

# ATS 2023



## Review of the American Thoracic Society (ATS) International Conference 2023

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WASHINGTON, D.C., USA, was host to the American Thoracic Society's (ATS) International Conference 2023. With over 5,500 original research projects and case reports, 400 sessions, and 900 speakers, the conference offered content for every participant's interest in adult and pediatric pulmonary, critical care, and sleep medicine.

At the opening ceremony, ATS president Greg Downey provided an update on the Society's accomplishments over the past year, and its priorities for the future. Over the last 5 years, ATS has been working on a broad strategic plan, and the past year has seen a variety of accomplishments, including implementing recommendations that will allow the international conference to evolve; implementing guidelines aiming to improve patient care; investing in infrastructure and programs to evolve the organization; providing research grants to early career investigators; increasing equity, diversity, and inclusion within the respiratory community; and pursuing climate change, air pollution, and tobacco products regulation.

Downey emphasized the threat of climate change and the role of the Society, as well as all healthcare professionals in addressing this.

Following a call from the National Academy of Sciences (NAS) to improve calculations of the associated health costs of climate change, also called the social cost of carbon, ATS held a workshop with experts from different healthcare specialties, as well as economics. Results were published in 2021, and they allowed leading health economists to publish new model estimates, showing an increase in cost estimates from what was previously thought to be 51 USD per ton of CO<sub>2</sub> to 185 USD per ton. This new estimate can now be used by governments around the globe to formulate climate change policies and act. The workshop is a perfect example of how societies like ATS can participate in public debate and spark changes.

Another area of focus for ATS has been the progression in educational approach to year-round learning, which is led by the chair of the ATS Education Committee, Tisha Wang. Aside from providing high quality education during the 5 days of the conference, ATS wants to provide year-round materials by continuing to share congress content through a learning management system and by creating new content continuously. In December 2022, ATS launched Ed Plus, an online learning

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management system that offers people the opportunity to learn online at their own pace and in their own time, through interactive clinical cases, videos, and highlights from the conference. The Society hopes that by developing a long-term strategy that joins all their learning in one space, they can give their members the chance to engage with the Society in a way that aligns with their personal goals. The platform also allows ATS to be more adaptable, by creating content based on the needs of their members, as well as evolving trends. Through this initiative, ATS hopes to transform patient care, advance professional development, and impact global health.

Multiple awards were presented at the opening ceremony. The Public Service Award was awarded to pulmonary rehabilitation expert Christine Garvey, University of California, San Francisco, USA, whose research has been instrumental in the transition to an interdisciplinary patient-centered intervention for chronic obstructive pulmonary disease and other chronic respiratory diseases. Second, the ATS World Long Health Award was presented to

Uju Ozoh, Lagos University Teaching Hospital, Nigeria. Through their innovative research approaches, Ozoh has aided the delivery of quality health services, as well as advocating for those affected by health disparities. The Jo Rae Wright Award for Outstanding Science was awarded to Lauren Ferrante, Yale School of Medicine, New Haven, Connecticut, USA, for transforming our understanding of outcomes of critically ill aged adults by integrating geriatrics and critical care research. Finally, this year's winner of the J. Randall Curtis Humanism Award was Erin Kross, University of Washington, Seattle, USA, who published more than 65 peer-reviewed articles focusing on improving delivery of palliative care to patients and their families.

EMJ was delighted to participate in this engaging conference for the first time, and the team is looking forward to participating in the next, which will take place from May 17–22, 2024 in San Diego, California, USA. Read on for scientific highlights from the congress, as well as an interview with co-chair of the International Conference Committee for ATS, Debra Boyer. ●

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## Sleep Apnea May Be Underestimated in Black Patients

OBSTRUCTIVE sleep apnea (OSA) tests may underestimate severity in Black patients, according to recent research. OSA is one of the most common and serious sleep conditions, and is diagnosed through the identification of breathing pauses resulting in drops in O<sub>2</sub> levels.

Pulse oximeters, clips attached to the fingertip that measure blood O<sub>2</sub> levels, may be less accurate in Black patients compared with White patients. Ali Azarbarzin, Harvard Medical School, Boston, Massachusetts, USA, commented: "While skin pigmentation seems to affect the results of oximetry, we did not know whether the same would be true during tests for OSA," hypothesizing that "this would be the case."

