOSTIC PATTERN OF PATIENTS WITH ACUTE CHEST PAIN AND SYMPTOMS OF PATIENTS WITH MYOCARDIAL INFARCTION

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Aim Ischaemic heart diseases including acute myocardial infarction (MI) are regarded as one of the causes of chest pain. The study aimed to investigate the diagnostic pattern and aetiology of prehospital patients, either presenting with chest pain as main symptom or receiving MI as diagnosis at discharge.

Method The study was a retrospective, register-based cohort study describing prehospital patients either presenting with chest pain or diagnosed with MI in the North Denmark Region. Patients were included if they were transferred to a hospital in the region after prior contact with emergency medical services during 2011–2014.

Results Out of a total 71 870 prehospital patients, there were 10 679 patients with chest pain (14.9% of all). The diagnoses were diseases of the circulatory system (35.3%, 9.6% with MI), the respiratory system (5.2%), the digestive system (3.8%), and 'nonspecific diagnoses' (46.1%). 1365 patients (1.9% of all prehospital patients) were diagnosed with MI. These mainly presented with chest pain (75.0%), unclear problems (9.1%), and difficulty in breathing (7.3%). When comparing MI-patients presenting with chest pain and patients without chest pain (1,024 vs 341 patients), more were men (71.8% vs 59.9%), had lower mortality (4.9% vs 27.7%), and a comorbidity score of 0 (64.0% vs 44.3%). The sensitivity of chest pain as test for MI was 75.0% and the specificity was 86.3%.

Conclusion The majority of patients with chest pain had other diagnoses than circulatory diseases, and 90.4% did not have MI. However, most MI-patients presented with chest pain and these had better outcomes than the ones without chest pain.

Conflict of interest None

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CAN ROUTINE BLOOD GAS SCREENING IDENTIFY PATIENTS WITH UNSUSPECTED ACID-BASE CONDITIONS AND LEAD TO OPTIMISED TRIAGE GROUP ALLOCATION?

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Aim Arterial blood gas is essential in the assessment of acutely ill patients. However, triage tools do not identify all high-acuity patients.¹ The v-TAC method can convert venous blood gas (VBG) values to arterial values (aVBG), which facilitate rapid blood gas sampling.² The aim of this study is to

investigate the proportion of patients with acid-base outlier values in triage groups and investigate if patients could benefit from altered triage group allocation.

Method Patients admitted to the emergency department were allocated to green, yellow, orange and red triage groups based on vital signs. VBG samples were collected and converted to aVBG with v-TAC software. Using hierarchical clustering, patients with combined outlier values of pH, pCO₂ and bicarbonate, were identified in green, yellow and orange triage groups.

Results In this study 586 patients were included. In green, yellow and orange triage groups 26 of 222 (11.7%), 36 of 191 (18.8%) and 18 of 155 (11.6%) patients, respectively, were identified with combined pH, pCO₂ and bicarbonate outlier values, compared to the specific triage group norm. Although, congruency was observed between severity of acid-base conditions and triage score, some patients presented acid-base abnormality that required more expedient treatment than the allocated triage group suggested.

Conclusion Substantial proportions of patients with outlier values of pH, pCO₂ and bicarbonate was clearly identified using routine aVBG analysis. Some patients with severe acid-base conditions could benefit from altered triage group allocation.

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REGIONAL VARIATIONS IN AED DEPLOYMENT, ACCESSIBILITY AND EARLY DEFIBRILLATION: A NATIONWIDE STUDY

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Aim Current resuscitation guidelines recommend early defibrillation by publicly accessible automated external defibrillators (AEDs). However, little is known on regional variations in AED deployment, 24/7 accessibility and bystander defibrillation on a nationwide level.

Method We identified all publicly available AEDs registered in the Danish AED network (2007–2016). AED density, type of location, 24/7 accessibility and bystander defibrillation were examined according to regional differences in Denmark.

Results Of 17,106 AEDs registered nationwide (=297.7 AEDs/100,000 inhabitants), the largest quantity and density of AEDs were in The Capital Region (n=5,120, 29.9%), 110.8 AEDs/100,000 inhabitants/1000 km², followed by Southern Denmark (n=4,082, 23.9%), 27.4 AEDs/100,000 inhabitants/1000 km²,

Central Jutland (n=3,644, 21.3%), 21.5 AEDs/100,000 inhabitants/1000 km², Zealand (n=2,269, 13.3%), 37.8 AEDs/100,000 inhabitants/1000 km² and Northern Jutland (n=1,991, 11.6%), 43.0 AEDs/100,000 inhabitants/1000 km². Northern Jutland had the highest proportion of 24/7 AED accessibility (50.2%), followed by Southern Denmark (47.5%), Zealand (44.5%), Central Jutland (41.0%) and The Capital Region (29.1%). The corresponding public defibrillation rates were 12.5%, 23.5%, 9.7%, 13.5% and 11.8%, respectively. ‘Companies/offices’ were the most frequent location for AED placement in all five regions, however, with a low 24/7 accessibility ranging from 11.4% to 31.3%.

Conclusion In Denmark, we found a marked difference in regional AED density ranging from 21.5 to 110.8 AEDs/100,000 inhabitants/1000 km², as well as 24/7 accessibility ranging from 29.1% to 50.2%. The most frequent location of AED placement for all regions was ‘Companies/offices’, which generally had low 24/7 accessibility. Finally, public OHCA defibrillation rates ranged from 9.7% to 23.5%.

Conflict of interest None

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SELF-RATED WORRY PREDICTS HOSPITALISATION IN OUT-OF-HOURS SERVICES TELEPHONE TRIAGE

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Aim Telephone-triage poses a challenge in estimating urgency and determining the best response in acute health care. Lack of visual cues, vague symptom description, interpretation of symptoms, and spoken word contribute to the complexity.¹ The aim of the study was to include information that would enrich the telephone-triage with a measure of the callers’ subjective feeling of urgency defined as ‘degree-of worry’ (DOW). We tested the hypothesis that high DOW would be associated with hospitalisation within 48 hours.

Method A prospective cohort study was performed between 24.01–9.02 2017. Callers rated their DOW on a 1–5 scale (1=minimum worry, 5=maximum worry) before transferred to a call-handler. Length of hospital stay was obtained from National Patient Register. The association between DOW and hospitalisation was assessed using logistic regression.

Results Of 11 413 calls to the helpline, 581 individuals (5.1%) were hospitalised. Most of the hospitalised individuals (n=374, 64.4%) presented a high DOW (DOW 4–5). A high DOW had an odds ratio for being hospitalised of 5.38 (95% CI: 4.05 to 7.15) compared to those with a low DOW (DOW 1–2). Medium DOW (DOW 3) had intermediate odds ratio of 2.24 (95% CI 1.65 to 3.06). We observed this in all age groups, both genders, all levels of comorbidity, regardless if the caller was the patient or a close relative/friend.