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New Hubei recommendations for children with Coronavirus support USCOM 1A use

- "Recommendations for the diagnosis and treatment of novel coronavirus infection of children in Hubei (Trial Version 1)." were released on 30th January 2020
- The new Recommendations were from the Pediatric Branch of Hubei Medical Association, the Pediatric Branch of Wuhan Medical Association, the Pediatric Medical Quality Control Center of Hubei
- The paediatric protocol in the recommendations advocates haemodynamic monitoring for severe Coronavirus (COVID-19) cases in Children in Hubei
- The USCOM 1A haemodynamic monitor is widely used in China and around the world to optimise circulation management in neonates and children
- The USCOM 1A is supported by more than 300 peer reviewed trials, many of which deal with its use in children with infections
- China has approximately 16m births a year, with ~20% of its 1.4B population under the age of 16 (~280m)
- The youngest neonate reported with COVID-19 infection was 30 hours old
- The number of paediatric outpatient visits and inpatients in China is expected to reach ~450m and ~22m by 2030, respectively.
- The USCOM 1A recently received a five-year NMPA approval for sale into the China market
- The situation in China is rapidly evolving and Uscom China is working with its distributors to implement national and regional Recommendations, Protocols and Guidelines for haemodynamic monitoring for the treatment and management of Coronavirus.

SYDNEY, Australia, Friday 14th February 2020: Uscom Limited (ASX code: UCM) (the **Company** or **Uscom**) today announced the publication of new recommendations for the diagnosis and treatment of children with Coronavirus (COVID-19) infections in Hubei, the province of which Wuhan, the reported source of the infection, is the capital. The recommendations include close haemodynamic monitoring during anti-shock treatment of severe cases.

The recommendations come from the paediatric academies of Hubei, of which Wuhan is the capital.

These Hubei paediatric Coronovirus Recommendations come soon after The China National Health Commission released the new 4th Edition of the National Protocol for the Detection and Management of Coronavirus in all patients on the 26th January and published the recommendations on the following day the 27th of January. An updated version of this protocol,

the 5th Edition, was then published on the 5th February 2020. These Protocols all recommend haemodynamic monitoring of severe and critically severe cases of Coronavirus (See ASX release 10th February) under section (111) 3 stating "(III) Treatment for Severe and Critically Severe Patients
3. Circulation Support: Based on Adequate Fluid Resuscitation, improve microcirculation, use vasoactives, and conduct hemodynamic monitoring when necessary."

Importantly, in the absence of effective vaccines, management of severe COVID-19 cases involves support of the pulmonary system, usually by ventilation, and support of the cardiovascular system guided by haemodynamic monitoring. The cardiovascular system is managed using a balance of fluid, inotropes and vaso-actives, and is conceived to optimise the stroke volume from the heart and oxygen delivery. The USCOM 1A is a leading technology for measurement and monitoring the stroke volume and oxygen delivery, and thus guiding the appropriate use of fluid, inotropes and vaso-actives. Poor or unguided use of these therapies can lead to death and so accurate heamdynamic monitoring is vital.

The newly released Hubei paediatric recommendations state that in section 6.3, Treatment of severe cases, treatment should provide organ support in a timely manner. This involves ensuring adequate oxygen delivery as supplied to the organs by the heart and vessels, using fluid and cardiovascular drugs to ensure optimal performance.

Section 6.3.3. expands on this and specifically recommends volume responsive testing, a test that by definition involves an accurate stroke volume measurement during bolus fluid infusion while closely monitoring the haemodynamic changes. Section 6.3.3 also recommends further treatment with cardiovascular drugs if results are unsatisfactory. The section concludes that "Hemodynamic monitoring should be closely applied during anti-shock treatment."

The USCOM 1A haemodynamic monitor was developed to optimise management of circulation in adults and children, with many USCOM 1A units installed in Chinese hospitals, with most deployed in the management of infections such as COVID-19. There are now over 300 publications on USCOM 1A with many supporting its application for treatment of infectious shock in neonates, children, pregnancy, adults and the elderly.

While other devices may be used according to the guidelines, they are either invasive involving catheters into the heart or arteries, are impractically complex and time consuming or measure electrical chest function like an ECG and estimate stroke volume with variable reliability. An accurate and non-invasive haemodynamic monitoring technology, such as the USCOM 1A, which directly measures stroke volume and oxygen delivery and has established evidence of effectiveness is ideally suited to this monitoring, and its inclusion in these recommendations is expected.