Patients in intensive care units during the COVID-19 pandemic of varying ethnicities, who underwent overnight home sleep studies as part of the Multi-Ethnic Study of Atherosclerosis Exam 5, were included in the study (n=1,955). The average change in O<sub>2</sub>

levels after each breathing pause was compared between each patient.

Results suggested that Black patients had a smaller decrease in blood O<sub>2</sub> levels than White patients after each breathing pause. This was after accounting for factors that may influence blood O<sub>2</sub> levels such as age, sex, BMI, and smoking index.

The research team concluded that their findings suggest that these differences in pulse oximeter readings may lead to an underestimation of the severity of OSA in Black patients. However, whether this underestimation of O<sub>2</sub> drops should alter the diagnosis and management of OSA in Black patients is unclear.

Azarbarzin concluded: "Nonetheless, these findings highlight the need to rigorously test the accuracy of oximeters across diverse populations, and also to consider whether factors other than the oximeter's characteristics could explain differences in O<sub>2</sub> patterns with breathing pauses." ●

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## ICUconnect Application: Assisting Clinicians Address Unmet Palliative Care Needs

DURING the ATS 2023 International Conference, held in Washington, D.C., USA, Christopher Cox, Duke University Medical Center, North Carolina, USA, presented the results of a randomized, controlled trial. The study revealed that ICUconnect proved more effective than standard care in assisting intensive care unit (ICU) physicians in addressing the unmet palliative care needs of critically ill patients and their families.

ICUconnect is a mobile application designed to facilitate the exchange of information regarding basic palliative care principles between families and ICU clinicians. This allows the clinicians to visualize patient and family data, enabling them to provide enhanced support.

The study design included 43 clinicians and 111 pairs of patient/family members in six adult medical and surgical ICUs across academic and community hospitals in North Carolina. The clinicians were randomly assigned to either deliver standard care or utilize ICUconnect to communicate with family members and providing advice on meeting their needs.

Critically ill patients who were undergoing mechanical ventilation for a minimum of 48 hours were included in the study. The participants were evenly distributed between Black and White patients, as the trial aimed to specifically address racial disparities in care.

The primary outcome of the study was patient score on the Needs at the End-of-Life Screening

Tool (NEST), a patient/family member survey that assesses the patients' end-of-life care requirements, which was completed after 1 week of ICU care.

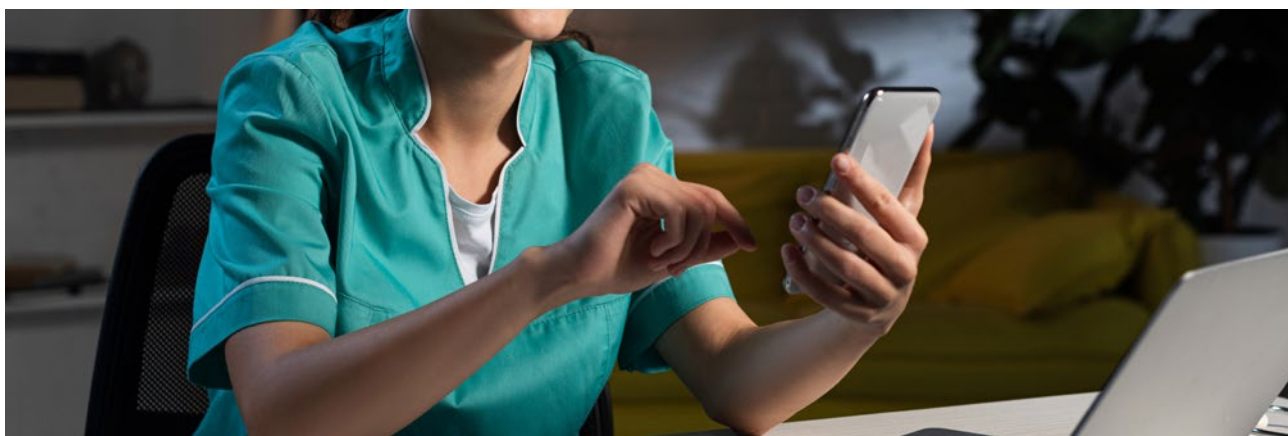
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Cox stated: "Compared to usual care, intervention participants experienced a greater improvement in unmet needs as measured by the NEST at both Day 3 and Day 7." The intervention had a significantly higher impact on improving communication with White family members compared with the usual care group. Black family members in both groups showed improvement; however, their level of improvement was similar to the pre-intervention needs of White participants.

