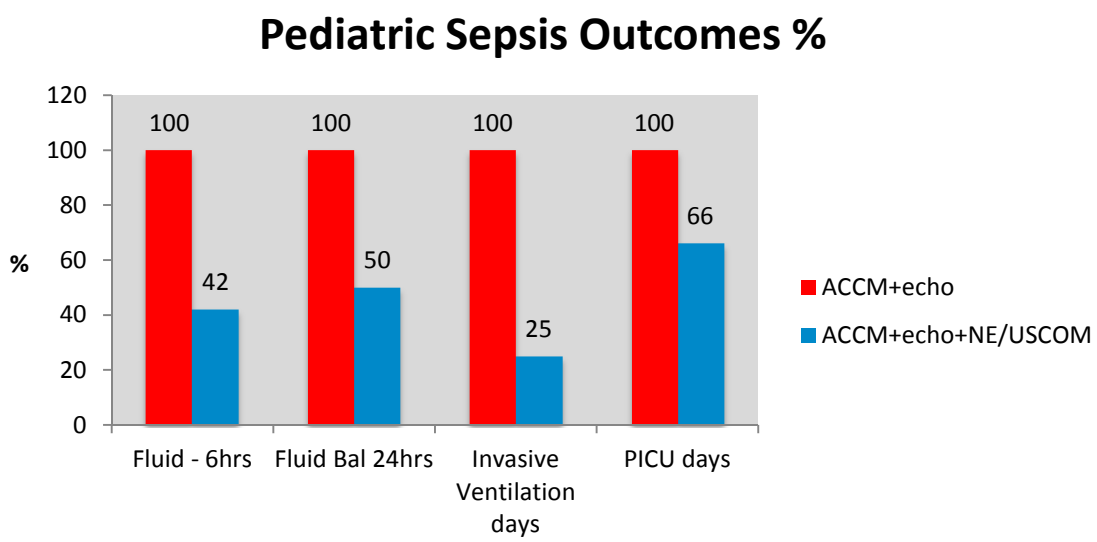
Uscom

ASX Media Release

Paediatric Sepsis Outcomes Improved With USCOM

Sydney, Australia: 26th October 2016: Uscom (ASX code: UCM) (the **Company** or **Uscom**), a revenue stage, cardiovascular and pulmonary health technology company, today announced to market publication of a new research paper by some of the worlds most influential sepsis research clinicians demonstrating improved outcomes by using American Society of Critical Care Medicine (ACCM) guidelines and USCOM 1A guided advanced haemodynamics during early administration of nor-epinephrine

The study found that early nor-epinephrine and USCOM 1A guided advanced haemodynamics when added to current best practice for treating persistent vasodilatory septic shock in children found a 75% reduction in invasive ventilation, a 33% reduction in intensive care (PICU) days and a 58% reduction in fluid use, when added to current ACCM guidelines and Echo monitoring. The reduction in PICU days from 6 to 4 reduces cost of care for each case by an estimated US$9,032 ($4,516 per day).



The USCOM 1A was used as an accurate monitor of cardiovascular function, which is often impaired in sepsis and septic shock, and was used to guide the implementation of appropriate cardiovascular therapy, including nor-epinephrine, fluids, inotropes and vaso-actives.

The research, in children 1 month old to 16 years, was performed at the Apollo Hospital in Chennai and was authored by some of the world's leading clinical researchers on critical care medicine and septic shock. These include Professor Paul Marik, from the Department of Pulmonary and Critical Care Medicine, at the Eastern Virginia Medical School, in the USA, Professor Suchitra Ranjit from the Apollo Children's Hospital, Chennai, India, and Professor Tex Kissoon, from the Department of Pediatrics, BC Children's Hospital, Vancouver, Canada and the most recent past president of the World Federation of Paediatric Intensive and Critical Care Societies.

Uscom CEO Associate Professor Rob Phillips said, *"Leadership in science is our Uscom mission, and improved outcomes, particularly in children, the measure of our success. Sepsis is one of the dominant diseases of our time and increasing in incidence as infections become more common and antibiotic resistant. Ultimately death in sepsis is from circulatory failure so management of cardiovascular function is vital, and USCOM 1A is the most simple, most*

accurate and rapid method we have, and its increased use is proving to significantly improve outcomes and will reduce the use of invasive catheterisation."

This outcomes study by global key opinion leaders demonstrates that USCOM 1A use is associated with improved outcomes in paediatric sepsis, a disease responsible for approximately 70% of all childhood deaths worldwide. These results provide further evidence of the effectiveness of our technology, which is becoming standard of care in the world's best paediatric Hospitals; the first three authors on the ACCM Pediatric Sepsis Guidelines use USCOM 1A for the management of sepsis. This publication is important evidence for our global distributors and suggests that USCOM 1A should be included in global guidelines for treatment of paediatric sepsis in healthcare systems worldwide."

