to 86% vs 81%, pulse 76% to 88% vs 82%, saturation (SAT) 72% to 85% vs 82%, Respiratory Rate (RR) 34% to 82% vs 77%, Glasgow-Coma-Scale (GCS) 54% to 92% vs 80%, VAS for pain 0% to 15% vs 21%. Data from all years showed normal distributions for systolic BP, diastolic BP, pulse and RR with mean (95% confidence interval) on: 141 (100;192), 84 (55;116), 92 (59;133), 21 (12;28), respectively. For SAT median (interquartile range) was: 97 (95–99). The GCS had 82% observations on 15. VAS had outliers scoring above 10 in 2016.

Conclusion Registration increased from 2007 to 2014. A slight decrease except for VAS was seen in 2016 compared to 2014. Overall vital parameters were within normal ranges, however with outliers.

REFERENCE

1. Grol R, Grol R. *Improving patient care: The implementation of change in health care* 2013;2nd ed. Chichester, West Sussex; Hoboken, NJ: Wiley-Blackwell/BMJ Books.

53 | TRENDS IN LONG-TERM DEMAND FOR EMERGENCY MEDICAL SERVICES IN VICTORIA, AUSTRALIA

[1,2]Emily Andrew, [1,2,3]Ziad Nehme, [1,2,4]Stephen Bernard, [2]Peter Cameron, [1,2,3]Karen Smith*. [1]*Centre for Research and Evaluation, Ambulance Victoria, Victoria;* [2]*Department of Epidemiology and Preventive Medicine, Monash University, Victoria;* [3]*Department of Community Emergency Health and Paramedic Practice, Monash University, Victoria;* [4]*The Alfred Hospital, Victoria*

Aim Although emergency medical service (EMS) utilisation is increasing internationally, the factors driving this increase have not been well quantified using a large EMS dataset. We sought to describe long-term trends in EMS utilisation in Victoria, Australia.

Method We conducted a retrospective observational study of consecutive patients presenting to the state-wide EMS in Victoria, Australia between 01/01/2010 and 31/12/2015. We calculated incidence rates of EMS presentations using Victorian population estimates, and conducted time-series regression analysis, adjusted for temporal trends and population size.

Results A total of 2,923,815 EMS patient presentations were included. Patient presentations grew by an average of 4.3% per annum, compared with 2.0% annual growth in the Victorian population. Age-specific incidence was highest among patients aged ≥ 81 years although this did not grow significantly over time (2010: 517 presentations/1000 person-years vs 2015: 533/1000 person-years, p=0.8). However, the median age of patients decreased over time (2010: 60.2 vs 2015: 58.7, p<0.001). Among emergency ambulance-attended patients, 51.5% were recorded as having no comorbidities according to the Charlson Comorbidity Index, and this proportion remained steady over time (2010: 51.5% vs 2015: 51.8%). The rate of medical intervention by paramedics decreased over time (2010: 59.5% vs 2015: 46.8%,

p<0.001), as did the rate of transportation to hospital (2010: 79.1% vs 2015: 77.4%, p<0.001). According to adjusted analyses, a population increase of 1000 people aged >65 years was associated with a 0.4% increase in daily EMS demand (p=0.005).

Conclusion The profile of patients presenting to EMS is changing over time, with the median age decreasing and fewer patients requiring active intervention.

54 | THE RELIABILITY OF LACTATE POINT-OF-CARE TESTING IN MOBILE INTENSIVE CARE UNITS FOR TRIAGING SEPSIS PATIENTS?

[1,2]T Léguillier*, [3,4]R Jouffroy, [1]M Boisson, [1]A Boussaroque, [5]C Chenevier-Gobeaux, [6]T Chaabouni, [2,4]B Vivien, [1,2]V Nivet-Antoine, [1,7]JL Beaudeux. [1]*Department of Clinical Chemistry, Necker Hospital, AP-HP, Paris, France;* [2]*UMR-S1140, Paris Descartes University, Faculty of Pharmaceutical Sciences of Paris, France;* [3]*SAMU 75, Medical Intensive Care Unit, Necker Hospital, AP-HP, Paris, France;* [4]*Paris Descartes University, Faculty of Medicine, Paris, France;* [5]*Department of Clinical Chemistry, Cochin Hospital, AP-HP, Paris, France;* [6]*Department of Clinical Chemistry, Bichat-Claude Bernard Hospital, AP-HP, Paris, France;* [7]*UMR-S1139, Paris Descartes University, Faculty of Pharmaceutical Sciences of Paris, France*

Aim Lactate point of care testing (POCT) could be a valuable tool in a prehospital environment for helping mobile intensive care units (MICU) to determine the level of critical care and hospital triage (emergency department [ED] or intensive care unit [ICU]) needed for sepsis patients. StatStrip Lactate Xpress is a handheld POCT lactate monitoring system which is rapid and easy to use on capillary whole blood specimens. We evaluated StatStrip Lactate to determine if the clinical performance and reliability was acceptable for use on MICU's for triaging sepsis patients.

Method We first investigated POCT analytical performance including imprecision and the limits of detection. Using samples collected from 50 identified sepsis patients admitted to the intensive care unit (ICU), we compared lactate values obtained with the device to those obtained with four central laboratory analysers: one whole blood and three plasma-based methods.

Results Results were compared by least squares regression, Bland-Altmann plot and by comparing concordance within clinically relevant lactate decision ranges. We observed a reliable analytical performance of the POCT (CVs <3.8% for repeatability and <5.0% for reproducibility) an excellent correlation between POCT and central laboratory analysers (R2: 0.96–0.98, slopes:0.83–0.90, intercepts: 0.02–0.03) and an excellent concordance of the POCT results to the central laboratory analyser results (98%–100%).

Conclusion Lactate values are comparable and transferable between POCT and central laboratory analysers indicating that StatStrip Lactate could be a valuable tool in the MICU to evaluate the severity of sepsis patients and to better manage their hospital triage.