FRESENIUS MEDICAL CARE

Press Release

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Fresenius Medical Care Announces Publication of a Multinational Real-World Evidence Study Associating High-Volume Hemodiafiltration with Lower Mortality Risk Than Conventional Hemodialysis

- Publication in the Journal of the American Society of Nephrology reports that, in a large multinational real-world evidence study using a target trial emulation design, hemodiafiltration (HDF) was associated with a 28% lower relative risk of all-cause mortality compared with high-flux hemodialysis
- Adds to growing evidence supporting high-volume hemodiafiltration as a standard of care for people living with kidney failure

Bad Homburg (August 27, 2026) – Fresenius Medical Care (FME), the world's leading provider of products and services for individuals with kidney diseases, today announced the publication of a large international study reporting that hemodiafiltration (HDF) was associated with lower relative risk of death from any cause compared with conventional high-flux hemodialysis.

Published in the Journal of the American Society of Nephrology (JASN), the flagship journal of the American Society of Nephrology, the study Hemodiafiltration versus High-flux Hemodialysis and Risk of Mortality: A Multinational Target Trial Emulation, provides important new real-world evidence supporting the role of high-volume hemodiafiltration (HVHDF) in modern dialysis care.

“This important publication strengthens the growing body of international evidence supporting HVHDF and reflects our commitment to advancing kidney care through large-scale rigorous research and

innovation," said Helen Giza, Chief Executive Officer of Fresenius Medical Care. "With more than 850 million people worldwide affected by kidney disease - nearly 10% of the world's population - the need for innovation has never been greater. As we expand access to HVHDF in the United States, we remain focused on bringing more patients access to advanced therapies while continuing to generate the evidence needed to improve outcomes and shape the future of dialysis care."

The study analyzed outcomes from nearly 20,000 patients across eight European countries. Investigators used target trial emulation, an advanced analytical approach designed to evaluate real-world clinical data using principles that approximate a randomized clinical trial.

During a median follow-up of 16 months, HDF was associated with a 28% lower relative risk of all-cause mortality than those receiving conventional high-flux hemodialysis. The greatest mortality benefit was seen among patients receiving sustained HDF with convection volumes above 23 liters per session (HVHDF) with a 33% lower relative risk of death compared with high-flux hemodialysis. Convection volume measures how effectively HDF treatment removes waste products from the blood, including larger toxins, known as middle molecules, which may contribute to inflammation and other health complications for people living with kidney failure.

Importantly, the findings align with the substantial and growing international evidence base supporting HVHDF, including the landmark, EU-funded CONVINCE trial[1], published in the New England Journal of Medicine and subsequent analyses demonstrating improved survival outcomes and patient-reported outcomes. The new analysis adds important real-world evidence reinforcing the clinical value of HVHDF and highlights the importance of consistently delivering, measuring, and monitoring convection volumes above 23 liters per treatment session.

"Research is critical to our mission of advancing kidney care," said Charles Hugh-Jones, MD FRCP, Global Chief Medical Officer of Fresenius Medical Care. "By partnering with leading investigators, and applying advanced statistical methods to large-scale clinical data, we are helping to generate an ever-increasing evidence base that can translate scientific knowledge into meaningful improvements in treatment delivery and clinical outcomes for patients around the world."

This research was conducted through an international collaboration involving world-renowned kidney experts, including Professors Giovanni Strippoli and Bernard Canaud, key contributors to the CONVINCE study; Professor Carmine Zoccali, former President of the European Renal Association; internationally recognized epidemiologist Dr. Giovanni Tripepi, who led the advanced statistical analyses; and Professor Germaine Wong of the University of Sydney, in partnership with Fresenius Medical Care and the Renal Research Institute.

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[1] N Engl J Med 2023;389:700-709

“Using a prespecified target trial emulation with inverse probability weighting and rigorous sensitivity analyses, we closely approximated CONVINCE while reducing measured confounding and other observational biases,” said Professor Carmine Zoccali, senior author of the study. “This rigorous methodology strengthens the reliability and clinical relevance of the real-world findings.”

Fresenius Medical Care has been a pioneer in the development, clinical implementation, and study of hemodiafiltration for more than two decades. Unlike conventional high-flux dialysis which uses only one filtration technique, hemodiafiltration combines two filtration methods—diffusion and convection—to remove a broader range of waste products from the patient’s blood, including middle molecules.

The therapy is widely used as a standard of care internationally, supported by evidence from randomized clinical trials and large observational studies conducted across more than 90 countries. The new publication also underscores the importance of the company's recently announced BEACON-US research initiative, which generates U.S.-specific real-world evidence on the implementation, outcomes, and patient experience of HVHDF as access to the therapy expands across the United States.

Kidney disease represents a major and growing global health burden. Fueled by increasing rates of diabetes and hypertension, it is among the leading causes of death globally and often requires lifelong, resource-intensive treatments such as dialysis or kidney transplantation, underscoring the need for continued innovation and improved access to care.

About the Study

The study examined data from 19,539 adult dialysis patients treated between 2014 and 2019 across eight European countries. Using advanced epidemiologic methods designed to emulate a randomized clinical trial, researchers compared patients receiving sustained high-volume post-dilution hemodiafiltration with those receiving conventional high-flux hemodialysis. The analysis found that HDF was associated with a 28% lower relative risk of all-cause mortality, with the strongest associations observed among patients receiving convection volumes above 23 liters per treatment session who had a 33% lower relative risk of death.*

Disclaimer:
This release contains forward-looking statements that are subject to various risks and uncertainties. Actual results could differ materially from those described in these forward-looking statements due to various factors, including, but not limited to, changes in business, economic and competitive conditions, legal changes, regulatory approvals, results of clinical studies, foreign exchange rate fluctuations, uncertainties in litigation or investigative proceedings, and the availability of financing. These and other risks and uncertainties are detailed in Fresenius Medical Care's reports filed with the U.S. Securities and Exchange Commission. Fresenius Medical Care does not undertake any responsibility to update the forward-looking statements in this release.

The CONVINCE study was exclusively supported by the European Commission Research & Innovation, Horizon 2020, Call H2020-SC1-2016-2017 under the topic SC1-PM-10-2017: Comparing the effectiveness of existing healthcare interventions in the adult population (grant no 754803).

*As this was an observational target-trial emulation rather than a randomized clinical trial, these findings do not establish causality. The association between higher convection volumes and lower mortality should be interpreted cautiously, as higher delivered volumes may also reflect patient stability and other treatment-related factors rather than an independent causal dose–response relationship.