This trial suggests strong evidence for implementing an easily reproducible 'primary palliative care' intervention to be delivered by intensivists, with a focus on person-centered outcomes. Cox concluded: "It also demonstrates that additional studies with larger sample sizes of Black and other marginalized individuals are needed to better understand potential mechanisms of and remedies for these findings, including intensivists' interactions with family members." ●





## Fever Most Common Non-respiratory Symptom of COVID-19

FEVER is the most common non-respiratory symptom of COVID-19, regardless of COVID-19 variant and vaccination status, according to data presented in May 23, 2023, at the ATS 2023 International Conference. Mortality was also higher in those who were not fully vaccinated and were infected with the Delta or Omicron variants. “We determined that we would conduct this study because the scientific literature has shown that, although COVID is a respiratory disease, it affects multiple organ systems,” stated author Shannon Cotton, University of California San Diego Health, USA.

In this retrospective study, researchers analyzed data on 63,454 patients treated for COVID-19 from the University of California Health Covid Research Data Set (UC CORDS) medical records. The team investigated the relationship between non-respiratory features, vaccination status, and mortality for both the Delta and Omicron variants. Cotton explained that they aimed to determine which features and organ systems

were most affected by the virus, which were likely to lead to death, and what the effects were of vaccination.

The team found that the risk of developing non-respiratory symptoms was higher in those who were not fully vaccinated for both variants. Furthermore, they noted that those who were vaccinated were at higher risk of heart disease during a period when the Omicron variant was dominant, and tachycardia with both variants. Further features of COVID-19 included diabetes and gastroesophageal reflux disease, regardless of vaccination status. Cotton concluded: “Our findings speak to the importance of vaccination as the odds of dying were significantly increased in those not fully vaccinated.” ●

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## Asthma Exacerbations in Children: Location as a Key Factor

A STUDY has discovered that for children with asthma living in metropolitan areas, the neighborhood in which they reside is a strong predictor of asthma exacerbations. Presented at the ATS 2023 International Conference in Washington, D.C., USA, in May, the study used the Childhood Opportunity Index (COI) 2.0, which compares opportunities for children across the USA by geographical area. The index utilizes 29 measures affecting child development in three broad categories: health and environment, socioeconomic, and education. When using the index, the higher the score, the better the opportunities available. COI was used in this study as it provides the sole amalgamated measure of different neighborhood conditions which are specific to young populations.

The study population included 193 children aged 8–17 years, residing in Denver, Colorado, USA. All participants had asthma and were already participating in an observational study taking place at a tertiary care hospital, where researchers were observing rather than altering the effects of risk factors, diagnostic tests, treatments, and other interventions.

COI data included household income, parental education levels, and home address. Two statistical models were then used, which compared patients' history of asthma exacerbation with neighborhood

and socioeconomic predictors. Researchers classed asthma status as asthma-null, with no exacerbations in the prior 5 years, or exacerbation-prone (n=142; median age: 11.8), with  $\geq 1$  exacerbation during the previous year.

Children who were categorized as exacerbation-prone increased by 40% where overall neighborhood-level COI scores dropped by 20 points, and by 10% with a 5,000 USD decrease in household income. Parental education was not found to be a significant factor.

Previous research has demonstrated social determinants are causal of significant health disparities in the pediatric asthma population. Corresponding study author Emily Skeen, Pediatric Pulmonary Fellow, University of Colorado at Children's Hospital Colorado, Aurora, USA, stated: "We know that these factors do not act in isolation, so we used a composite score of neighborhood-level child opportunity to determine whether it would predict exacerbation-prone asthma better than individual socioeconomic indicators. We hypothesized that having fewer opportunities would be associated with being prone to asthma exacerbations."

In future, Skeen suggests that using targeted interventions in different communities could mediate the increased risk of exacerbation-prone asthma in children. ●

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