Uscom China is mobilising its team to work with distributors, hospitals and academies to implement the Government and professional medical associations Recommendations, Protocols and Guidelines to deliver the best equipment and training to China's Hospitals, and ultimately Chinese patients. The adoption of these Recommendations is expected to lead to

increased sales into neonatal and paediatric ICU's in China. While the exact numbers of orders generated from these clinical practice Recommendations are difficult to forecast, Hubei has a population of ~59m with an estimated 12m children under 16 years of age. So if the Recommendations are adopted then an increased number of USCOM 1A devices will be required for equipping the hospitals of Hubei.

This situation in China is rapidly evolving and Uscom is actively supporting the initiatives of the Chinese Government in controlling this epidemic and limiting its impact on the people of China and the world as it invests in its medical systems to deal with the current epidemic and in preparation for future outbreaks.

Executive Chairman of Uscom, Associate Professor Rob Phillips said: *"The USCOM 1A received early and widespread acceptance for diagnosis and treatment of infectious shock in children, and is widely adopted and saving lives in many of the best neonatal and paediatric intensive cares in the world, including in China. Invasive catheters or inaccurate methods are avoided in children so USCOM 1A with its long history of validation is the ideal monitor. The current Government and Medical Association Recommendations, Protocols and Guidelines provide a model to expand best clinical practice from centres of excellence, which have the best equipment and practitioners, to all hospitals treating adults and children for COVID-19. Uscom has worked with the neonatologists and paediatricians of China for over 15 years and have contributed to the advanced level of care that is currently practiced around the country. While the course of this epidemic remains unclear Uscom will continue to collaborate with its regional distributors, local clinicians, hospital management and governments to provide the highest quality equipment and care in this difficult time. Events are moving very quickly in China and Uscom is committed to continuing its contribution to the improved diagnosis and treatment of all who acquire COVID-19, and for Uscom Chinese children are especially important."*

Uscom manufactures and markets the USCOM 1A, the Uscom BP+, and the Uscom SpiroSonic digital ultrasonic spirometry technologies. These premium digital devices are changing the way we diagnose and treat cardiovascular and pulmonary diseases. The USCOM 1A provides vital guidance for optimising management of infectious diseases and the administration of fluid, inotropes and vasoactive therapies in critical care monitoring of children, adults, women in pregnancy and the elderly. The BP+ SpiroSonic devices improve diagnosis and management of hypertension, heart failure, asthma, COPD and sleep disorders in the clinical and home care.

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About Uscom

Uscom Limited (UCM): An ASX listed innovative medical technology company specialising in development and marketing of premium non-invasive cardiovascular and pulmonary medical devices. Uscom has a mission to demonstrate leadership in science and create noninvasive devices that assist clinicians improve clinical outcomes. Uscom has three practice leading suites of devices in the field of cardiac, vascular and pulmonary monitoring; the USCOM 1A advanced haemodynamic monitor, Uscom BP+ central blood pressure monitor, and the Uscom SpiroSonic digital ultrasonic spirometers. Uscom devices are premium resolution, noninvasive devices which deploy innovative and practice leading technologies approved or submitted for FDA, CE, CFDA and TGA regulatory approval and marketing into global distribution networks.
The USCOM 1A: 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, inotropes and vasoactive cardiovascular therapy.
The Uscom BP+: A supra-systolic oscillometric central blood pressure monitor which measures blood pressure and blood pressure waveforms at the heart, as well as in the arm, information only previously available using invasive 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 and pre-eclampsia, heart failure, intensive care, general practice and home care. The Uscom BP+ is supported by the proprietary **BP+ Reporter**, an innovative stand alone software solution that provides a digital platform to archive patient examinations and images, trend measure progress over time, analyse pulse pressure waves and generate summary reports.

Uscom SpiroSonic digital multi-path ultrasonic spirometers: High fidelity, digital, pulmonary function testing devices based on multi path ultrasound technology. They require no calibration, are simple to disinfect, and are simple and accurate to use providing research quality pulmonary function testing in small hand held devices that can be used in research, clinical and home care environments. The devices can be coupled with mobile phone applications and proprietary SpiroSonic software platforms with wireless interfacing to provide remote tele-monitoring of pulmonary disease. The devices are specialised for assessment of COPD, sleep disordered breathing, asthma, industrial lung disease and monitoring of pulmonary therapeutic compliance. The SpiroSonic devices are supported by the proprietary **SpiroReporter**, an innovative stand alone software solution that provides a digital platform to archive patient examinations and images, trend measure progress over time, analyse spirometry outputs and generate summary reports.
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