Sepsis is a life threatening condition caused by an uncontrolled infection progressing to affect the circulatory system and organs. Sever sepsis accounts for approximately 8% of PICU admissions, and 33% of all PICU deaths in the USA, a figure likely to be much higher in developing nations. The incidence and severity is similar in adults with sepsis killing more adults than cardiovascular disease and cancer.

The BUSH protocol, developed by Australian Professor Brendan Smith, applied USCOM 1A advanced haemodynamics to treatment of adult septic shock patients in an Australia rural setting and demonstrated significant mortality and cost savings. The BUSH protocol is progressively being adopted worldwide as standard of care for adult sepsis treatment.

Uscom manufactures and markets the USCOM 1A, the Uscom BP+ central blood pressure and pulse pressure wave monitor, and the Uscom SpiroSonic digital ultrasonic spirometry technologies. These premium digital devices are changing the way we diagnose and treat cardiovascular and pulmonary diseases, including hypertension, heart failure, asthma, COPD and sleep disorders. The products are integral for optimising management of sepsis, guidance of fluid, inotropes and vasoactive therapies in critical care monitoring, and in clinical and home care asthma and COPD monitoring.

References: 1. Ranjit S, Natraj R, Kandath SK, Kissoon N, Ramakrishnan B, Marik P. Early nor-epinephrine decreased fluid and ventilatory requirements in paediatric septic shock. Indian J Crit Care Med 2016;20:561-9. 2. Brierley J, Carcillo JA, Choong K, et al. Clinical practice parameters for haemodynamic support of pediatric and neonatal septic shock: 2007 update from the American Society of Critical Care Medicine. Crit Care Med 2009;37:666-88. 3. Weiss,SL, Fitzgerald,JC, Pappachan,J, Wheeler,D, Jaramillo-Bustamante,JC, Salloo,A, Singhi,SC, Erickson,S, Roy,JA, Bush,JL, Nadkarni,VN, Thomas NJ, for the Sepsis Prevalence, Outcomes, and Therapies (SPROUT) Study Investigators and the Pediatric Acute Lung Injury and Sepsis Investigators (PALISI) Network. Global Epidemiology of Pediatric Severe Sepsis: The Sepsis Prevalence, Outcomes, and Therapies Study. Am J Respir Crit Care Med. 2015 May 15; 191(10): 1147–1157. doi: 10.1164/rccm.201412-2323OC. 4. Ruth A, McCracken CE, Fortenberry JD, Hall M, Simon HK, Hebbar KB. Pediatric severe sepsis: current trends and outcomes from the Pediatric Health Information Systems database. Pediatr Crit Care Med. 2014 Nov;15(9):828-38. doi: 10.1097/PCC.0000000000000254. 5. Smith BE, Phillips RA, Madigan V, West MJ. Decreased Mortality, Morbidity and Emergency Transport in Septic Shock; A New Protocol Based on Advanced Noinvasive Haemodynamics (USCOM) and Early Antibiotics. Crit Care Med 2012; 40(12):1023. doi: 10.1097/01.ccm.0000424114.76434.7a

About Uscom

Uscom Limited (UCM) is an ASX listed innovative medical technology company specialising in development and marketing of premium non-invasive cardiovascular and pulmonary medical devices. Uscom has three practice leading suites of devices in the field of cardiac, vascular and pulmonary monitoring; the USCOM 1A, Uscom BP+ and the Uscom SpiroSonic spirometers. All Uscom devices are premium resolution, and deploy innovative and practice leading technologies with FDA, CE, CFDA and TGA regulatory approval, and which are currently being marketed into global distribution networks. The USCOM 1A is a simple to use, cost-effective and non-invasive advanced haemodynamic monitor that measures cardiovascular function, detects irregularities and is used to guide treatment. The USCOM 1A device has major applications in Paediatrics, Emergency, Intensive Care Medicine and Anaesthesia, and is the device of choice for management of adult and paediatric sepsis, hypertension, heart failure and for the guidance of fluid, inotrope and vasoactive cardiovascular therapy.

The Uscom BP+ is a supra-systolic oscillometric Central Blood Pressure monitor which measures blood pressure and blood pressure waveforms only previously available using cardiac catheterisation. The Uscom BP+ replaces conventional and more widespread sub-systolic blood pressure monitors, and is the emerging standard of care measurement in hypertension, heart failure and vascular health. The Uscom BP+ provides a highly accurate and repeatable measurement of central and brachial blood pressure and pulse pressure waveforms using a familiar upper arm cuff. The BP+ is simple to use and requires no complex training with applications in hypertension, heart failure, intensive care, general practice and home care.

Uscom SpiroSonic digital ultrasonic spirometers are high fidelity, digital, pulmonary function testing devices based on multi path ultrasound technology. They are simple and accurate to use and provide research quality pulmonary function testing in small hand held devices that can be used in research, clinical and home care environments. The devices are specialised for assessment of COPD, sleep disordered breathing, asthma, industrial diseases and monitoring of pulmonary therapeutic compliance.

For more information, please visit: **www.uscom.com.au**

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